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Making The Most of the Calf Crop.

IT is a matter of common knowledge that the beef animals sold from Michigan farms are generally inferior in market quality and thus in market value, as compared with the beef produced in the corn belt states to the south and west. This is, of course, partly due to the fact that the calves produced on Michigan farms are not, for the most part, well bred from a beef standpoint, but there is no doubt that the calves produced and marketed in the form of beef upon the average Michigan farm could be greatly enhanced in value by judicious feeding from the start. The fact that beef production is a side line with the average small farmer is not a good reason why he should not get the maximum possible profit from this branch of his business.

It has been conclusively demonstrated that more profit can be derived from the production of baby beef than from the feeding of the same cattle to two or three years of age. This fact is reflected not alone in the market quotations of our principal live stock markets, but as well in the show rings where the best that the art of the breeder and the skill of the feeder can produce meet in competition for premier honors. Here the baby beef, as typified by the tidy and well-finished yearling and sometimes even the forward calf, has won so consistently in recent years and can be so much more economically produced by feeders that at the great International Live Stock Exposition the class for three-year-old fat steers has this year been eliminated.

Trials made at experiment stations throughout the country, as well as the experiences of practical feeders, all indicate the great economy of gains produced with young animals as compared to those of more advanced age, while market values for the well-finished youngsters are always found close to the top in all market reports during recent years.

In order to produce tender, juicy beef, however, it is necessary to feed liberally and judiciously from the very start, not only keeping the young calf growing thriftily, but never permitting it to lose its fatty covering of flesh at any time. Good baby beef cannot be produced from calves as ordinarily grown the first season by the average farmer. They must be kept gaining in flesh as well as growing in frame from the very start, and to accomplish this end requires not only careful feeding but skillful attention to the details of compounding and administering the ration at all times. While the trouble with the majority of calves grown under average farm conditions is a lack of the proper kind of

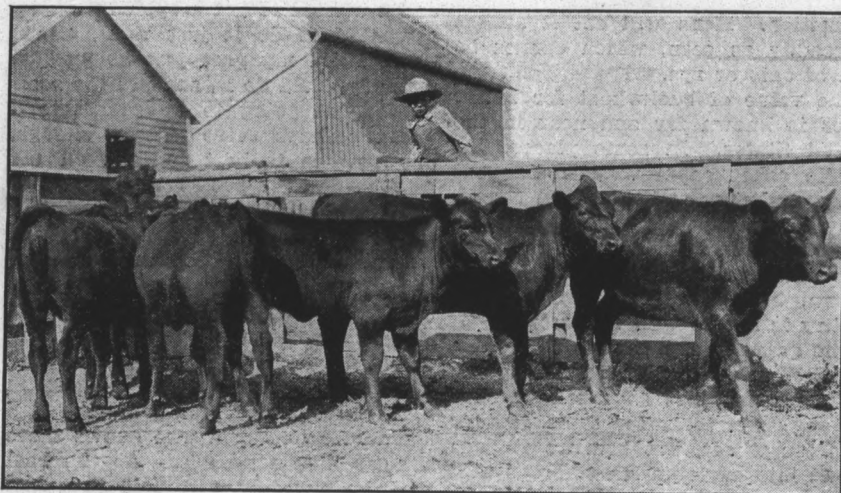
feed in sufficient quantities, the feeding of too large a quantity of unbalanced feed or lack of attention to proper sanitation may work almost equal mischief. Too heavy feeding of skim-milk to a young calf that is nearly famished from long fasting, will often produce digestive disorders, and more particularly if fed from an unclean bucket, or if the calf is kept in unsanitary surroundings. Generally, however, the average farmer feeds nothing but skim-milk and such grass as the calf may be able to pick in an indifferent pasture during the summer. There is nothing better for a young calf than good, nutritious grass,

the very young calf this can be best accomplished by the feeding of a small quantity of flaxseed boiled into a jelly and added to the milk. A little later corn meal can be used in whole or in part for this purpose. A good grain ration for calves after they have attained age enough so that they will eat the grain separately is ground corn, ground oats, wheat bran and oil meal in the proportions of three, three, one and one parts, respectively. After they have become accustomed to eating this grain ration, and while they are being fed skim-milk, there need be little fear of over-feeding on the grain, provided no more is given

A farmer who has once given the attention to the proposition which is necessary to growing a calf properly, will take sufficient pride in the animal to continue the same careful feeding until it is finished for market, which will be in perhaps fourteen months from date of birth, and the satisfaction at receiving a price for the finished product which exceeds that usually secured for a yearling or two-year-old steer as ordinarily fed, will be such as to fix the habit of pushing the calves from the start in future years.

The dairyman who is producing calves to replace older cows in his herd, will need to follow somewhat different methods, although no less care should be exercised in the feeding of the calves for this purpose. It is not necessary, nor yet desirable, to keep the calves being grown for dairy cows in the high flesh which is essential in feeding calves for the production of baby beef. The calves intended for this purpose should be kept growing vigorously, but should be fed more largely on a protein ration. In fact, the ordinary practice followed in the feeding of calves upon the farm where good pasture is provided, where protection from flies and shade from excessive heat is available, and where the skim-milk diet is so regulated as to obviate serious digestive troubles, cannot be so severely criticised from the standpoint of the production of good dairy cows as for the production of beef in a profitable manner. A supplementary grain ration can, however, generally be profitably fed, and if not excessive, or too fattening in character, will produce a more vigorous growth which will result in a matured animal with larger digestive capacity and greater powers of assimilating feed, which are essential factors in the profitable dairy animal, than could be produced in the same animal if so fed as to stunt its growth or retard its normal development.

The erroneous idea is held by many farmers, that beef cannot be profitably produced on a small scale and where it is only a side line of production, but the giving of proper attention to the calf crop from start to finish would result in the early correction of this erroneous idea, and would materially swell the aggregate receipts from Michigan farms. If the reader should be one who has been doubtful about the profit of beef production as a side line, he can easily become convinced of the truth of the above statements by giving a little special attention to his 1914 calf crop, even though it may number but a few individuals.

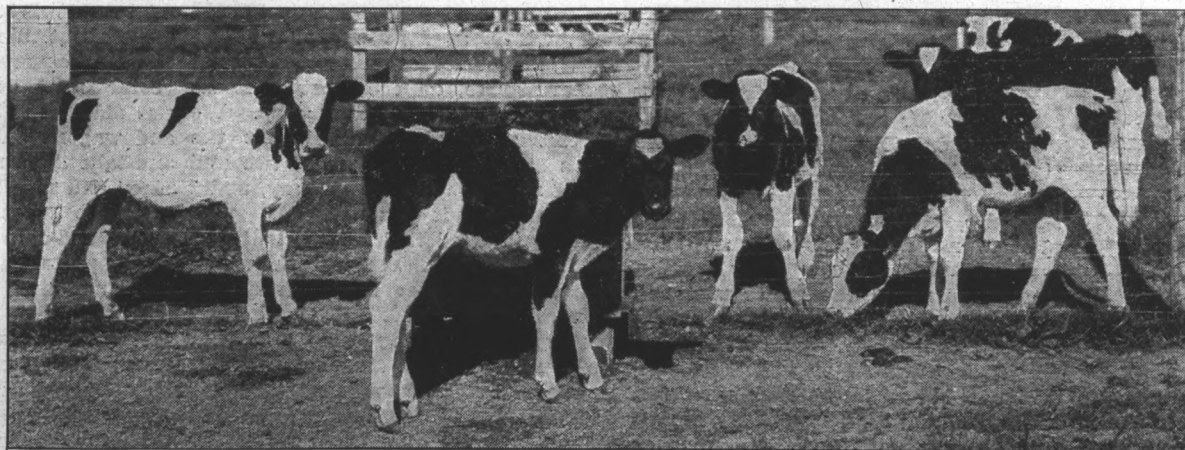


Well Grown Beef Calves of the Popular Angus Breed.

but for best results it should be near the barns where the calves can have access to a darkened stable as a protection from sun and flies during the mid-day summer heat. Otherwise it will be found better to confine the calves to the stable, feeding bright clover or alfalfa hay for forage, or better yet, soiling them on freshly cut legumes or grasses. But in addition to the skim-milk which should be fed in moderate quantities or just a little less than the amount which will satisfy the calf or induce digestive disorders, supplementary feeds should be added which will balance up the skim-milk ration and supply the fats which have been taken from whole milk in the form of cream. For

them than they will eat up clean at feeding time.

After the calves have been weaned from the skim-milk, the amount of grain fed can be regulated to the character of the pasture or forage which is available, but the idea should always be kept in mind that if they are to be made into a first-class quality of baby beef, a liberal covering of flesh should be maintained at all times. In the matter of feeding, too much emphasis can hardly be placed upon the importance of sanitary feeding vessels, and it is better where several calves are fed together to provide a small row of stanchions in which they can be confined during feeding and for a brief period after the meal.



Holstein Calves which Have Been Fed for a Thrifty Growth without Fattening.

WILL THE FARMER PROFIT BY THE STANDARDIZATION OF POTATOES?

That will depend entirely upon what kind of a farmer he is. If he is one of that class that seldom reads the newspapers and farm journals, or that pays little attention to markets or market quotations, then he will not be benefited by the establishment of standards for market potatoes. If he pays no attention to the selection of his seed, to the treatment of the same for scab, or to the matter of spraying for blight, it is likely that he will not be interested in having standard grades of potatoes. If he takes a miscellaneous lot of all sizes of potatoes, some dirty and some scabby, to market, then the standardization of market potatoes could not help him, unless, perchance, it might teach him the value of grading his products. In fact, the farmer who is producing or putting on the market an inferior product is by no means benefited by the establishment of standards for farm produce.

On the other hand, those farmers who take a pride in their work, read, study and think how to do it better, who are in the habit of keeping close watch on the market quotations and trade comment will receive more for their produce in a market where standards have been established. They will receive a just reward for their care in marketing smooth, clean and uniform potatoes. You will find these farmers making use of all the assistance they can get from books, papers, their neighbors, the Agricultural College, the U. S. Department of Agriculture, and in fact, from every source; and you will find them making use of the ideas they gather, not accepting them because "new," nor discarding them because "old," but adopting them because their judgment tells them they are worth trying.

The same principle holds good with other farm products, as well as with potatoes. The farmers who make good butter and market it in attractive form have much to gain in selling in a market where standards are established. That farmer who tries to sell that very unsavory product of some dairies which more nearly resembles grease than butter, would fare very badly in such a market, and as a consequence would have little use for it. There is the same advantage in selling clean, fresh eggs where standards are adhered to and the consequent disadvantage of selling poor ones there. So on through the catalogue.

The method which has previously obtained in selling products off the farm has been sort of a trade "Un-sight, unseen." A trade, by the way, in which the middleman has all the advantage, for he sells on a market where products are standardized and his experience and close observation enables him to estimate quite accurately what the farmers' mixed lot will bring when separated into the grades of the wholesale market.

I have little patience with the farmer who unceasingly complains about getting the worst end of the bargain in business and then will deliberately "knock" every legitimate movement likely to place him on an equal footing with other lines of business. The adjustment of conditions so that the farmer shall get a just reward for his labor is not easy, but the greatest hindrance to it now is that class of farmers which, without an understanding of the purpose of the movements, opposes every attempt at organization for the solution of the market problems. I suppose they have become so accustomed to seeing things work to the advantage of the other fellow that they are beginning to think that the fates have by decree established the odds against them. It is well, however, to judge a movement by its merits, and some will be found unmistakably sincere in their purpose to improve agricultural

conditions. This movement to organize the people interested in the potato industry is one of them. And, to reaffirm what I said at the beginning of this article, the wide-awake, progressive and prosperous farmer will profit by what the organization is trying to do. And I am glad to say that so far as my observation goes, this kind of farmer outnumbers the other kind at least five to one. There is no logical reason why the farmer should not profit by those principles of business which the world of commerce have proven sound. And one of those principles is that it pays to have standard grades of goods and to be familiar with them.

Saginaw Co. E. P. ROBINSON.

BUCKWHEAT AS A GRAIN CROP.

Prof. W. A. Henry says: "If freed from the hulls, I am sure buckwheat grain will show a higher value than barley, because there would be more protein." In regard to buckwheat products he says: "All will be found very valuable for stock feeding purposes, especially with dairy cows and growing pigs."

As I owned and operated a mill for nearly 50 years, I think I have fed more of the middlings than any other farmer in northern Pennsylvania. My experience warrants me in saying that they are worth as much for feeding purposes as the whole ground grain. Our blacksmith showed me a hog well fattened, that had never been pastured, or fed any kind of grain product except buckwheat middlings.

Buckwheat is a good feed for egg production. Hens will eat it almost as readily as corn, which cannot be said of oats or rye.

The value of buckwheat for batter cakes is known far and near in the United States. In some places, hot griddle cakes eaten with fresh meat gravy, or butter and molasses, constitute the principal breakfast food for many families in winter. The value of buckwheat for human food is well known, but its value for stock and poultry is not so well understood.

The quantity of buckwheat that can be raised in the United States appears to be limited, not so much because the region natural for it is smaller than for wheat, but because it does not fit into any rotation of crops that can be profitably raised in the buckwheat regions, and I have known the same field to be sown for six years in succession and produce average crops—the last not being much inferior to the first. I have sometimes sown rye after buckwheat in the fall, and buckwheat again after the rye was harvested, and had good yields of both grains, but buckwheat sown so late is in danger of being nipped by an early fall frost. A rotation that might be adopted would be clover, corn, buckwheat and rye. This would leave out oats and wheat, and if the corn ground was manured the buckwheat following it would be sure to lodge.

In the year 1912 Michigan produced 1,088,000 bushels of buckwheat, being more than any other state in the Union, except New York and Pennsylvania.

Pennsylvania. J. W. INGHAM.

WHY?

Why will the average farmer pay \$35 to \$38 for a common sulky plow when \$45 or \$50 will buy a reversible right and left hand type of sulky plow? Such a plow will plow any shaped field just as it ought to be plowed, no dead furrows; no back furrows. It will plow away from a ditch bank until the water will run directly into the ditch without having to soak through a high bank. Why will many farmers plow a nice, well drained field in lands, making it full of dead furrows, to run a hay loaded over, to say nothing of a binder or mowing machine?

I consider the common sulky plow,

as ordinarily used, about the worst nuisance that ever was invented as a farm tool. Seventy-five per cent of the farmers can not, or will not, plow any other way but around the field, piling the good soil into the fence to raise weeds and brush.

Livingston Co. C. H. HILL.

LILLIE FARMSTEAD NOTES.

Sowed Alfalfa at Just the Wrong Time.

As the weather turned out, we seeded our five acres of alfalfa at just the wrong time. In my estimation we could not have hit a worse time to sow it than we did. We just got the ground nicely prepared and sowed and for fear there might be dry weather I rolled it so as to get the ground compact so we would get germination and then that night came an awfully heavy rain. On the side hills it gullied pretty bad and washed down dirt into the hollows and covered the alfalfa so deep that it will never come up. Then on much of the clay the ground is almost as hard as a brick. We had it worked up good and fine and when this heavy rain came, of course it ran together, as clay will and then the sun came out and fixed it and we have got a crust, but we couldn't break that crust, because as soon as it got dry enough so that we could get onto the field the alfalfa, some of it, had begun to germinate and that would have been ruined by harrowing. I took especial pains with this ground because I paid \$36 a bushel for the alfalfa seed to put on it and I wanted to get a splendid stand. I wanted to do it just right, and I think I did my part just as well as anybody could do it, and yet the seeding is not going to be satisfactory.

But perhaps there will be enough, anyway. It is best to look on the bright side of it, but I really wish that rain had not come, or that I had known it was coming and could have waited until after the rain and after the ground got dry enough to work again and then put it in. It has been elegant weather since then, the ground would not have dried out so but what the alfalfa and oats would come up in nice shape and I would have had a splendid catch. But who knows these things. The farmer can do the best that he possibly can and then the weather controls the crop. The only thing to do is to go on and do the best that one's judgment tells him to do, and then he has simply got to take the consequences. I may have a splendid field of alfalfa there.

An Early Alfalfa Harvest.

We began cutting the old field of alfalfa this year on June 16. I think this is a few days earlier than we ever began before, but it was time, the new growth had started from the crown. We also cut one of the small fields of last year's seeding, that was just right, and the rye that lived over was just right to make hay. There was quite a bit of this rye, it will help cure the alfalfa, but it won't be as nice quality hay as it would if we didn't have any rye in it, but taking the rye and the alfalfa together we have got a splendid crop for the first cutting of new seeding, and on the old field, which, as I have explained before, is a combination of alfalfa and orchard grass, on the most of it we have a wonderfully heavy crop. We haven't got it hauled yet, but the cocks stand thick. There is two and a half tons to the acre anyway, and I think more, if it was weighed.

Making a Seed Bed After Planting.

After the last heavy rain which ruined my prospects for an alfalfa stand, I didn't wait till the ground got dry enough long enough so that we could harrow it all over to put it in crops, but as soon as it got dry enough I put the corn planter on and planted the sweet corn and the soy beans and the ensilage corn and then we harrowed the ground after the

planting. Most of the fields we have harrowed twice and one or two of them we have rolled after the planting. Some of them we have harrowed both ways. I did this, of course, to break the crust and preserve the moisture if possible after this heavy rain and by starting the planter out before we had time to fit it all over again, I got the corn in and it will make a start. The shoe of the planter and the wheels of the planter broke the crust where the corn was planted and there would be no trouble about its coming up there anyway and it will only be a short time before we can start the cultivators, which will fix the thing, I think, satisfactorily. I never did this before but necessity compels me to do things and there is where the farmer must have quick judgment.

Plowing a New Seeding.

As the season advanced it was plainly evident that the other field of new seeding, clover, would not do much, it would not be profitable to cut it, and so the very last thing I put the big engine and the big disk on and disked it both ways, tramping down what clover there was. Previous to this, however, we turned the cows in for a few days, and then we put the plows on and plowed it, and I have got it all planted now, with the exception of five acres which I intend to plant to potatoes and we haven't got around yet to plant them, in fact there is time enough yet for late potatoes.

The Pea Crop.

The peas for the canning factory are maturing rapidly, that is, of course, they are not ripe, but we didn't want them ripe, and yet the canning factory man says that it will not do to cut them at the present time, because in going through the viner they are not so hard yet but what many of them would crush, and they must be hard enough so that they can go through the viner and not crush. The pods, however, are well developed and they seem to be filling nicely. In all probability they will be ready to harvest next week. The canning factory has got the viner set up and practically ready and our new pea harvester, which is very much like a reaper, is set up and ready for use. I never saw one work, but I know from the looks of it that it will harvest peas just as well as the old-fashioned self-rake reaper would harvest wheat. It is built very much on the same principle. Of course, my judgment as to a crop of peas is not very good, because I have had very little experience with them, but the canning factory men say that my early peas are a good crop. Of course, it is too soon yet to determine whether I will have a good crop of the late peas or not. We need now another good rain for the late peas but, of course, we do not need it for the early peas. My judgment is that we will get a fair crop of peas. There have been no storms to lodge them, and yet the heft of the pods is causing the vines to sink down flat upon the ground. The factory man tells me that this is a good sign of a crop, the heft of the peas is what takes the vines down, and no doubt this is true, but I will know more about this crop next week. The plan, of course, is to start the harvester which delivers the peas, off to one side, and then follow with teams and wagons and pitch them right on and take them right to the barn to the viner and run them through the viner, then the vines go into the ensilage cutter and into the silo. The shelled peas are taken and run through the recleaner and put in boxes on purpose for them, and then the canning factory team will draw them to the factory at Coopersville. They must be delivered at least twice a day. If they stand around for any length of time they sour or spoil and become worthless.

COLON C. LILLIE.

HUMUS IN THE SOIL.

Compounds derived from the decay of vegetable matter when mixed with soil, are generally known as, or called humus. It was discovered many years ago that humus was one of the elements needed to maintain soil fertility. Repeated experiments have shown that humus performs a number of different functions in the soil, which are of the highest importance in crop production. After land has been cropped for a number of years, the decline in fertility is not entirely the result of the removal from the soil of the essential fertilizing elements, such as nitrogen, phosphoric acid or potash, but is caused more by getting the land out of condition through a loss of humus, brought about by injudicious rotation of crops and wrong methods of farming.

Every observing farmer cannot help but see that with a method of farming in which grasses form an important part in the rotation, especially those that leave a large amount of roots in the soil, like clover, the decline is much slower than when grain crops are grown continuously.

Many farmers in this section sow considerable alsike. While this makes a good quality of hay, it is largely a surface feeder. I believe it is about as exhaustive to the soil as growing timothy. As farmers in many parts of the state are becoming interested and are finding out that alfalfa can be successfully grown, there is no question but what this plant will be a great benefit to the land on which it is grown as the roots penetrate so deep. All experiments go to show that a system of farming which returns humus forming materials to the soil, never reduces it to so low a state of productiveness as does the system in which there is a continual loss of humus.

In view of these facts, the farmer who raises much grain, I believe should return all the straw in some form to the fields, to be mixed with the soil, instead of selling it by the load or ton. For several years straw has been selling for a good price, and many tons have been baled and shipped from this vicinity. Perhaps I am mistaken, but it is my opinion that farmers who are selling so much of their straw will find in time that they have lost instead of having made any money by the practice. The farmer who sells much straw, will lack material for producing plenty of barnyard or stable manure, which all experiments have shown is more lasting in effects than any other fertilizer that can be applied. A neighbor who lives a couple of miles from the village, draws his surplus straw to a livery stable, and in return has all the manure made at this stable, which he draws home, and his crops plainly show that by this practice he is increasing the fertility of his farm. Of course, but few farmers can dispose of their surplus straw in this way, but from my own experience it pays better to draw all surplus straw that is not needed for bedding, directly to the field and plow it under for corn, than it does to sell it. As a proof of the benefits to crops of humus in the soil, and other fertilizing material, which Colon C. Lillie produces and uses in his method of farming, it is only necessary to look over his farm and see the splendid crop of wheat as well as other crops that are growing on his farm this spring.

Ottawa Co. JOHN JACKSON.

CATALOG NOTICE.

Mitchell motor cars are fully illustrated and described in all important details of construction in the 64-page 1914 catalog published by the Mitchell-Lewis Motor Co., Racine, Wis. In addition to the above information, it contains half-tone plates of the various models built by this well-known company. Mention Michigan Farmer when writing for the catalog.

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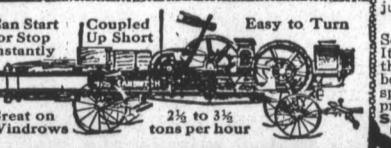
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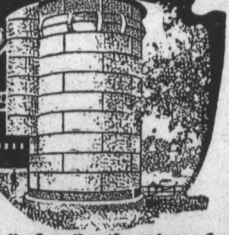
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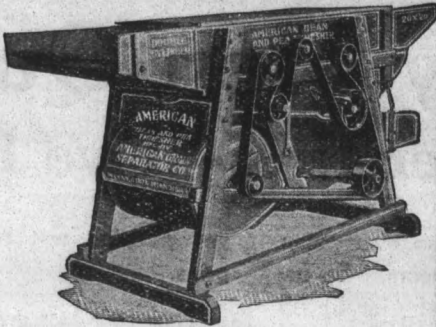
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Live Stock.

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There are several reasons why more attention should be paid to pasture feeds for hogs than there has been in the past. The general impression has been given by those who talk about our domestic animals, that the hog is a distinctively grain eating animal. The impression is wrong.

In his native haunts, the wild hog from which our domestic hog is descended, is an omnivorous animal. He selects his food from several sources. The herbs, seeds of plants, worms and flesh of other kinds of animals, are all drawn from to satisfy his voracious appetite.

Under domestication his general character has been greatly changed. When kindly treated, he is tractable and an agreeable animal. It is when he is neglected and abused that he displays the ugly disposition that is in imitation of his wild ancestors. But the one characteristic which he has retained to a remarkable degree is to eat greedily and to thrive best when given a great variety of feeds.

The animal's system is made up of a large number of elements, and no one, two or three kinds of feeds make a fully complete ration that will supply all the needs of the system, and develop it as economically, and as perfectly, as will a ration made up of a great variety of feeds. When given the privilege of selecting the hog, as well as other domestic animals, chooses what is wanted from a large number of feeds. The hog, under our system of domestication, has been dwarfed in size, his constitutional vigor so reduced that he has become more susceptible to disease than any other kind of our domestic animals.

In the first place, the pasture feeds that are relished by, and on which the pigs thrive, are the cheapest feeds that can be supplied. It costs but little to grow them, and the pigs seem to enjoy the opportunity of gathering what is wanted from them, and when properly managed, pay in liberal growth and increased weight for the privilege.

The hogs need exercise in order to develop the different parts of the body. Exercise enables the animal's system to draw from the feeds consumed the elements necessary to promote the growth of bone, muscle and vital organs. It is the vital organs which constitute the machinery of the body that converts the feeds consumed into a condition which makes it possible for the chemical process going on in the body, to take up the nutritive elements from the food and utilize them. Exercise and the protein in the feeds consumed help to promote the growth of muscle, the lean meat, the most desirable and valuable of all the parts of the body. Exercise also helps to develop and strengthen the bones, the frame work and the carriers of the body and all its parts.

Pasture feeds, and the manner of gathering them, help to promote the health of the animals and maintain their constitutional vigor. Hogs running at pasture are much less susceptible to diseases of all kinds than those that are closely confined and fed wholly on grain feeds. But little progress can be made raising and feeding hogs when they are not healthy. It is worth, in insuring success and profits, a considerable effort on the part of the pig raisers and feeders, to give their hogs field exercise in order to promote and maintain their health.

From a business standpoint, allowing hogs a run at pasture is of first importance. It has been found by ex-

periments tried at different places that about a half grain ration given to hogs running at pasture, produces gains in weight at about half the expense of making the same gains when grain alone is fed.

I do not wish to be understood as trying to convey the idea that pasture feeds alone will accomplish wonders in making gains, for they will not. The stomach of the hog is only large enough to enable the hog to eat enough to live, and perhaps a little more on some kinds of pasture feeds. It is when the pasture feeds are combined with a moderate allowance of grain feeds, that the best results are secured.

Wayne Co. N. A. CLAPP.

FEEDERS' PROBLEMS.

Value of Skim-milk for Pigs.

Which is the most profitable, to sell milk to a condenser at an average of \$1.60 per cwt., and pay 15c per cwt for hauling, or to sell the cream at an average of 30c per lb. for butter-fat and 50c per cwt. for hauling the cream? Now the question is, would it pay better to feed the skim-milk to pigs, and pay \$30 per ton for middlings, 40c per bu. for oats and 80c for shelled corn, and the expense of keeping the brood sows the year around? I have no pasture and would have to keep the pigs in a small lot. We will figure on getting \$8.50 per cwt. for the hogs at 200 lbs. Which will I do, sell the milk and grain, or sell the cream and feed the pigs?

Hillsdale Co. SUBSCRIBER.

The feeding value of skim-milk is, of course, dependent on the price of the grains with which it is fed, and also varies with the proportion of skim-milk to grain that is fed in the ration. At the average price of the grains as given in this inquiry, an average of all trials given by Henry in "Feeds and Feeding" would give the skim-milk a value of about 30 cents per cwt. for feeding pigs, in combination with these feeds. Where fed under the most favorable conditions and at the rate of one to three pounds of milk to one pound of grain the value of the skim-milk would be increased to about 40 cents per cwt., but where feeding a larger proportion of milk its value would be reduced to around 25 cents per cwt. As it is contemplated to feed the pigs in a dry lot in this case, the average as above given would probably represent as great a value as would be realized from the skim-milk if fed to the pigs. From a theoretical standpoint, then, with this basis of value assumed, the question would resolve itself into a simple matter of the test of the milk. At the prices given, if the milk tested four per cent butter-fat the product would bring a little more by selling the butter-fat and feeding the skim-milk. If the milk contained any considerable fraction less than four per cent of butter-fat, then the product would bring a larger revenue by selling the whole milk at the price given, as can be easily figured from the data given.

With this factor determined, the question will resolve itself into one of the possible profit in growing hogs without forage crops with grains at the prices given. If the price received for the hogs should equal the estimate given in the inquiry, there should be a small profit in the venture, enough to pay the labor cost involved in growing and caring for the hogs and perhaps a little more. But if the price received for the hogs should fall a cent or more per pound below the price suggested, the possibility of a profit in the venture would be greatly reduced if not entirely eliminated. In the writer's opinion the prospect of making a profit in the growing of pork in a dry lot on \$0 cent corn would not warrant the venture.

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Dairy.

CONDUCTED BY COLON C. LILLIE.

ARE THESE PROFITABLE COWS?

I have a big Durham cow which freshened March 15. She gives 177 lbs. of milk a week and her test is 3.2. Her feed is mixed hay, clover timothy and red-top, and the grain is middlings, bran and beet pulp, 2 qts. at morning and night. Is she a paying proposition? I also have a two-year-old heifer which came fresh on March 26. She gives 99 lbs. of milk a week and her test is 3.8. How is that for a heifer? She is of the same stock and gets the same feed. I would also like to know what is to be expected of a fairly good cow.

Allegan Co.

W. H.

These cows, as anybody can figure, are just barely paying for their feed. There is absolutely nothing for labor or for profit. So at the present cost of feed and the present yield of butter-fat, you can't figure it out in any way that they are profitable cows. A cow that gives 177 pounds of 3.2 per cent milk in a week produces 5,664 pounds of butter-fat in a week. Now all that butter-fat is worth at the present time is 25 cents a pound, which makes \$1.41 for the butter-fat produced in a week. And a cow that produces 99 pounds of 3.8 per cent milk in seven days is producing 3,76 pounds of butter-fat, which at 25 cents a pound would come to 94 cents.

Now the cows are eating a mixture of middlings, bran and beet pulp, I suppose about equal parts, and are getting two quarts night and morning, or four quarts a day. These four quarts of feed will not weigh over five pounds. Everything considered, this feed will cost one and a half cents a pound. Five pounds a day will make 35 pounds a week and at one and a half cents a pound will come to 52½ cents a week for the grain alone. We can only guess how much hay they are getting, but they must eat at least 12 pounds a day. Perhaps the heifer doesn't eat quite this amount, but I am sure the large cow will eat more, and on the average they will eat that much a day. For a week it would be 84 pounds. This I would figure is worth three-fourths of a cent a pound, which would be 63 cents a week for the hay. Adding the 52½ cents for grain would make \$1.15½, the cost of feeding these cows per week.

Nothing Left for Profit.

One cow produces 94 cents worth of butter-fat and the other \$1.41, and the two together \$2.35, or on the average \$1.17 worth of butter-fat, and it costs \$1.15 to feed them. So you see the cows are barely paying for the feed which they consume, to say nothing about the labor or any profit. Now if we let the manure and the skim-milk and the value of the calf, when born, offset the labor, then we are coming out even; that is, we are just barely getting pay for the feed which the cows consume. For the grain we are only charging what it actually cost us. For the hay we are charging what we could sell it for, and possibly we could make a little profit in growing this hay, but not very much.

I am of the opinion that these cows are not getting a sufficient amount of protein in the grain ration, and I would recommend that in addition to the grain which is already given, that you feed two pounds per day of cottonseed meal to each cow. This, of course, will make the ration cost a little bit more, but the cows ought to yield enough more milk with this ration to more than pay the extra cost. It certainly is worth trying. If they won't respond to two pounds of cottonseed meal per day, I would not consider them dairy cows at all.

Average Production.

The large Durham cow is only giving 25 pounds of milk per day and it

is not uncommon for Durham or Shorthorn cows to give 40 or 50 pounds of milk a day. Your heifer is only giving 14 pounds of milk a day and a Shorthorn heifer, that is, a dairy Shorthorn, ought to give twice that amount. Of course, you can't expect them to come up to these figures at once, but I believe that if you will increase the protein in the feed by adding cottonseed meal, gluten meal, oil meal or any of these kinds of food which contain a large per cent of protein, I think you will gradually get an increased flow of milk and a profit over and above the extra cost of feeding.

BULL PEN AND BREEDING STALL.

Can you give me information regarding building a yard, with shed, to keep a vicious bull in, so constructed that it will not be necessary to go into yard or shed to feed and water bull? Also, how best to build a breeding pen attached to bull yard so I can breed cows and keep away from bull.

Calhoun Co.

SUBSCRIBER.

I can tell you how I rigged up a bull pen once for a vicious bull and it worked very nicely. Our bull pen, or building, is separate from the barn. It is simply a building made strongly out of lumber. Its size is 12x16 feet. Across the front of it we have an alley four feet wide, at one end of which is a manger with a very strong stanchion in it. We don't always use the stanchion but can if we want to.

The manger is strong and the bull cannot get through, so that the attendant can safely walk in this alleyway and give the bull his hay and grain. You can get him to put his head in the stanchion by putting the grain there and then you can shut it and have him secure and harmless. This leaves 12x12 feet as the box stall for the bull. The door opens from this into the yard, in fact, it is simply an opening. We don't have any doors, and the stall is never closed, winter or summer.

Now, from the bull pen proper to the farther side of the yard is a large heavy gate. This is built just outside of the bull pen. The cow can be let into this stall when the heavy gate of the yard is closed, and then when the gate is opened it is swung around so that it can be locked bred and the attendant does not have to get near the bull at all. When the cow is bred the bull can be backed up and the gate shut and the cow backed out of the stall, or you can have a doorway in the front of the stall so that you can lead her out, but you can back her out without any difficulty.

Now, in this way you can handle the bull and take care of him, and breed the cows without ever going in where he is. When you have to clean out the stall you can get him into the stanchion and lock him in. This must be strong enough so there isn't any question about his breaking loose. You can get him in the stanchion and then get him by the nose and tie him both by the nose and with the stanchion.

This is simply a get-up of my own and worked well. There is absolutely no danger in handling the bull in this way and he does not have to be tied up by the nose in a box stall all the while either. He has exercise and is very easily handled. You have got absolute control over him and at the same time are absolutely safe.

Silage is better and cheaper than soiling crops for tiding herds over the period of short pasture. Silage yields more and better food per acre than soiling crops and with less labor and seed required. While the production of milk is about the same in both cases, the cost of production is much less in the case of the silage. The fact that the uncertainty of weather need not be taken into consideration is also in favor of summer silage.

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DOGS.

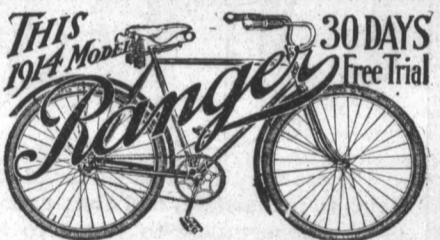
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Poultry and Bees.

KEEP THE CHICKS GROWING.

The heading of this article needs to be emphasized every year. "Keep the chicks growing" contains as much chicken sense as can be condensed into four words. There are four reasons for this.

1. A chicken whose growth is retarded from any cause seldom, if ever, makes up for the loss. It will almost invariably be deficient in size, and very frequently it will be deficient in figure and plumage. The largest and best fowls are those which never stop growing from the time they are hatched until the time they are fully developed.

2. All retardation of growth means a loss of food. The food consumed by a chicken while it stands still in growth is a total loss. While the amount may be insignificant when the number of chickens in the flock is small, but it really amounts to dollars and cents when the flock is large.

Steady Growth for Winter Layers.

3. If the checking in growth is for any considerable period, such development as the chick makes will be later in time. Pullets whose growth has been delayed may not make sufficient development to begin laying in the fall, and it is generally conceded that the pullets which do not begin laying in the fall cannot be depended upon for winter layers. Thus a few weeks' cessation in growth may make several months' difference in the beginning of the active laying period. When these pullets are not laying in winter they are consuming food which brings no returns.

4. This fourth reason may be regarded as a sentimental one, but sentiment plays an important part in our lives. Chickens which do not make steady and continuous growth do not give the pleasure in raising that is experienced from those that do. It is a genuine pleasure to watch the unretarded development of a flock of chickens, but a flock which makes no progress fails in this capacity, and gives us only anxiety and disappointment.

It is business policy to keep the chicks growing steadily, and this can only be done by giving them proper care in the matter of food, surroundings and care. If I have chickens hatched at all I want to keep them growing, and every other successful chicken raiser feels the same way about the matter.

Texas. A. M. LATHAM.

BEWARE OF FOUL BROOD IN THE APIARY.

Foul brood is such a bad disease, and the risk of danger from it so great, that it will well pay every beekeeper to be thoroughly informed upon it. It is a germ disease and spreads like the germ diseases of the human family. It may be contracted from affected colonies within the distance as far as bees would fly to rob.

The first symptoms of foul brood are only noticeable to the expert on examining the combs in the brood-chamber. The grubs turn a yellowish color and stretch out in their cells instead of being a pearly white and curled up at the bottom. They die from the attack of the germ and become a source of infestation. A bad case is easily recognized by the stench arising from the hive and given off by the state of rottenness within. On examining the combs the open cells will be found to contain a dark, coffee-colored substance of a stringy and sticky nature, while those scaled over will be pierced with irregular shaped holes, and appear sunken in-

stead of exhibiting the prominent and rounded appearance so characteristic of healthy capped broods.

Treating Foul Brood.

With these suggestions there should be no difficulty in detecting a case of foul brood in any of its stages. Whenever a case is found, the hive should be instantly closed and every precaution taken to prevent other colonies robbing it. At the close of the day, when the bees have about ceased work, it should be thoroughly overhauled. The best plan to adopt would be to obtain a clean hive. If there are any on hand, then shake the bees from their frames on the alighting board of the clean hive which should stand in the place of the affected colony. After the bees go in shut them up and leave them without food for at least 36 hours. No combs should be left in the hive. After this put them into a new hive with clean combs and a fertile queen, and feed sugar syrup.

The best time to cure foul brood is during the honey gathering season; but, with great care and feeding, it can be done at other times. Be sure to have a clean hive, a new one is best. An old hive can be used if scraped, and either boiled well or painted inside with kerosene oil and set afire, and then, when going well, some water thrown in and the hive closed tight.

Absolute cleanliness in the apiary is imperative. The hives from which the bees have been removed must not be allowed to stand about while they are holding diseased combs and harboring germs. The frames, combs, quilts, and other movable parts of the hives should be set afire and not left until every scrap is consumed.

New Jersey. F. G. HERMAN.

MEAT SCRAP AND ALFALFA FOR CHICKS.

Will you please advise me as to the amount of meat scrap and bone meal to give to little chicks; do you mix it with bran? Do you think it necessary to give alfalfa meal to chicks that have wide range?

Eaton Co. Mrs. W. S.

Feed young chickens only a small amount of beef scrap. A spoonful for a dozen chicks is a sufficient amount. This can be fed alone or it can be mixed with other food. Mix a teaspoonful of beef scraps for each 12 chicks and gradually increase the amount as they grow older. I do not think it necessary to feed alfalfa meal to young chicks that have the run of grass. They will eat most any kind of green stuff growing in their runs in preference to alfalfa meal, and I think will do better, especially if you feed a little of the beef scrap. Alfalfa is fine feed for hens and chicks, but where they have a good range of grass it is unnecessary and not at all desirable. If you have green alfalfa it will be all right. The alfalfa meal will do no harm, but it is not as good as green food.

COLON C. LILLIE.

PRESERVING EGGS.

To preserve eggs pack them in gypsum, or what is commonly known as land plaster. I put a little gypsum in the bottom of a box and then a row of eggs, and so on, so that the eggs do not touch each other, covering them all well with the gypsum. I have put them down in May and the year after have made frosting out of them which was just as nice as if made from the fresh eggs.

Livingston Co. SARAH WILSON.

Clean frequently all dishes used in feeding and watering poultry.



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BINDER TWINE, 80 lb. Want farmer agents. Circular and sample FREE. **THEO. BURT & SONS, MELROSE, OHIO.**

Government Farmer's Wanted—Make \$12 monthly. Free living quarters. Write Ozment, 17 F. St. Louis, Mo.

Horticulture.

A DEMONSTRATION OF THINNING APPLES.

We often hear men say that we ought to thin fruit, and that it pays well, but when one inquires as to definite results, of the many farmers of the community, few have ever tried it or are not sure of their results if they have. We need more work along this line, especially in thinning apples.

In order to get definite results regarding thinning, and to make a practical demonstration of it, I tried an experiment on two Duchess trees.

Trees of equal size were selected and one thinned July 9, the other being left unthinned as a check. The apples were picked from the ground, counted and weighed, and recorded for each tree. Then the tree selected for thinning was thinned, the apples counted and weighed. During the remainder of the season, the fruit which fell was removed from each tree at intervals of two weeks and apples were counted and weighed.

The apples were picked on August 7-8, and counted, and then hauled to town, where they were packed by the local fruit exchange according to the Sulzer act, and each grade weighed. The time required for thinning was one hour and 45 minutes.

Results.
Total apples on ground, such as windfalls, wormy, etc., from thinned tree, 86, and weighing 17.5 lbs; from unthinned, 404, and weighing 52 lbs.

Total apples picked in thinning, 1,078, weighing 76 lbs.

Total number of picked apples: From thinned tree, 2,104, weighing 630 lbs; from unthinned, 3,000, weighing 690 lbs.

Total apples on tree: Thinned, 3,263, weighing 723.5 lbs; unthinned, 3,404, weighing 742 lbs.

Weight of different grades of apples sent to packing house: No. 1, thinned, 566 lbs; No. 2, 50 lbs; culls, 14 lbs; total, 630 lbs. Unthinned, No. 1, 225 lbs; No. 2, 300 lbs; culls, 165 lbs; total, 690 lbs.

Percentage of picked apples by weights: No. 1, thinned, 89.8 per cent; No. 2, 7.9 per cent; culls, 2.9

per cent. Unthinned, No. 1, 32 per cent; No. 2, 44 per cent; culls, 24 per cent.

Percentage of total weight: No. 1, thinned, 78 per cent; No. 2, 7 per cent; culls, 1.9 per cent. Unthinned, No. 1, 30 per cent; No. 2, 42 per cent; culls, 22 per cent.

Fruit thinned and dropped, 13.1 per cent; dropped only, (on unthinned tree), 6 per cent.

The Financial Showing.

From the thinned tree, the apples sold for \$12.05, and deducting the cost of thinning, 35 cents, the proceeds are \$11.70. From the unthinned tree, the apples sold for \$9.16.

The thinned tree shows receipts of \$2.54 more than the unthinned tree. These receipts are obtained by figuring the No. 1 apples at two cents per pound; the No. 2 at \$1.33 per cwt., and the culls at 40 cents per cwt., the rates paid at the packing house.

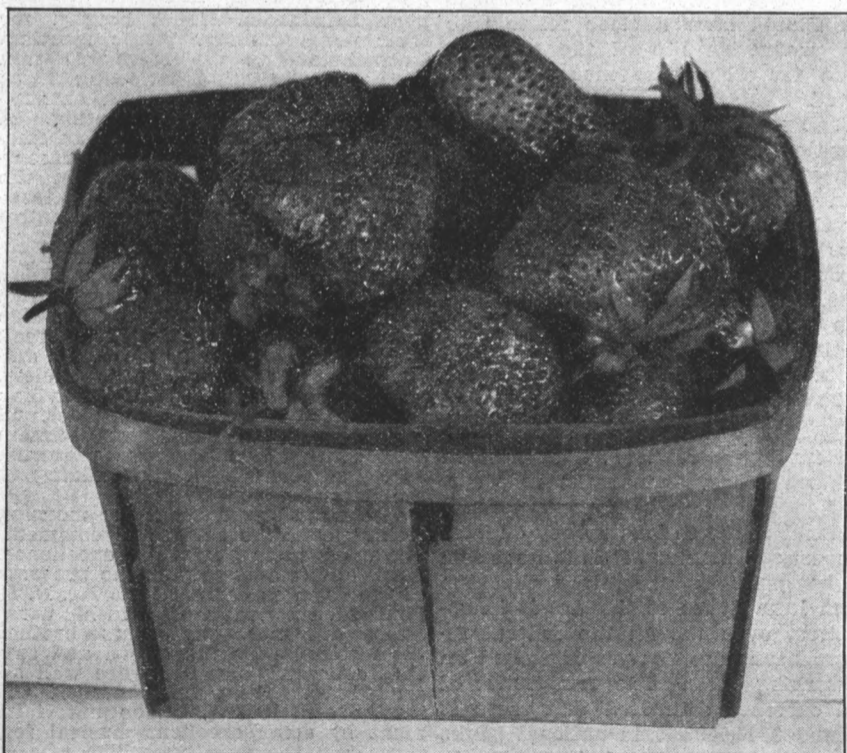
Conclusion.

Having performed but one experiment we cannot assume that our results are correct, but it seems possible that they are, especially when we consider that early apples are said to be unprofitable if thinned. Some of the good results received are: First, better quality and size of fruit; second, saving in cost of picking of a half hour of labor; third, less expense in packing; fourth, saved plant food of the tree; fifth, less expense in hauling and shipping; sixth, saved moisture and tree, not being exhausted, is in better condition to produce crop next year. Knowing that most of the food goes into the seeds we see how we have reduced the number of seeds produced, by thinning. The packer of the fruit said it saved a great deal of time in packing, and he could get 50 cents per barrel more if he had a half carload of same kind. The expense of hauling to the packing house and sorting out the culls is a big item, so from these facts it appears that at least in this case the thinning was profitable.

Van Buren Co. CHAS. N. FREY.

To make a profit in years of large crops, good care of the orchard is most essential.

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These Uncle Jim strawberries, grown by A. R. Fullmer, of Oakland Co., show the results of good care. A well fertilized soil, intense cultivation, and other good care, produce good fruit, and pay well for the extra expense involved. The Uncle Jim, or Dornan, is a large, mild flavored berry and is popular among those who grow strawberries on light soils, on account of its thriftiness. The above berries, grown on a good, rich, loamy soil, indicate that they also do well on the heavier soils.

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Detroit, June 27, 1914.

CURRENT COMMENT.

If a bountiful wheat crop spells prosperity, and it is generally interpreted that way by business men, the country will be assured of a prosperous year, as the harvest season for what will undoubtedly be a record crop for the country is already at hand in the more southern of the winter wheat states. But to add most materially to the country's prosperity, the crop must bring the largest possible revenue to the growers, hence a study of the situation to be met will be most pertinent at the present time.

While it is estimated that the winter wheat crop of the United States will be more than 100,000,000 bushels larger than last year, this fact does not necessarily mean that the product must be sold at an unprofitable price. Compensation is a great law of nature, and a study of available statistics indicates that many sections of the wheat producing world have been less fortunate in the conditions which have obtained this year than has the winter wheat section of the United States. Argentina, for instance, had something like 75,000,000 bushels less wheat this year than last, which fact has been a sustaining feature in the market since the Argentine crop began to move, and while accurate statistics are not at this writing available regarding the crop in the eastern hemisphere, the fact that the European demand has been large during recent weeks is a reliable indication that the crop will not be a phenomenal one. When these facts are taken into consideration, together with the fact that the visible supply is at a comparatively low point, indicating that consumption has been unusually heavy, it is a very reasonable conclusion that all of our wheat crop will be wanted for consumption before another crop is grown and that it should bring its producers a reasonably good price.

But the trend of the market will, under these conditions, depend not a little upon the attitude of the growers themselves. If the bulk of our big crop is dumped on the market as soon as threshed, the visible supply will be rapidly increased and this fact, together with the speculative selling which it will induce will be bound to react on the market and force lower values. If, on the other hand, growers market the crop conservatively, selling only so much as may be necessary to supply needed ready money and the balance is held in original hands to be sold on a future market when the price is attractive, the result will

be a sustaining influence which will prevent a congestion of elevators and a consequent slump in values.

This comment is inspired by the fact that some producers have already shown a fear of the future by contracting their crop at local mills and elevators. One large sale of this nature was recently reported where the price at which the deal was closed was 80 cents per bushel for July delivery. In such cases the buyer is taking no chances, as he can easily cover by making a "short" sale on the present market at a price which is practically his purchase price plus the usual margin between loading and receiving points. The seller is, of course, insuring a certainty so far as price is concerned, but he is simply accepting the conservative judgment of speculators as to the probable after harvest price of wheat, and the chances are in favor of his getting more rather than less if the sale is deferred until he has the commodity in condition to deliver. Nature may, by way of compensation, inflict us with a wet harvest season, the spring wheat crop, always a factor in the market, may be injured by drought, or any number of unfavorable influences may affect the yield of merchantable wheat before the crop is safely secured.

All things considered, then, there is no question but that a policy of conservative marketing would be best for wheat producers as a class. This policy is the more attractive from the fact that with a staple crop like wheat there is nothing to lose by it, while there is every prospect of a material gain to growers by holding the bulk of the crop in growers' bins until the market will take care of it at a fair price for immediate consumption.

Information has been given out that the congressional program for this year will not include enabling legislation in the matter of providing a new form of agricultural credit. In view of this fact a bulletin of advice on this subject recently issued by the U. S. Department of Agriculture may be of interest to many farmers. In this connection the Department has laid down three rules which it advises farmers to follow in borrowing money. These rules, which contain a deal of wholesome advice, are as follows:

1. Make sure that the purpose for which the borrowed money is to be used will produce a return greater than needed to pay the debt.
2. The length of time the debt is to run should have a close relation to the productive life of the improvement for which the money is borrowed.
3. Provision should be made in long-time loans for the gradual reduction of the principal.

In this connection it would be well for the reader to consider the advantage which would accrue to him through the cultivation of a closer relation with his banker, and depend less upon his local merchant in the matter of credit. This is the more business-like and in the end a far more satisfactory course to pursue.

A New Source of Farm Loans.

While it is generally understood that the new currency law permits national banks to loan money on farm property as security, it does not seem to be generally understood that the farm loan clause of the Act is in operation, even though the federal reserve banks are not yet organized on a working basis. The comptroller of the currency estimated that there is around \$500,000,000 in national banks throughout the United States available for such loans. Under the Federal Reserve Act national banks are permitted to loan 25 per cent of their capital stock and surplus and up to 33 per cent of their time deposits on farm security. Under the terms of the Act,

these loans are not to be made for a longer period than five years, and the amount of each loan is not to exceed 50 per cent of the actual value of the farm property offered as security. It is not probable that in seasons of commercial activity national banks will exercise their option on loans to the legal limit, but unquestionably much capital will be available for the making of such loans from this new source to the added convenience of farmers in many sections of the country who desire to raise additional capital on long time loans.

Public Interest in Good Roads.

Reports are coming from all over the state of the general interest taken in the road bees held early in June, in pursuance to the governor's proclamation. Business men from the small towns as well as farmers, turned out en masse to do needed work on bad spots in the roads of adjacent townships, in many villages the stores being closed as for a holiday occasion. This shows that there is a general interest in the matter of good roads, which is shared by both country and town people. The farmer who does not believe in and advocate reasonable highway improvement is now about as scarce as the farmer who has nothing but words of condemnation for the automobile, both of which classes were plentiful a few years ago. Farmers who do not own automobiles are finding good roads most helpful to them in the marketing of their products, and in the making of necessary trips to town.

It is probable that good roads sentiment is growing quite as rapidly as is the knowledge of good road engineering, and that as rapidly as funds can be judiciously expended in this line of work, they will be made available by an interested public. Much of the early work in the building of permanent roads has not proven wholly satisfactory, but wherever good material has been available and good gravel roads have been built, they are giving excellent service with the minimum amount of care. Fortunately, Michigan is well supplied with gravel in most sections, which promises well for the future development of permanent roads, where most needed in our state.

CENTRAL MICHIGAN HOLSTEIN BREEDERS MEET.

On Friday, June 19, the Central Michigan Holstein Breeders' Association met at the farm of Hull Brothers, near Dimondale, Eaton county, for their usual summer picnic meeting. Notwithstanding the morning's rain and the cold wind following it, a crowd of over 300 Holstein enthusiasts assembled for the meeting. A large share of these came in automobiles, the Michigan Farmer representative counting 35 machines in the yard. This exhibit of itself is a testimonial of the prosperity of Central Michigan Holstein breeders, the larger proportion of the autos being high-class cars.

A large awning had been spread in front of the house and to this side walls of canvas were added to break the wind, and a sumptuous picnic dinner was served under this shelter. The decorations about the pavilion were in the Holstein colors, black and white, while the excellent Holstein herd of Hull Brothers was pasturing in an adjacent field, thus adding to the decorative effect.

The large crowd spent the morning looking over the cattle and commenting upon their points of excellence. After dinner was served, the program of the day was carried out. Mr. N. P. Hull acted as toastmaster in his usual happy manner, while his brother John mixed with the crowd and saw that everybody's wants were well attended to. Other members of the family contributed to the entertainment by some excellent musical features and the meeting, which was of a purely social character, was pronounced a marked success by everybody. Numerous after-dinner talks were given, the feature of the meeting being an address by Hon. D. D. Aitken, of Flint, recently elected president of the National Holstein Breeders' Association at the Chicago meet-

ing. The theme of Mr. Aitken's address was "Efficiency on the Farm," and he drew numerous parallels showing how efficiency had been promoted in factory work, and giving application to the thought as to how similar efficiency might be increased in work upon the farm until farm labor could be made more attractive to the efficient workman than shop labor is at the present time. Congressman J. M. C. Smith was present at the meeting, and gave an instructive and entertaining talk on the topic of past and prospective congressional legislation.

Following the completion of the program the guests departed for their homes, feeling well repaid for the effort of coming. The members of the Central Michigan Holstein Breeders' Association are already making plans for other meetings of a similar character, and for the giving of added publicity to the breed in which they are interested and the work which the membership of the association is doing. Incidentally a committee of the association having the matter in charge have prepared a roster of the membership, copies of which were distributed at the meeting. Unquestionably, the enthusiasm shown by these breeders spells an even greater measure of success for their business in the future than they have enjoyed in the past.

HAPPENINGS OF THE WEEK.

National.

Two men were killed Sunday by being thrown from a motorcycle against a street car on Jefferson avenue, Detroit.

Twelve persons were drowned when the launch in which they were riding struck a log in the Oswego canal north of Syracuse, N. Y., Sunday night and went to the bottom.

Sunday, while in a car with several lions for the purpose of feeding them, E. D. Dietrich was torn to pieces by the beasts. The tragedy occurred in the downtown section of Chicago where thousands of people could witness the awful death of the youth.

The aeroplane in which Lieutenant Porte will attempt to cross the Atlantic ocean during July, is nearing completion at Hammondsport, N. Y.

The outlook for the settlement of differences between Ohio coal operators and 25,000 miners over a wage dispute is not bright. The joint committee meets this week Tuesday, but little hope of reaching an agreement is held out.

At the election of officers during the closing session of the G. A. R. and Spanish war veterans at Jackson last week, Riley L. Jones, of Saginaw, was elected for department commander, while Mrs. Catherine Waite, of Detroit, was chosen head of the ladies of the G. A. R. The departmental president of the W. R. C. is Emma E. Bailey, also of Detroit.

The Michigan state central committee of the National Progressive party met in Detroit last week and agreed to urge the nomination of Henry R. Pattengill as their candidate for governor of Michigan, at the coming election.

Former Governor Chase S. Osborn has announced his candidacy for the republican nomination for the governorship of Michigan.

Ludington will celebrate the completion of the million dollar harbor July 3-4. A variety of attractions has been listed on the program.

Foreign.

Although it appeared last week that the efforts of the mediation conference at Niagara Falls would fail in an effort to bring about a settlement of differences between the United States and Gen. Huerta, of Mexico, the outlook is now a little brighter. On Monday there was reason to believe that the constitutionalists would have a representative at Niagara Falls and while he would not have an active part in the deliberations he would have a hearing so that the position of the rebels could be taken into consideration in reaching decisions upon the many matters to be settled. The United States is desirous that the conference bring about pacification of the different factions in Mexico, and unless it can do this, the administration at Washington will feel that the effort has been of no avail. The new turn of affairs, however, gives hope that this may be done. President Wilson is taking a firm stand for the selection of a constitutionalist as temporary president, a position that is meeting opposition in the conference.

Last Friday an explosion in a coal mine at Lethbridge, Alberta, entombed 250 miners. It is believed that all the victims have been killed or suffocated by gases.

Because they charged the Russian department of justice with allowing race prejudice to determine in the famous trial of Mandel Meiliss at the court of Kiev, 25 Russian lawyers have been imprisoned.



Innovations Unpopular in Modern Egyptian Agriculture.

EGYPTIAN agriculture is old. It spans the centuries from the earliest known records to the present. And as a result of plowing, sowing and harvesting under the same conditions for hundreds of generations the inhabitants have standardized their methods and are little inclined to adopt new ways of treating their soil or growing their crops. We can hardly blame them for the stand they take, especially if they are permitted to compare the results of European and American methods of soil management which have depleted large areas of fertility, with their own.

But while the agriculture of the Nile has been quite as remarkable as that of China and Japan, it is apparent to students of soils and plant production that the adoption of modern practices would greatly increase the annual production of that fertile valley. However, before we consider the present attempt to introduce western ideas, let us observe in addition to things mentioned two weeks ago, their manner of irrigation, cropping, etc.

Wherever irrigation is followed the land is carefully laid out in small squares by means of ridges of soil seven to ten inches in height. On top of some of these ridges are built small ditches which are used to conduct the water from the shadoof or sakieh (the contrivances used to raise water from wells or streams into reservoirs) to the different squares, each one of which is flooded in turn. Wherever a sakieh is running, two or three boys will be found whose duty it is to see that the water is properly conducted to these squares of ground.

The crop, whatever it may be, receives no cultivation after the planting, and, excepting where irrigated, no attention until harvested. The grain crop is usually harvested by pulling it up by the roots, although in some cases it is cut close to the ground with a hand sickle. The grain is threshed by spreading it on a hard piece of ground and driving over and over it with an instrument called a dorag drawn by a team of cows, buffaloes or camels. The dorag consists of a sled with wooden runners between which are placed a number of metal disks much like those on an American disk harrow. This treatment loosens the grain from the chaff and at the same time crops and bruises the straw and, finally, to separate the grain, the whole material is tossed into the air (generally by the women) when the wind blows out the chaff and straw, leaving the grain behind. The bruised and cut straw is called "tibn" and is the principal dry feed of the farm animals. It is claimed that the treatment it is subjected to during the process of threshing makes it much more nutritious and digestible than is long straw.

We are informed that hay is practically never made in Egypt but that all clover, etc., is fed green. At this time thousands of animals may be seen tethered in the fields of Egyptian clover and lucern, and a strange appearance they make for each small field may contain a whole menagerie of animals made up of camels, cattle, buffaloes, donkeys, sheep and goats all fastened to stakes by one foot, and in most cases striving in vain to reach the tall forage just beyond.

Apparently the non-leguminous hay crops are seldom used. It is also sur-

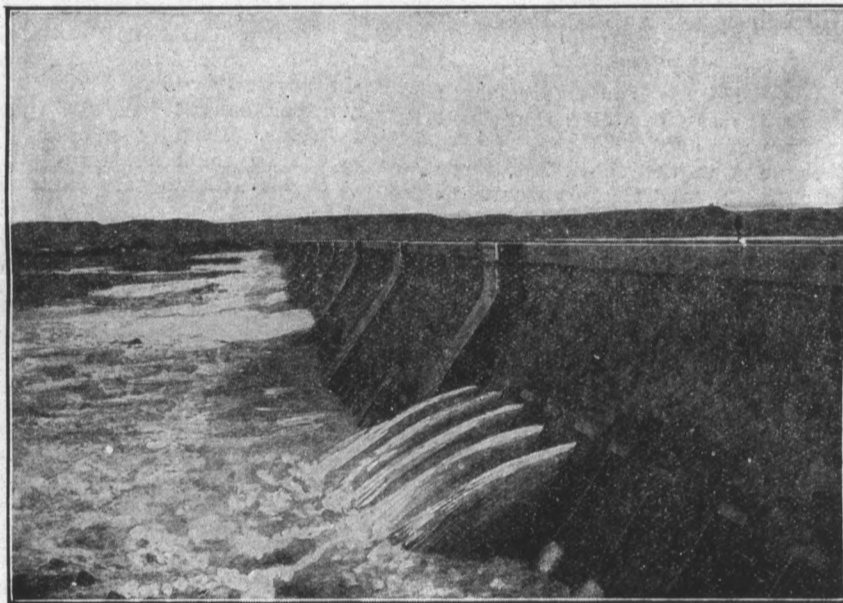
prising how many men can keep themselves busy lying on their backs watching the tethered animals. Lying on the back is the most arduous labor that is congenial to many of the inhabitants of this historic land.

The fact that the Nile Valley, thanks to the annual inundation, has been able to produce large crops for thousands of years has given rise to one of the world-widely accepted fallacies of agriculture, i. e., that any land is benefited by being overflowed or inundated. This notion prevails in some localities in spite of the fact that the crop is in many cases decreased instead of being increased by the overflow. English farmers have had some very unfortunate experiences in trying to "warp" land as they call it; which means covering it with muddy water so that the mud may be deposited. In the Nile Valley the con-

By PROF. ALFRED VIVIAN.

growing throughout the entire year and dikes are made to prevent the land from being inundated—a marked contrast to the basin system.

Near Assiut, about 250 miles up the river, another barrage has been constructed to force the water into the irrigation canals, and many square miles between there and Cairo are also available for perennial irrigation. In order still further to increase the agricultural possibilities an enormous dam has been built at Assuan, 600 miles above Cairo to store water for use during the low water period of the year. This dam has made possible the cultivation of thousands of acres of land which were formerly non-productive. Perennial irrigation has made possible the production of the very profitable cotton crop—for Egyptian cotton is noted for its exceptional quality. Sugar cane is also



By the Use of the Great Storage Dam Across the Nile at Assuan, Thousands of Acres of Land Can be Cropped Continuously.

ditions are peculiarly favorable for realizing the full value of the inundation. The subsoil consists of coarse sand through which the water readily percolates, and which of itself would dry out so rapidly as to make crop growing impossible. The fine silt brought down by the Nile is just what is needed to improve the texture of the sand and to make the surface more compact. The excess of water drains away with great rapidity and the mixture of mud and sand holds just enough water to mature the crop. Before the ground is again used it becomes very dry and porous and is thoroughly aerated so there is no tendency for it to become puddled or water-logged. With a clay subsoil the agriculture of the Nile Valley would have been another story.

The preceding description will give a fair idea of the methods of agriculture exclusively used up to the last century. In recent years, however, what is known as perennial irrigation, has been introduced in parts of Egypt, especially in the Delta lying between Cairo and the Mediterranean Sea. A dam (here called a barrage) was built below Cairo in order to raise the water to a level high enough to flow directly onto the land. The water is directed into canals constructed above the ground level from which water may be drawn at any time. On this land crops are kept

produced in large quantities since there is a dependable supply of water. But perennial irrigation has not been an unmixed blessing. Under the old system of farming the most ignorant or malicious could not deplete the fertility of the soil. The Nile furnished water sufficient for just one crop a year and deposited a new layer of silt to replace the plant food removed by the crop. Under the new system those who are located in the region suited to perennial irrigation can have some crop growing on the land at all times; no silt is deposited, for the inundation is prevented, and the result is that on many of the farms the soil is actually decreasing in fertility. It is also found that the continual watering produces water-logging, and it is now pretty well understood that some system of drainage must go hand in hand with constant irrigation.

Perhaps the result will be that most of the land suitable for perennial irrigation will be formed into large estates for the small farmer (fellah) has no capital with which to put in improvements. At the present time 90 per cent of all the farm land of Egypt is owned in tracts of from one-half to five acres—the vast majority of the holdings not exceeding one acre. In striking contrast to these tiny holdings will occasionally be found an estate of from 10,000 to 15,000 acres. In one field may be seen

a camel and a heifer hitched to the pointed stick, and in the next, mayhap, an English steam plow turning its many acres a day. Or on one side of the canal may be noticed the laborious raising of water by sakieh or shadoof, while just opposite the steam or gasoline pump pours out its floods upon the fields. The government, by the way, is offering every encouragement to the small farmer, and it is interesting to note that Egypt has its "back to the land" movement, and that the old familiar complaint that the young men rush to the excitement of the city is heard in the Orient as well as in the Occident.

One of the hardest problems of the Egyptian Department of Agriculture is to convince the fellahin (plural of fellah) that fertilizers are necessary for best results in crop production. When one's ancestors have depended for 5,000 years on the Nile mud it is hard to believe that anything else is necessary, even though the methods of culture may be changed. Most of the animal manure is dried and used as fuel, for wood and coal are both very expensive. Practically the only fertilizer at present used by the fellahin is a substance they call koufri which they dig from the sites of ancient villages. Very few of them use any commercial fertilizer although its value has been proven on the larger farms.

In some sections the quality of the cotton crop has been almost ruined by the use of cheap seed. The Egyptian cotton is especially valuable for its long fiber and commands the highest price in the world. To save a few cents some of the farmers have planted Indian seed with disastrous results. The government is now contemplating a movement to supply good seed at a nominal cost, on credit, so as to prevent any further deterioration in the quality of cotton.

In addition to cotton and grain, the principal crops of Egypt are Indian corn, beans, rice, clover, millet, sugar cane, dates, oranges and a large variety of vegetables, which latter grow to perfection in this climate when irrigated. The animals are of inferior quality. The cattle are evidently kept largely for work animals and the buffalo is depended upon for milk production rather than the cow. The sheep are black or a dirty brown said to have deteriorated from indiscriminate inbreeding, while the goats are poor things when compared with the fine flocks seen in Europe.

One of the unique sights of Egypt is the ostrich farm located at Heliopolis near Cairo. This farm owns about 400 birds, which are kept in a number of small enclosures on the desert. They are fed on clover, beans and various grains produced on adjacent irrigated land. The feathers are plucked in the spring and the more valuable birds produce about \$60 worth of feathers annually. This farm has birds ranging in age from a few weeks to 35 years old—the life of an ostrich being about 50 years.

It is a strange experience to walk along the edge of the inundated region of the Nile Valley and see on one side a luxuriant stand of clover or grain, while one foot away, where the ground was just too high for the water to reach, is barren sand. You then appreciate the thought of the poet who sings the praises of "Father Nile."

A Farm Boy Becomes a Great Naturalist

By CONDA J. HAM.

If you wish to know anything concerning a Michigan animal or bird, just ask Mr. Norman A. Wood, museum taxidermist, and curator of birds at the University of Michigan. If he cannot give you the information readily out of his own memory, he goes to a corner of his little office, pulls down a great book that closely resembles one of those county atlases, and behind this big book he is fortified against all the bombardment of questions you may hurl at him.

That book is the check list of Michigan mammals, and Mr. Wood is its author. No work of more interest to lovers of natural history is to be found in the state. It is the only one of its kind. For a quarter of a century, Mr. Wood has been at work upon it, and it is not completed yet. In fact, "Finis" will not be written upon its last page until the power of observation has been finally denied its author.

But first a word about its author, who is equally as interesting as the book. Plain farmer, taxidermist, and now a leading authority on mammals and birds is, in brief, the story of his career. Mr. Wood's starting place was an unpretentious Michigan farm, and he has proved that such a beginning may be the logical opening for a position of great authority and high honor. The secret of his rise was the manner in which he made use of his opportunities. He was a student at his work.

While a young man, Mr. Wood became very interested in the life that teemed everywhere about him upon the farm. He studied the habits of the many kinds of little mice which his plow turned out of the ground in the spring and fall. He learned the ways of the gopher, the mole, and other field inhabitants. He spied upon the sly foxes, the minks, weasels; learned the life histories of the beaver and the muskrat. He was a friend of every lark, thrush, and robin; the life habits of the quail, pheasant, and prairie chicken were as familiar to him as those of the common barnyard fowl. In fact, every living thing he found, was studied by the young farmer who kept and made use of this knowledge.

One winter, when work upon the farm was not pressing, Mr. Wood went to New York and studied the art of taxidermy that he might preserve some of the interesting animals with which he came in contact. Then came the offer from the University of Michigan, which desired a good taxidermist for its museum, and Mr. Wood left the farm to enter the larger field.

Twenty years, Mr. Wood has held the position of taxidermist. In all that time he has been studying every phase of animal and bird nature in the state of Michigan. Every summer he has gone out into the state on collecting expeditions and winters he has worked in the museum laboratories upon the specimens secured.

His work has crystallized in the check list of Michigan mammals, which contains all records, which Mr. Wood has been able to find, of every Michigan mammal. When Mr. Wood hears about, or reads of the killing of animals anywhere, or when a rumor reaches him that a certain species has been sighted in some district, or that the skeleton of an extinct type has been unearthed, he opens his big book, searches through his records of that species to see if it has ever been reported in that section of the state before, and if not, he verifies the report and then enters it as a part of the record. In this manner, Mr. Wood has compiled a knowledge of the range of Michigan animals which surpasses anything to be found in the state.

This valuable book is in the form

of a loose-leaved scrap book. Its covers and pages are about two by three feet in size and its leaves are made from extra strong paper. On one side of each page is an outline map of the state, while on the other side the page is blank in order that notations concerning the records may be made. Each species has been assigned to one of these map pages. When one of the species is reported as having been found, Mr. Wood enters the date, exact circumstance and authority for the record, upon the blank side and the various records are numbered consecutively. Then upon the outline map on the opposite side of the sheet is placed a red cross at the exact spot where the animal was reported and beside the cross is placed the number of the record.

Mr. Wood has gathered his records in every possible way. He has noted all his personal observations, carefully clipped all news articles concerning animals, watched the magazines, and has even searched through available histories touching on Michigan life to discover what the historians might tell him of the early conditions here.

Among the most interesting are the records of six fossil mammals which ages ago found Michigan soil their last resting place. These records are interesting today, especially to those who have looked upon the carefully guarded bones of an extinct species in some museum and have unconsciously imagined the animals to have lived in a strange land as foreign to ours as the age in which they lived was from our age.

According to the check list, there was once a great Columbia mammoth roaming through the primeval forests, for the skeleton of the gigantic animal was unearthed not many years ago in Jackson county. It was not likely that this great beast had accidentally strayed off on some trip of adventure only to get itself killed in a strange country by some of the savage natives, but it is likely that Michigan was once the home of this animal species. This is borne out by the second species which Mr. Wood has on record. It is a cousin of the Columbian mammoth, known as the Northern mammoth. The skeletons of two of these animals have been unearthed, one near Jackson and the other not far from Ann Arbor.

The Mastodon, another cousin of these extinct and powerful animals was, according to the check list, once very plentiful all over the southern part of the state. There are records of traces of the Mastodon in the counties of Washtenaw, Wayne, Eaton, Muskegon, Montcalm, Gratiot, Saginaw, Bay, and Allegan.

The giant beaver, an extinct species, which often attained a size as large as a bear is the fourth of this series. Several years ago, a skeleton of this animal was unearthed while a big ditch was being dug near Ann Arbor. This is said to be the most perfect giant beaver skeleton in existence anywhere today. The wild peccary, an animal similar to the wild boar, the fifth of these fossil forms, was evidently once quite plentiful in Ionia county, but, while a considerable number of peccary skeletons have been unearthed in this one county, not another record of them is found in the state. The sixth series is the muskox, one skeleton of which was found a number of years ago at Grand Rapids, and which is in a museum there.

The bison and the buffalo, monarchs of the western plains in pioneer days, were once plentiful in lower Michigan according to the records which have been found by Mr. Wood. They never went far north in the state, but only roamed up into the southern tier of counties out of Indiana and Ohio dur-

ing the best of the pasturing season. Blois, the historian, in speaking of the settlement of Fort Ponchartrain (now Detroit) in 1701 said, "Game was abundant in the vicinity, and buffalo roamed the plains of southern Michigan in great herds."

Lewis Cass, former governor of Michigan, writing in 1834 in Historic Sketches, tells of the visit of Charlevoix to Detroit in 1721, after which the explorer wrote that he "found herds of buffalo ranging along the River Raisin." Miss M. Sheldon, in her history written in 1856, states that in 1763, "The forests of lower Michigan were natural parks stocked with buffalo, deer, etc." Even James Fennimore Cooper has contributed to the records in the check list. In "Oak Openings," Cooper tells of the herds of buffalo that roamed the plains

about Kalamazoo, or that section of the state in which the city is now located.

While the "bull" moose are practically all gone from the state now, there was a time, Mr. Wood has found, when they occurred all over the north, and records show them to have been found as far south as Detroit. The last record of a moose in lower Michigan which has been entered upon the check list, was obtained from an old hunter who is still living. He killed one in Huron county and took it to Port Huron for shipment to his home.

Mr. Wood has a certain pride in the accuracy of his volume, upon which he has spent so many years of study. With it he can discredit some of the best works on animal life ever published.

The Claim of a Little Citizen

—BY—
FLORA HUNTLEY

GIVE me the pistol," commanded Tony, imperiously.

"Shan't! 'Tain't yours!" Archie Marshall thrust the toy under the white belt of his buster suit, and stood at bay, like an officer with his hand upon his sword. Often had he seen the "soldiers" so stand, when his father had reviewed them.

"Give it to me, I say! You don't know how to fire it!"

Tony made a sudden grab; there was a scuffle for possession and the pistol eluded both boys and hit the window back of them.

"Now you've done it!" taunted Tony. "I bet your father licks you when he sees it."

"My father doesn't lick me," corrected Archie. Even in a crisis of this nature he could not forget the dignity of his father. "He punishes me."

"I bet he licks you this time! You never broke a window like that before. Why that window—" Tony squinted his eye in calculation, and spat on the porch deliberately. "That window must have cost fifty dollars. Them plate glass ones comes high."

Archie was not impressed by Tony's awe-inspiring fifty-dollar sentence. His little mind was filled with forebodings of a bread-and-water supper, and early compulsory retirement to a sleepless bed. His fingers toyed nervously with the little flag which his mother had stuck in his button-hole that morning, because it was the Fourth of July, she told him. A step on the walk caused him to turn.

"There's nurse, you had better run!" he counseled.

The crash of broken glass brought the girl from the summer-house.

"Archie Marshall!" she cried, seizing him roughly by the shoulder. "What have you done? Come straight up stairs with me. And you," she turned to the boy in overalls, "Haven't I told you not to come into this yard? Go home and stay there, or I'll have the policeman arrest you! How would you like to sleep in jail?"

Tony thrust his hands into his pockets and went down the gravel walk whistling cheerfully and unconcernedly, solely bent on discovering another fortunate possessor of pistol or fire-crackers.

"Now you're going straight to bed," declared Lena, leading her charge with some violence up the broad stairs, and pushing him into the nursery.

"You're a naughty boy, do you hear? A naughty boy, and when your father comes home from the exercises he'll whip you till you smart."

Her cap seemed stiffer than usual over her blond pompadour, and her white tie stood out aggressively. It was the same costume his old nurse had worn, yet how different she had looked. Archie mused on the strange fact in the wealth of his disaster.

"Stand still! can't you!" she worked rapidly as she talked and jerked

off shoes and socks with no gentle hand. At length the little naked figure stood before her with its smooth white body and tanned knees. His face was tear-stained and his hands twitched nervously.

"About how much does—a window cost?" he faltered. "Tony said—"

"Oh, I don't know," she answered indifferently, as she pulled the white night-dress over his head. "A hundred dollars, maybe. You're rough and careless, and I've told you not to play with that little ragmuffin."

"But he didn't have any fire-crackers, Lena, nor torpedoes nor anything."

"He doesn't need any, nor you either. I wish to goodness there was a law against fire-crackers!" she sniffed. "Here's company coming to-morrow and that window broken. If I was your father I'd thrash you good and hard."

"He never whipped me," sobbed the child.

"You were never so naughty before. Wait 'till he comes and you'll see." With this comforting assurance she put the boy into his bed and drew down the shade.

"Now don't you stir!" she commanded, and shut the door noisily.

Archie restlessly studied the flashing butterfly on the vase on the mantel. What a miserable ending to the glorious promise of the morning. Then he had helped his father to hang out the flags and tack up the bunting. And all the while his father had talked with him and told him the story of Old Glory, and how he must never do anything to disgrace his colors; that a soldier would die for his flag, and no matter where an American citizen might go he was under the protection of the stars and stripes, so that no one dared do him wrong.

He had not meant to be naughty. How could he know that the pistol would slip out of his hand? He had kept his promise and had not lighted a single fire-cracker all the afternoon. And now he was to be whipped—perhaps. He sobbed pitifully as he clung to his pillow for consolation.

It could not be! His father would not whip his own little boy. Yet both Tony and Lena had said so. He pictured the details of his punishment until his spirit was lashed into a frenzy of fear. What did men do in trouble? What did Washington do at Valley Forge? They prayed before going into battle. He remembered the story perfectly.

Slipping from his cot the boy knelt and repeated his evening prayer, then as was his custom, added his personal petition.

"Dear God: Don't let Papa whip me. I didn't mean to do it. Don't let him whip me."

When he rose a comfort came to his heart. He crossed to the window and raised the shade. On the balcony hung the bunting and the waving flags, the glorious flags of the morn-

ing. By lifting the sash he could step out and touch them. He looked down and saw Lena talking with the grocery boy. The clock struck three. He counted the strokes and remembered that his father was to give an address at that hour.

"The American Flag—an address by A. H. Marshall." He had heard his mother read it from the paper that morning. Perhaps he was giving it now.

He sat down on the edge of his bed, and then, suddenly, like an answer to his prayer, there came to his thought the manner of his deliverance.

It was five o'clock when he was awakened by the sound of his mother's voice. She was in the room, coming toward him in her white dress, her parasol dangling from her hand; beside her, splendid in the gold lace of his uniform, stood his father.

His mother bent down and kissed him.

"Are you awake, Archie?" she said.

Then his father spoke: "What is it, my son? Open your eyes and tell father what has hapuened."

The voice was stern but not angry, and his mother was beside him. The boy threw back the white counterpane and sat up in bed. His hair lay in moist curls on his forehead, his cheek and neck were stained with red, and tightly wrapped around him was a great bunting flag.

"You won't whip me, will you papa, because you see, I didn't mean to do it, and I'm a citizen under the flag. You couldn't attack me, could you, papa?" He smiled bewitchingly, but his voice was anxious.

The eyes of his parents met. His mother kissed him again, and his father's lips twitched before he spoke.

"No, indeed, my son. Since it was an accident you can pay for the window from your bank. Get dressed, now, and come down to the dining-room for some ice cream. Then I'll set off the fire-crackers for you. Where's Lena?"

"Don't call her," said his mother. "I'll dress Archie. Come into mother's room, dear."

"Windows don't cost so much, do they?" chattered the boy as he stood before her while she fastened his belt. Then he put his warm lips against her neck and whispered, "I just love the American flag."

A FEW SMILES.

The Parting.

Two microbes sat on a pantry shelf, And watched with expression pained The milkman's stunts, And both said at once, "Our relations are getting strained." —House Beautiful.

Substitute.

"Your father is in the art gallery quite often now?" "Yes. Ma's made him cut out burlesque shows."

The Turning Point.

"He who puts his hand to the plow," screamed the crossroads orator, "must not turn back!" "What is he to do when he gets to the end of the furrer?" asked the auditor in the blue jeans.

Up-to-Date.

"What's the trouble?" asked the boss at the Punk ranch. "There's a hobo at the door with a rickety automobile. Wants to know if we can give him an old set of tires."

A Problem in Division.

"Look here, waiter; how long am I going to have to wait for that half portion of duck I ordered?" "Till somebody orders the other half. We can't go out and kill half a duck."

A Recollection.

The story comes from one of the local papers in Arkansas about a man that was afraid of a thunder storm and crawled into a hollow log. The thunder rolled, the rain poured down torrents and the log swelled up until the poor fellow was wedged in so tight that he could not move. All his past sins began to pass before him when he suddenly remembered that he had not paid his newspaper subscription. He said this made him feel so small that he crawled out of the log through a knot hole.

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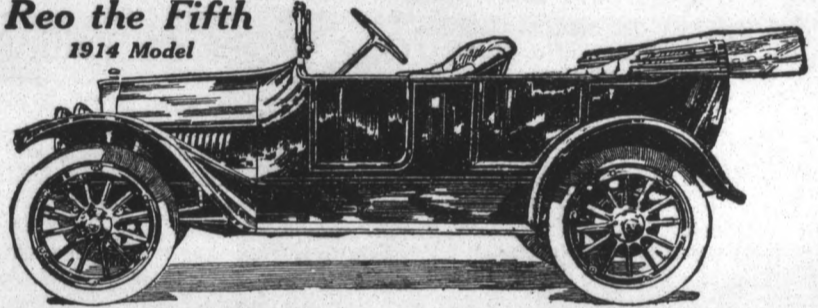
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Woman and Her Needs

At Home and Elsewhere



To Earn Money Sell Necessaries.

LETTERS frequently come to this department from women who for various reasons must earn money. In the majority of cases they ask for the address of a Woman's Exchange or some other place where they can sell fancywork.

Now, doing fancywork is all right in its place, but as a means of earning a living it does not rate high. Did you ever stop to think that the surest way to make money is to have something to sell that the other fellow can't get along without? And who couldn't get along without a doiley? We buy fancywork after we have bought groceries and sheets and pillowcases and towels and kitchen aprons and other essentials. It is a luxury, to be thought about only after we have supplied our wants. Therefore, the wise woman who must earn money will see to it that she has for sale something that will supply an immediate want.

Besides this, what chance has an American woman to compete with the cheap labor of foreign markets, where women embroider for a few pence a day? Or with the floods of machine-made laces and embroidered things on the market? Occasionally a poor woman reads an advertisement from some firm to embroider at home. Her experience is usually like that of a neighbor of mine. She got one dozen doilies through the mail to embroider at home. When she did the work well enough to satisfy her conscience she made two cents a day. By stifling conscience and taking stitches a fourth of an inch apart she brought her day's wages up to four and a half cents.

If I were a woman forced to earn a living at home I should try my luck first at supplying food. If you live near a lively town and have a small patch of ground you can earn a good sum every summer by supplying the stores with fresh vegetables. You can make still more by going from house to house and selling your stuff for what the stores get. If you own the place it will cost you little or nothing to set out strawberries and other small fruit to sell at good prices. No matter if your lot is small, by utilizing every inch of ground you can make more money through the summer than you could in a year from fancywork.

A letter sent to the Department of Agriculture will send you bulletins telling you the proper way to raise any vegetable or fruit you care to attempt. And a further request will send you floods of information as to how to can your surplus for market, suggestions for labels, and addresses of firms who sell home canning outfits. If you can not sell your canned goods at home, a self-addressed envelope sent to a daily paper in your nearest city, with a request for information, will secure for you the names and addresses of leading groceries, hotels and cafes where you might place home-made jellies, jams, preserves, pickles, etc. Use your own name on your label so that customers will ask for your brand. If your nearest city is Detroit the editor of this department will gladly forward addresses.

Suppose your forte is sewing instead of cooking. Offer to do plain

sewing and mending for your well-to-do neighbors. It is not so fascinating, perhaps, as fancywork, but more practical, and therefore better paid.

There still remains one great field of employment which is never overcrowded, though the pay is good. All over the land busy farm wives are crying for help in the kitchen. Put your pride in your pocket and go out and help them. Just as soon as it is known you will do this sort of work you will have enough to do to keep you busy 24 hours in the day. If you can not go out by the week, go by the day. You can get from \$1.00 to \$1.75 a day, and do about as you please, for today the woman in the kitchen is monarch of all she surveys.

One Way for a Ladies' Society to Raise Funds.

INABILITY to provide funds has limited the work of many philanthropic institutions. There is scarcely an organization but whose officers can see much merited work that should be done, and could be if funds were at hand. Consequently the following example of work designed to raise money will meet with general interest among the various sunshine societies, granges, farmers' clubs, church auxiliaries, etc.

To secure food and clothing for 200 or more waifs in an institution in Detroit, a sale of practical aprons was held. A committee of ladies had the making of the aprons in charge. They met at least once each week to prepare the garments for the day of the sale, and naturally the gatherings, besides being of a business character, afforded social opportunities. An effort was made to have the 250 aprons made so that no two were alike. Of course, several were cut after the same pattern, but the material, color, or trimmings were different. While the aprons were all practical, there were many of them made of dainty,



A Good Clothes Protector.

filmy material that appealed to the eye and were becoming to the wearer. The purpose was to facilitate the sale by having aprons that would appeal to the various wants of the different buyers.

For the big, roomy bungalow aprons, that many wear as a frock during the hot, sultry mornings of summer just to work in, gingham, percale and the coarser stuffs were used.

I'll admit that it is more soothing to one's foolish pride to sit in the parlor and embroider than it is to bend over a washboard or scrub a floor. But there isn't half the money in it. And, anyhow, what is the difference? Kitchen work is honest work, and no one with sense thinks any the less of the woman who is doing it.

Besides the money, gardening, cooking and housework are better occupations for women on the score of health. What is worse on lungs, eyes and nerves than fine needlework? What is better than muscular work in the open, or in a ventilated kitchen?

If you must work, prepare to furnish the necessities. Leave the frills for those who don't need money.

DEBORAH.

Practically all of these garments have the big, handy pockets so useful to women. For the bewitching Gretchen apron, dainty organdy, mill, Swiss, lawn or flaxon has been employed, with Valenciennes lace or fine embroidery. The beading at the waistline, in several of them, has rich velvet ribbon loops and ends.

There were dozens upon dozens of



Well Aproned with Aprons of Various Styles and Sizes.

attractive sewing aprons, not the useless little articles that so many women detest, but the ones of ample proportions, large enough for ordinary work-a-day use, with good-sized pockets, and withal pretty. A specially attractive one was made of white organdy with the pocket on the front panel, the lace beading drawn with pale lavender ribbon, all trimmed with lace in corresponding design. Among the novelties were those cut all in one piece—a specially attractive one being of striped white dimity, trimmed on the edge with blue embroidery on a white ground. The band is cut with the body of the apron, all in one piece. Others from the same design had lavender, pink or green embroidery, while some were lace trimmed.

The wearers of some of the big sack aprons would be completely enveloped, so roomy and comfy were they cut. These were built of percale, heavy cotton or gingham, and are either self-trimmed or have a neat little binding of a contrasting color or embroidered edge. Some are cut to be close-fitting; others are made so that they may be slipped on by milady when she wishes to hurry up the meal as she arrives home late from the city and hasn't the time to change her clothing.

Then, there was the clothespin ap-

ron that is such a help on wash day. One made of black and white percale was bound with turkey red. The slits at either side were bound in this vivid color and there was ample space for a large number of clothespins.

Waitresses' aprons there were, in large quantities that appeared so prim and starched, and aprons for the nurse—big and spacious enough to nearly cover the whole dress. One practical style came to the hem of the skirt and was gored to fit the figure, so that it looked trim and neat, while made of percale of white ground and clusters of black dots. Many had straps that cross at the back and button at the waistline; others simply had the shoulder straps; some were rounding at the bottom; others had scalloped panels that give a trig look to the garment.

In all, the great variety gave every visitor on the day of the sale a chance to choose aprons suited to her needs.

HOME QUERIES.

Household Editor:—Can you tell me a way to serve sweet potatoes besides baking and boiling?—Nora B.

Candied sweet potatoes are delicious. Cut cold boiled sweet potatoes in eighths, arrange in layers in a baking dish and sprinkle each layer generously with sugar. Dot with but-

ter, add a dash of salt, pour in one tablespoonful of water to generate a bit of steam, and bake in a hot oven about 20 minutes, or until the sugar and butter have candied and coated the potato.

Household Editor:—"Reader" asks in the issue of May 9 for a molasses cookie recipe using a teacup of boiling water. Here is one that I use with satisfaction: Two cups molasses, one cup sugar, one cup shortening, one cup boiling water, five teaspoons soda, two teaspoons ginger, one teaspoon (small), cinnamon. Stir as stiff as you can, but do not roll until cold.—Mrs. W. E. W.

Household Editor:—Would you tell me a pretty way to hang lace window curtains? Should they hang even with window sill, or longer? How would you dispose of extra length at top? This is for old-fashioned, four-paned windows, one curtain to each window.—S. F.

The curtains should hang even with the sills, and with as little fullness as possible. If they have been used for several seasons, I would cut off the bottoms, leaving only enough for a two-inch heading above the casing and double that below, that is, turn them over eight inches at the top, allowing two inches for a casing for the rod. If they are new you will simply have to turn them over at the top until they come just to the sill.

Markets.

GRAINS AND SEEDS.

June 23, 1914.

Wheat.—Despite the bullish news of a small visible supply, extensive foreign demand and a good milling call, the tendency of the wheat market is downward. The one outstanding bearish feature is the big crop maturing in this country. Now that threshing has begun in the southern part of the winter wheat belt and the yield and quality of the grain are fulfilling earlier expectations, dealers can see nothing but lower prices. The shortage of the Argentine crop last year, the damage to the plant in Bulgaria by rust, the ordinary crop of Russia, and the strong European demand are factors that the bears seem to ignore. This is probably done because there is a belief that the farmers will rush their surplus wheat to the market regardless of the consequence on prices which are sure to be brought to a low basis if growers do not feed the grain to the buyers gradually. There is a well-grounded opinion that if growers would only sell what wheat they must to meet current financial demands, they would, in the course of the year, realize more for their crop and prevent to a considerable degree the stampeding of the market. A year ago the price for No. 2 red wheat was \$1.03 per bushel. Quotations for the week are:

Table with 4 columns: Day, No. 2 Red, No. 1 White, Sept. Prices for Wednesday through Tuesday.

Chicago, (June 23).—No. 2 red wheat 87 1/2c; July 79 3/4c; Sept., 79c.

Corn.—The favorable conditions for the development of the new crop of corn and the big crop of wheat, worked against values, and quotations are lower. Reports come from every section of an excellent stand of corn and while planting was a little later than usual farmers got to their cultivating in good season and have their work pretty well up. One year ago the price for No. 3 corn was 61c per bu. Quotations for the past week are:

Table with 4 columns: Day, No. 2 Mixed, No. 2 Yellow, No. 3 Standard. Prices for Wednesday through Tuesday.

Chicago, (June 23).—No. 3 corn, July 69 1/4c; Sept., 67 3/4c per bu.

Oats.—While the other major grains have cheapened, oats are being held on last week's level. This is due to the damage done the crop over a considerable portion of the oat producing section of the country, by dry weather. In many places the crop will not be able to recover under the most ideal conditions. A year ago the price of standard oats was 43c per bushel. Quotations for the week are:

Table with 4 columns: Day, No. 3 Standard, White, Chicago. Prices for Wednesday through Tuesday.

Chicago, (June 23).—July oats, 38 1/2c; Sept., 37 3/4c; Dec., 38 3/4c per bushel.

Rye.—This cereal is steady. No. 2 is quoted at 66c per bushel.

Beans.—Demand is lacking; prices are 5c lower. Quotations: Immediate and prompt shipment at \$1.90; June \$1.92 per bu. Chicago reports quiet trade. Pea beans, hand-picked, choice are lower at \$2.15@2.20; common \$1.95@2; red kidneys, choice \$3.20@3.25.

Cloverseed.—Prime spot \$8.30; October and December \$8.70; prime alkali \$10.

Alfalfa Seed.—Prime spot \$8.35 per bushel.

Timothy Seed.—Prime spot \$2.60 per bushel.

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 \$4.90; straight \$4.50; spring patent \$5.10; rye flour \$4.40 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$28; standard middlings \$28; fine middlings \$32; coarse middlings \$31; cracked corn \$32; corn and oat chop \$28.50 per ton.

Hay.—Market is higher; offerings limited. Carlots on track at Detroit are: No. 1 timothy \$17@17.50; stan-

ard \$16@16.50; No. 2, \$15.50@16; light mixed \$16@16.50; No. 1 mixed \$13.50@14; No. 1 clover \$13@13.50. New York.—Market easy and lower. No. 1 timothy \$21@21.50; No. 3 to No. 2, \$16.50@20.

Chicago.—Market is steady. Choice timothy quoted at \$17@17.50 per ton; No. 1, \$14.50@15.50; No. 2, \$12.50@14.

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

DAIRY AND POULTRY PRODUCTS.

Butter.—Market is weak but prices are unchanged. Extra creamery 26 1/2c per lb; firsts 25 1/2c; dairy 18c; packing stock 16c.

Chicago.—Market easy, with prices slightly lower. Extra creamery 26 1/2c; extra firsts 25 1/2@26c; firsts 22@24c; seconds 20@21 1/2c; packing stock 17 1/2@18c.

Elgin.—Market is firm at 27 1/2c per lb., which is the same as last week.

New York.—The market is unsettled. Prices are slightly lower. Creamery extras 27@27 1/2c; firsts 25@26 1/2c; seconds 23@24 1/2c; packing stock 17@17 1/2c.

Eggs.—Market is active, with fresh stock selling at 19 1/4c per dozen.

Chicago.—Market is rather dull and quality generally poor. Prices are unchanged. Miscellaneous lots, cases included 16@18c per dozen; ordinary firsts 17@17 1/4c; firsts 17 3/4@18 1/4c.

New York.—Market is easy. Prices unchanged. Fresh gathered extras 23@25c; firsts 20@21 1/2c per dozen.

Poultry.—Market is firm and quiet with moderate receipts and small demand. Live—Broilers 28@30c per lb; hens 15c.

Chicago.—Spring chickens show a decline of 2@3c; other kinds are unchanged. Trade is only fair; old ducks and geese are dull and not wanted. Quotations on live are: Fowls 14c; broilers 1 1/2@2 lbs. weight 25c; spring ducks 3@5 lbs., 16@18c.

FRUITS AND VEGETABLES.

Potatoes.—Not enough old potatoes received to make quotations. At Chicago market is easier and receipts light. Prices are higher than last week. New potatoes are attracting attention from the old. Good Michigan round white quoted at \$1@1.10 per bushel.

Strawberries.—Plentiful but prices remain unchanged. Michigan 16-qt. cases quoted at \$1@1.25. At Chicago berries are only fair, choice stock is meeting with good demand. Prices for Michigan berries range from \$1@2, depending on quality.

Other Fruits.—Chicago.—Michigan cherries, 16 qts., sour, 90c@\$1; black sweet, \$1@2; gooseberries, 16 qt., Michigan 75c@\$1.35.

WOOL.

No changes have occurred in this market. The tone of the trading continues strong with a tendency of prices upward. Some of the grades that were on a correspondingly lower basis than others have advanced, while all kinds are firm and strong. In Ohio where sales are more liberal than in Michigan prices are much above those of a year ago and contracts and sales are being made at 28c for unwashed delaine. Prices paid for fleeces by country buyers range from 22@26c. At Boston Michigan unwashed combing is quoted at 26@29c; do. clothing 23@26c. Foreign markets are strong and going upward.

GRAND RAPIDS.

Potatoes, both old and new, are firm this week, the old ones bringing up to \$1, and new ones \$2 per bushel. Recent rains will extend the strawberry season and berry prices the first of the week were around \$2 per crate. Cherries are abundant this week, and prices, which started off Monday at \$1 for sour and \$2 for sweets will probably be much lower before the week is over. Eggs are worth 18@18 1/2c; dairy butter 21c. The poultry market is lower with 10@12c offered for springs and fowls and 20@22c for broilers, live weight. Wheat is worth 88c; oats 42c; corn 75c; rye 55c.

THE LIVE STOCK MARKETS.

Buffalo.

June 22, 1914.

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

Receipts of stock here today as follows: Cattle 160 cars; hogs 110 d. d.; sheep and lambs 14 d. d.; calves 1600 head.

With 160 cars of cattle on our market here today, and only 12,000 reported in Chicago, all the cattle, both light and heavy, of good quality, sold 10@15c per cwt. higher than last Monday. The best heavy dry-fed cattle

that were here today were not quite so prime as the best heavy dry-feds here last Monday. At the close of the market about everything was sold except a few odds and ends of grassy stuff. The grass cattle sold from 15@25c per cwt. lower and we would caution our patrons to be careful about buying grass cattle unless they are strictly fat.

Receipts today were upwards of 100 double decks and with strong demand from all sources trade opened strong 5c higher on the best grades, while pigs and lights sold 15@20c higher than Saturday's best time. Pigs and lights sold at \$8.50 generally, and all other best grades at \$8.60. Choice roughs \$7@7.25; stags \$6.25@6.75; a few Canadian hogs, best selling at \$8.30@8.40. Everything sold at the close and late trade was strong.

The market was active today on lambs and sheep. Prices steady with the close of last week. Choice handy clips selling mostly at \$8.50@8.75. We look for steady prices the last of the week, with moderate receipts.

We quote: Spring lambs \$9.50@10; cull to fair \$6.50@9.25; yearlings \$8@8.75; bucks \$3.50@4; handy ewes \$5.25@5.50; heavy ewes \$4.25@4.35; wethers \$6.25@6.75; cull sheep \$3@4; veals, choice to extra \$10.50@10.75; fair to good \$8.50@10.25; heavy calves \$5.50@7.

Chicago.

June 22, 1914.

Table with 4 columns: Receipts today, Cattle, Hogs, Sheep. Data for June 22, 1914.

The remarkably small Monday cattle supply made a strong market today, prices ruling largely 10@15c higher, with some prime heavy beefs taken at \$9.40. Copious rains nearly everywhere have made good pasturage, and stockmen are holding back their cattle for finishing. Hogs are up 5c today, with active early buying at \$8.10@8.50, top being the highest in a long time. Later buying was slower at easier values. Hogs received last week averaged 237 lbs. Some prime spring lambs sold early in the day at \$9.65, but this was apparently a rare exception, for such offerings were few, and packers were bidding much lower prices for the general run of lambs and ewes, quality being lacking.

Cattle prices were on the up-grade last week so far as the more desirable beef steers were concerned, receipts continuing far less than a year ago, while there was a much brisker demand than of late. Fat cows and heifers also advanced a little after early decline in the common and medium kinds, but common steers were too numerous all the time and slow of sale at depressed prices. The spread in prices for steers is widening out, with too liberal a percentage of grassy cattle and decreasing offerings of the best class of beefs. The bulk of the steers went last week at \$8@9, with the common to fair class of steers of light weight taken at \$7.30@8.20, while a medium class of steers went at \$8.25@8.55, good lots bringing \$8.60@8.95 and prime to extra cattle \$9@9.35. Good to prime light yearling steers brought \$8.60@9.15, with sales all the way down to \$7.75@7.85 for the cheaper class of yearling steers and heifers mixed, these mixed consignments being numerous and going as high as \$8.90. Fair to prime butchering cows and heifers had a good outlet usually at \$5@8.85, with cutters taken at \$4.40@4.95, cannery at \$3.25@4.35 and bulls at \$5.25@7.65. Although stockers and feeders were offered at prices far below those prevailing a few weeks ago, when the best lots brought \$8.50@8.85, they were in quite limited demand, going at \$6@8.15. The demand was almost wholly for little stock steers, these going the highest, with the best feeders taken usually at \$7.75@7.85, although 22 select 955-lb. feeders brought \$8. Calves were in good demand on the basis of \$5@8 per 100 lbs. for common to prime heavy weights, with light vealers bringing \$9@10.35, top at the week's close being \$10. Milk and springers of desirable quality were in demand at \$60@95 per head, with only a few market toppers. Inferior dairy cows were sold for beef, and they were bad sellers, buyers fearing condemnation after postmortem examination.

Hogs cannot be held down for any great length of time, for stockmen begin to hold back supplies after sharp breaks in prices, and rallies follow. There is a known big shortage in the hog supply of the country in districts where much feeding is carried on, and packers want every hog they can get hold of. Eastern shippers have materially decreased their purchases in the Chicago market of late, their selections covering the better class of hogs. Owners are making good profits on well finished hogs, which sell much higher than in most

former years, but the increasing percentage of grassy swine sell at quite a discount, making a wider range of prices. Recent receipts have averaged 233 lbs., while for the third week of June, 1913, the average was 240 lbs., with the average weight two years ago 236 lbs. Fresh pork is having a good sale for this season of the year, being cheaper than other meats, and there is also a good call for cured hams and bacon, but lard sells slowly, and stocks are accumulating. Despite meager purchases by shippers and much larger receipts than a year ago, hogs closed the week at \$8@8.45, the highest figures of the week, comparing with \$7.80@8.30 a week earlier. Pigs sold at \$7@8 and stags at \$8.60@9. Medium to rather heavy hogs sold highest, with prime light lots about five cents below top values. Throttling packing sows brought \$7.60@7.95.

Sheep and lambs with any claim to being fat and desirable are selling extremely well most of the time, despite breaks in prices from time to time, with quick rallies. Recent receipts have been on a very small scale, comprising hardly any yearlings or wethers, with fair offerings of ewes and moderate runs of fed lambs. Spring lambs make up the big end of the daily receipts, and the Chicago packers get a liberal portion of these consigned to them direct by their buyers stationed in the Louisville market. Prime wethers sold at the highest prices of the year, and purchases have been made in the Chicago market of fat sheep to export to Canada. Lambs and sheep have sold much higher than in most former years, and the short crop of spring lambs makes a bright promise for the future. Range flocks are hardly expected to be marketed before August. With greatly reduced receipts compared with a year ago, the market last week closed at high prices, although they were below the best time of the week. Spring lambs brought \$6.50@9.60 after selling up to \$10 in a few cases. Clipped flocks closed as follows: Lambs \$5@8.50; wethers \$5.75@6.50; ewes \$3@5.35; bucks \$3@4.

Horses were offered too freely last week for the much decreased demand, and many sales were made at declines of as much as \$10 per head. Sales were largely under \$200, an inferior class going around \$75@100, and few heavy drafters sold as high as \$175@290. Wagons and expressers were salable at \$185@205 mainly, top being \$225. Good chunks weighing around 1400 lbs. went at \$215@220.

CROP AND MARKET NOTES.

(Continued from page 648). been selling their wool at 25c; potatoes 75c butter 24c; eggs 18c.

Holmes Co., June 11.—The weather is warm and dry. A large acreage of corn and oats was put in, and all looks fine at present. Wheat is looking well, meadows need rain, and pastures are fair. A large acreage of potatoes were planted and are looking well. The apple crop and also the peach crop will be light, but there are plenty of cherries. Very little spraying is done. Strawberries are a good crop and bring 10c per quart. Wheat 92c; corn 75c; oats 40c; hay \$12; cream 26 1/2c; eggs 18c.

Indiana. Allen Co., June 10.—The wheat outlook is the best for several seasons, and the hay crop is unusually good. Eggs 20c; creamery butter 30c; chickens 16c; potatoes \$1 in car lots.

Jay Co., June 10.—The amount of corn planted exceeds that of any previous year. Potatoes are nearly all planted and the early ones are in blossom. All crops are looking fine except some meadows. Successful fruit growers are all spraying, and the outlook is good. Wheat and rye are fair. Repairs are being made on many roads which are in bad shape, and some new roads are under contract. Wool is selling for 24c; eggs 18c; butter 20c; hay \$14@18; oats 38c; wheat 94c.

Laporte Co., June 10.—We are having fine warm growing weather. The corn stand is the best in years, and farmers are busy cultivating. Prospects for wheat and oats are about the average. Grass is good; alfalfa is fair, and the first crop will soon be out. Late potatoes are being planted. There is some blight on pear trees; cherries are fair; peaches poor. Butter brings 30@35c; butter-fat 27c.

Illinois. Marion Co., June 15.—This county has had a very serious drouth, though somewhat relieved by thunderstorms last week. The oat crop is a complete failure, and pastures and meadows are in poor condition. With dry-farming methods, corn and potatoes look well. Farmers were unable to break their ground for millet and other late crops. Little spraying is being done, as there is poor prospect of an apple crop. (Continued on next page).

THIS IS THE LAST 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. June 25, 1914.

Cattle. Receipts 912. Market steady; milch cows \$5 per head lower. We quote: Best heavy steers \$8@8.50; best handy weight butcher steers \$7.50@8; mixed steers and heifers \$7@7.50; handy light butchers \$6.50@7.25; light butchers \$6@6.75; best cows \$6@6.40; butcher cows \$5.25@5.50; common cows \$4.25@5; canners \$3@4.25; best heavy bulls \$6.25@6.75; bologna bulls \$6@6.25; stock bulls \$5.50@6.25; feeders \$7@7.75; stockers \$6@7; milkers and springers \$4@6.5.

Haley & M. sold Hammond, S. & Co. 315 av 190 at \$8.35. Spicer & R. sold same 250 av 190 at \$8.35. Friday's Market. June 19, 1914. Cattle. Receipts this week 1426; last week 1177; market steady. Best heavy steers \$8@8.50; best handy weight butcher steers \$7.50@8; mixed steers and heifers \$7@7.50; handy light butchers \$6.50@7.25; light butchers \$6@6.75; best cows \$6@6.40; butcher cows \$5.25@5.50; common cows \$4.25@5; canners \$3@4.25; best heavy bulls \$6.25@6.75; bologna bulls \$6@6.25; stock bulls \$5.50@6.25; feeders \$7@7.75; stockers \$6@7; milkers and springers \$3.5@7.

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

N. J. K., Caro, Mich.—See treatment for horse that pants, in this column. Horse Pants.—I have a 12-year-old horse that is apparently in good health, that pants when doing moderate work. F. L. D., DeWitt, Mich.—He should be fed less bulky food. Give him a dessertspoonful of tincture arnica and a teaspoonful fluid extract nux vomica at a dose in feed three times a day. Wash him with warm water twice a day and keep his bowels moderately open.

CROP AND MARKET NOTES. (Continued from page 646).

Eggs 16c; butter 18c; young geese 10c lb. Perry Co., June 11.—We have not had a good rain for two months. The usual amount of corn was planted, but it has been so dry that the seed in some cases has not sprouted. Oats are a failure. Hay will be only half a crop. Wheat is good and is being harvested now. The outlook for potatoes is the poorest in years.

St. Louis Co., June 13.—Cisterns are drying up, and all vegetation is showing the effects of drouth. Lots of cattle are being shipped to the yards. All farmers are complaining of the heat and drouth, as we had only two showers during May. More corn was planted than last year, and about the usual acreage of potatoes. The fruit crop will be a little below the average. Wheat will be about 60 per cent of a normal crop. Eggs 26c; butter from farmers 38c.

Warren Co., June 15.—Corn is cheap. Early planted potatoes are fair, but late potatoes are a failure. Spring grains and meadows are short, but wheat is a bumper crop. On the Missouri bottoms the Hessian fly and army worms have done considerable damage. Apples and peaches are a fair crop, and berries are an abundant crop if rains come more frequently. Wool 20c; eggs 16c; butter 20c; spring chickens 30c; veals 8 1/2c. Pastures are short.

Nodaway Co., June 15.—The drouth has been broken, and corn and potatoes are doing fine, but the hay and oat crop will be short. There will be the best wheat crop known here, although the Hessian fly did much damage. Pastures are short. All live stock is doing fine, with many pigs, calves and lambs on hand. There will be a fair fruit crop. Harvest has begun, and within a week will be in full blast.

Vernon Co., June 15.—The weather is very warm, with thunder showers, and corn is growing very fast. The wheat harvest is in full blast, and the yield will be good. Oats are not so good. Army worms have done considerable damage to pastures and meadows, but are mostly all gone now. Harvesting and threshing machinery has been shipped into this country by the train load.

Kansas. Trego Co., June 18.—Harvest will soon be on. Prospects are good for an excellent wheat crop. The first crop of alfalfa has been cut, and the second crop is starting nicely. The usual acreage of potatoes was planted and will soon be ready for use. Eggs 15c; butter 20c; butter-fat 23c; corn 80c per bushel.

Cowley Co., June 14.—Weather conditions continue favorable. Corn and kafir are doing well, with the usual acreage. Pastures and meadows are doing well. Harvest is well under way, and wheat, oats and rye promise an excellent yield. Fruit will be plentiful; there is not much spraying done except in commercial orchards. Butter 25c; eggs 14c; milk \$1.25 per cwt. Marion Co., June 10.—Rye and wheat will soon be harvested. Corn is doing well; potatoes are a poor crop; alfalfa was somewhat damaged by rains. Pastures are good, and cattle are growing fast. Late sowed alfalfa is perfect, and the early alfalfa was resowed. Corn 82c; oats 48c; dairy butter 18c; creamery 25c; eggs 14c; hens 11c; springs 20c.



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WHITE CEDAR FENCE POSTS—Michigan Cedar Fence Posts, 7 ft., 8 ft. and 10 ft. lengths. Special attention given to farmer club orders. Write for prices and terms. F. G. COWLEY, Oscoda, Mich.

Breeders' Directory—Continued from page 645

DUROC PIGS—10 weeks old. Large, growthy, and from big litters. \$10 to \$15 each, registered in purchaser's name. We guarantee satisfaction. Kenwell Farm, Swanton, Ohio.

Fancy bred Duroc Jerseys—Boars & Gilts of spring & summer farrow. Good individuals at reasonable prices. John McNicoll, Station A, R. 4, Bay City, Mich.

KORN-EL STOCK FARM now offer Duroc Jersey pigs of either sex at reasonable prices. E. R. CORNELL, Howell, Michigan.

DUROC JERSEYS—A few fall pigs of both sexes for sale. CAREY U. EDMONDS, Hastings, Michigan.

Duroc-Jerseys—Spring boars from prize-winning strains. Sows all ages Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

LARGE TYPE P. C.—Largest in Mich. Fall pigs all sold, order a spring pig sired by the largest boar in the U. S., weight 900 lbs., 24 months old. Come and see. Expenses paid if not as represented. W. E. LIVINGSTON, Parma, Mich.

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THE way the direct selling idea has taken hold of the people of this country is remarkable indeed. A few years ago when the writer became interested in the system he went about to find what had been written upon the subject and after searching through private and public libraries he was able to show practically no information outside of a few scattering paragraphs, for his pains. Today not only is every current publication featuring matter bearing upon the subject, but the great government of the United States is doing extensive experimentation and investigation to prove the utility of parcel post in carrying on direct transactions. A bulletin has just been issued wherein is set forth the proposition that this system can be successfully used in the distribution of eggs, a commodity that gives more trouble in its marketing than any other in the list of farm products. We desire to give the readers of this journal the results of the findings of the government.

The Percentage of Breakage.

In the course of the experiments the government shipped 9,131 eggs in 466 lots. Of these 327, or slightly less than 3.6 per cent, were broken, but only 209, or slightly less than 2.3 per cent were absolutely wasted. The others, though broken, could still be used. The percentage of breakage, moreover, will be greatly reduced, it is said, when the employees of the post office become more accustomed to handling such fragile matter, and when the shippers are more experienced in packing the eggs.

That the eggs should be properly packed is, of course, essential. This implies time, care and some expense and is one reason why no attempt should be made to market by parcel post any but the finest quality of eggs, for they alone will bring remunerative prices. Moreover, if the customer who buys in small lots finds that any considerable proportion of his purchase is undesirable or even unattractive in appearance, he will not trouble to ask for deductions on that account; he will simply discontinue his orders. The producer, therefore, must see to it that all the eggs the post-man delivers are what he represents them to be.

Care in Packing.

After eliminating the unfit eggs, those that remain should be carefully packed in a container of corrugated pasteboard, metal, wood or other suitable material. The post office regulations require this container to be so wrapped that nothing can escape from the package, and each egg in addition to be wrapped separately in excelsior, cotton, or some such material. Any soft paper serves the purpose quite well. As for the container itself, there are many kinds on the market and the Department of Agriculture investigators have not attempted to decide which is the best.

In packing eggs it is well to sort them as far as is practical, according to size and color, and to keep for home use those which are irregular in shape, unusually long or thin-shelled. Containers that have been badly stained by broken eggs should be replaced by new ones and the package wrapped as neatly as possible. In short, every effort should be made to deliver as attractive a package as possible into the hands of the customers. The extra expense will be little and the returns in increased trade great.

The larger the shipments that the

producer can arrange to make, the cheaper can he afford to sell his eggs. Within the first and second zones of the parcel post service, a package costs five cents for the first pound and only one cent for each additional pound. Ordinarily eggs which weigh about one and a half pounds a dozen, which, with the additional weight of the wrapping and container, would make a package of a dozen eggs weigh between two and three pounds. The postage on this would be seven cents. If another dozen eggs were included in the package the postage would not be more than nine cents, or four and a half instead of seven cents a dozen eggs.

To the value of the eggs and the cost of postage must be added the cost of the container and the wrapping. For two dozen eggs this may be estimated at eight cents. With postage at nine cents, it would, therefore, cost 17 cents to market two dozen eggs, or eight and a half cents a dozen. By shipping in 10-dozen lots, it is estimated that the marketing cost can be reduced to 4.7 cents a dozen.

Economical to Use Returnable Containers.

Where the container can be used more than once, this cost can, of course, be somewhat reduced. Large sized containers will stand from two to four trips, smaller ones three to five, so that it will pay the producer to induce his customer to return the containers periodically. The postage required for this is, of course, deducted from the bill for the next shipment.

Although it is obviously advantageous both to the producer and consumer that the eggs be shipped in large quantities and consequently economically, it must be remembered in taking orders that the supply of eggs undergoes the greatest fluctuations. In times of scarcity it is not good policy for the producer to send all his output to one customer, neglecting his other friends, nor in times of plenty can he expect to dispose of his entire stock to his regular customers. These points must be given due consideration and the quantities that are to be supplied at each season of the year carefully stated in the contract. The price, too, varies with the supply. One good method of determining this is to take as a basis the wholesale price of eggs on the open market and add to this a certain number of cents a dozen for the new-laid parcel post eggs. Care should be taken, however, to see that there is no possibility of any misunderstanding arising in regard to the basic price. To obviate this, the quotations published in a given newspaper or some other similar authority may be accepted.

May Need to Change Production Methods.

Eggs are scarcest and highest in the fall. Chickens should, therefore, be hatched early enough to begin laying at this season. Moreover, little difficulty will be experienced then in disposing of the entire output and it will in consequence be unprofitable to divert any of the supply to home purposes. This difficulty can be overcome by preserving eggs in the spring, when they are plentiful and cheap. A solution of water glass, which can be obtained at drug stores for 75 cents a gallon, should be used for this purpose, each quart being diluted with ten quarts of water which has been boiled and cooled. The eggs should be packed in stone jars or crocks and the solution poured over them, or

they may be carefully placed in the solution each day. Eggs kept in this way are perfectly good, but naturally they do not command the prices of those newly-laid. The shells sometimes break in boiling, but this may be avoided by puncturing the end with a pin just before they are dropped into the water.

The only drawback to marketing eggs by parcel post appears to be the time and trouble involved in packing them. This is compensated for by the extra price that can always be obtained for products that are absolutely reliable. At bottom, therefore, the shipper's success depends upon the care with which he safeguards the reputation of his products. Satisfied customers will soon build up his business for him. Any post office will furnish complete information in regard to regulations and rates.

Crop and Market Notes.

Michigan.

Shiawassee Co., June 15.—Corn is about planted and an average acreage was put in. Potato planting is under way and the usual acreage. Wheat is heading splendidly. Rye a good crop; oats looking well and barley coming on in good condition. A large number of farmers sprayed their orchards after blossoming. Pastures in excellent condition. The hay crop will be the banner crop of the season. A good strawberry crop. Sugar beets are doing well. Bean planting well along. Wheat 87c; oats 38c; rye 60c; barley \$1 per cwt; eggs 18c; butter 16c; hay \$12@14.

Emmet Co., June 11.—The weather is too dry for the best growth of crops, which were late in getting in. Apples set full. The hay crop will probably be short. Eggs 18c; butter 25c per pound.

New York.

Orleans and Niagara Co.'s, June 12.—Crop conditions are generally favorable. Wheat, hay and fruit, with the exception of peaches, are fine. Oats and barley are late. Corn and potatoes are now being planted. Dairy butter 20c; eggs 18c; veal calves, live 9c; dressed 15c; beef, dressed 10@13c; sheep 10c; pork 10@12c; spring lambs \$4.50@5.

New Jersey.

Morrmouth Co., June 10.—We are having cool, dry weather. Grain is looking well, but grass is short on account of dry weather. There was about the usual acreage of corn and potatoes planted, and they are looking fine. Fruit prospects are very good, and spraying is about all done. Eggs 20@24c; butter 25@35c; potatoes \$1; corn 75c; wheat \$1.

Pennsylvania.

Erie Co., June 14.—All crops are late in this section. The spring grains and meadows are looking fine. There will be a good crop of all kinds of fruit and berries excepting peaches, which were all killed in the winter. There is not much spraying done here. Eggs 20c; butter 25c; cheese 13c; potatoes \$1.

Crawford Co., June 11.—Rain is very much needed at present. The meadows are not as good as expected. Wheat and oats are looking fine, and corn is almost ready to cultivate. Some farmers are still planting potatoes. Eggs 18c; butter 15c; chickens 10c; old potatoes 80c per bushel.

Ohio.

Fairfield Co., June 10.—Rain is badly needed. Wheat generally is very good, though some fields will make a very light yield. Corn is doing well, though somewhat late. Meadows will be light, and there is not much clover to cut. Rye is good, oats are light. The cherry crop will be good; strawberries fairly good; pears light; apples fair; peaches light crop. Old potatoes 90c; butter 25c; eggs 20c; wheat 90c; corn 80c; oats 45c; hens 13c; spring chickens 18c.

Highland Co., June 13.—Had a six weeks' drouth. Corn is all planted and is doing well. Meadows are very short. Wheat is considerably damaged by the Hessian fly and joint-worm. Rye looks good; oats are a failure. Potatoes are all planted and coming on nicely. Fruit was damaged by the cold weather and by blight, excepting cherries, which will be a fair crop. No spraying is done. Eggs 17c; butter 20@25c; hogs \$7.50; fat cattle \$7@8; sheep and lambs in good demand at \$5@7; chickens 14c; turkeys 17c.

Columbiana Co., June 13.—The weather has been dry, and oats are in need of rain. Corn is not very big, but is doing well. A good many late potatoes have been planted the past week. Wheat is looking good. The hay crop will be fair. Farmers have (Continued on page 646).

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