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Farming is Not Necessarily a Gamble.

A VERY prominent contributor to the Michigan Farmer has often made a statement which would seem to indicate that farming is just a game of chance. In a late article from the pen of this correspondent I note this statement: "If one does the best he can that is all he can do, and he must simply take what results are handed out to him." While this is true it is very seldom that we do the best we can.

We may be farming on poorly drained land, which is a mighty gamble. Good drainage is absolutely essential to uniformly successful crop production, and until a farm is under a system of drainage which will absolutely protect crops from flooding, we have not done the best we can. If we have purchased a farm or are tilling a farm for general crop production which can not be so drained, or which washes seriously, we are again in error. There is use for land in almost any condition but the use must be suited to the condition.

Again, one of the most common causes of partial or complete failure is in attempting too much. It is easy early in the spring to lay out a very extensive summer's work, but "Not how much but how well" would be a splendid motto for every farmer to paste in his hat just at this enthusiastic time of year, for there is trouble ahead. A very few lines attempted on a scale which will permit of their being attended to in the very best possible manner, from the time the preparation of the soil begins until they are turned into cash, will yield far more in cash and satisfaction than where a great many lines are attempted and none of them made to do their very best. It is the opinion of the writer that any of the crops that by nature were intended to grow under Michigan conditions can be made profitable in Michigan every year and extremely profitable in favorable years.

This brings us to the question of the selection of crops to grow. Grow crops suited to your natural conditions if you do not want to gamble. Grow crops that just like to grow in your locality. Any crop that must be treated like a bottle baby will tend to extend the idea that farming is a lottery. The writer has had the pleasure of seeing lima beans grow in the bean section of California and he would almost as soon think of trying to compete with them in growing oranges. With the small white bean, they have nothing on us. No one has anything on us on wheat, potatoes, pea beans, sugar beets, timothy and red clover. I could name a list that people in this state are making a brave but sadly handicapped fight to raise and in the raising of which other localities have the tremendous advantage of truly favorable natural conditions. Make the crop a kind suited to the soil and the climate and do not try to change the soil to suit the crop, and do not gamble with the climate. The first is not practical and the second will "get you" too often.

Grow crops suited to your labor conditions. Competition is close in agriculture as well as in all other lines and if we are to get any "velvet" we must not get our wires crossed.

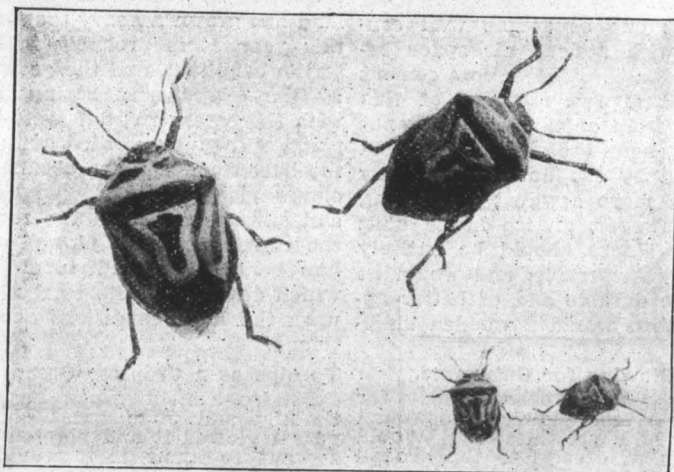
A simple rotation in which the getting in of the crops, their care while developing, and their harvesting and marketing dove-tail well and do not get on top of each other, tends to

take the gamble out of our business. Some crops call for much labor. These are all right if the labor is available and the farmer capable of handling it to advantage. However, there are the standard farm crops which do not call for so much labor and which one year with another, all things considered, are, I believe, just as profitable. Work must be done on

time to be uniformly successful. To do it on time we must have the time to do it. If our crop has unfortunately been planted just ahead of a packing rain, we must be Johnny on the spot with the drag. We must not wait for all of the field to be dry enough, if the soil varies, but drag the clay knolls first. There is always a way.

In conclusion, I say no to the statement that "he must simply take what results are handed out to him." I say that if our land is properly drained; if we attempt no more than we can do with absolute thoroughness, at no time neglecting any detail, and every operation done seasonably, and if we grow crops suited to our natural conditions as to soil and climate and with a careful eye to labor conditions, so organized farming is not a gamble but a sure thing, and we can make Dame Nature come right up and eat out of our hand.

Shiawassee Co. A. B. COOK.



The Potato Bug Destroyer (Perillus claudus).

NATURAL ENEMIES OF THE POTATO BEETLE.

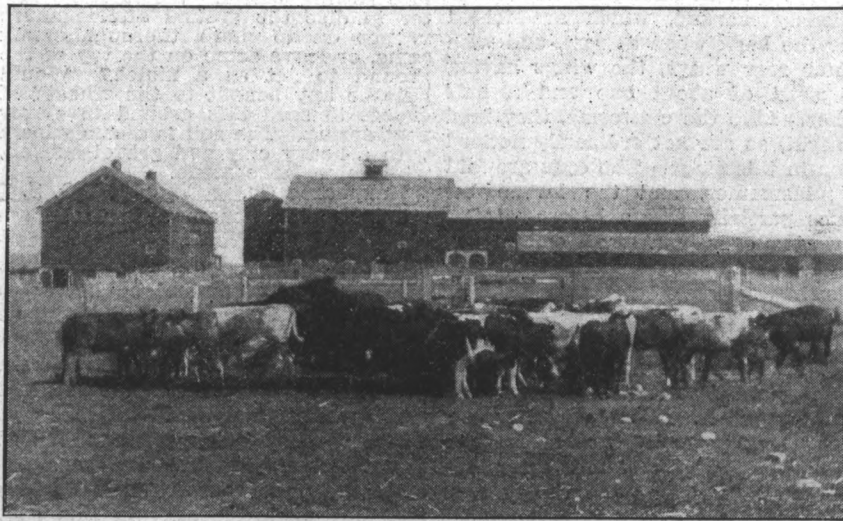
I have read with interest the letter from Mr. Chas. Taylor, of Montcalm county, describing an insect which is destroying potato beetles in his section, which was forwarded to me for comment.

I can see clearly that Mr. Taylor has confused two enemies of the potato beetle, in his mind. The one treated in a recent number of the Michigan Farmer, is a fly, a Tachina fly, and not a beetle. The one to which Mr. Taylor refers is, I think, either a lady-bird or a stink-bug. We have in Michigan, at least three enemies that are helping to hold down the potato-beetle. One of them is this Tachina fly, which lays its eggs on the skin of the living bug, another is the potato-bug destroyer, which sucks the juice from the living bugs, and the third is the lady-bird, of which there are several species. The potato beetle destroyer is a flat bug, looking something like the potato beetle, itself, in size and color, although it is not striped longitudinally as is the potato beetle. The lady-birds are usually spotted and ordinarily confine themselves to eating the eggs of the potato beetles. The last two named are the most common in the state and do the most efficient work but they all help in keeping the potato beetle down. Now, it is doubtful if all of these enemies of the potato beetle combined will ever be able to take care of the pest without man's help. I believe we shall have to spray as long as there are potatoes, except perhaps in more or less restricted localities where, for a time, these enemies may hold the pests in check. The potato beetle is in a way, a native insect, but native only to a restricted locality in the west. It does not seem to have acquired enough enemies to completely hold it in check, in this part of the world.

R. H. PETTIT,
Entomologist Michigan Ex. Station.



Stone and Shingle House of the Popular Bungalow Type—McClure Farm.



Barns on the McClure Farm, Gladwin Co., with "Feeders" in Foreground.

A RODENT-PROOF GRANARY.

I read with much interest Mr. Lillie's article entitled, "A Rat and Mouse Proof Granary." I was rather amused by his positive statement that the only way to make a granary rat and mouse proof is to line it with sheet iron, (or rather, sheet steel, as sheet iron is hard to get), as I know they can be kept out without it.

Perhaps I am wrong, but I think a granary lined with sheet steel would be rather close, as the air will not penetrate the steel as it will wood. Again, unless galvanized steel is used it will rust from the sweating of the grain and sudden changes of temperature. Of course, I am partially guessing as to the keeping qualities of the steel lined granary, but I am not going to guess about the rest of it.

My granary is not in my barn, but is in a general utility building just as bad as a barn. The building is 20x36 ft., with shed 12x36 ft. along the north side. This shed is used for buggies and small tools. The granary is in the east end of upright, 16x20x8 ft. high. The west end, 20x20 ft., is used as woodwork shop and store-room. The second story is used for storing lumber, baskets, crates, barrels, wire, etc. This makes a capital home for red squirrels. The workroom is generally well populated with mice, as we often shell corn in it. This granary has been in use for 32 years and rats and mice have got in several times, when the door has been left open, but never has one got out or in except through the door, and the only sheet metal there is about the room is a piece at the lower corner of the door where a rat gnawed a hole through when the door was left ajar. The hole was not big enough for a mouse to go through when the door was shut. The room is floored, sided and ceiled with matched white pine and basswood, that being the lumber my father had on hand and used to do all his building with. Hardwood would be just as good, and probably better. Next to the buggy shed there is no sheeting on outside of studding. Next to workroom one side of the door is ceiled to joists and on the other side it is ceiled up about two feet, making a regular mouse harbor between the studding.

Now, as to the cost of material. To line that granary with sheet steel would cost about \$60, and you would have to have a floor under the steel besides. The lumber to floor side and ceil that room, at \$25 per thousand, would cost close to \$35. The "proofing" is done with mortar, using quicklime and sharp gravel. One barrel of lime at \$1.20 is plenty, and calling a load of gravel \$7.00, the total cost of material comes to \$37. The mortar is about six inches deep between the studding at the bottom, then at the top girts are put in between the studding about six inches down from the top and mortar put in to top and one-half inch of mortar is spread all over the top between the joists and troweled down.

There is no permanent floor over this, and mice, rats, and red squirrels have harbored there, off and on, all these 32 years, and never has one got into the granary except through the door. It is a good deal of consolation to put bags, full or empty, binder canvases, seed corn, etc., in there and not have to worry about them. I am quite sure we have saved enough grain every year to buy the proofing material and put it in place.

In a barn, I would want the outside of studding, next to the hay, covered though any rough lumber would do, on account of pressure and, of course, a floor over top of joists.

Not making the positive statement that grain would not keep in the steel lined granary, as I have not proved it by experience, the wood lined granary is cheaper (by about one-half) and certainly a great deal more pleasant to work in. The only question is

(and that applies equally to the steel lined one) to keep the door shut.

Another thing I wish to speak of, is that when one has such a granary he naturally puts a great many things in it, as feed, flour, etc., and he is bothered with meal bugs, wireworms, etc. I find I have to take out the flour and feed about once a year and fumigate with carbon disulphide, being careful not to go in with lighted lantern or other fire. This pretty effectually eradicates the vermin.

Kent Co.

G. E. EWING.

FARM NOTES.

Cement Blocks for Ice House Construction.

I am about to build an ice house. I would like to build it of cement blocks. Will it keep ice as well as a wooden building?

Wayne Co.

J. R. C.

While it is probable that an ice house built of cement blocks as ordinarily made would not keep ice quite as well as one built of lumber with the same care in packing, by using a little more insulating material about the ice, quite as satisfactory results would be obtained. The writer has a neighbor who some years ago built an ice house of cement, making the same a solid wall, and he has kept ice in it with very good results. The most satisfactory form of ice house built of concrete is one of double wall construction with a dead air space between the walls. The hollow cement blocks will give a measure of this protection from outside heat, but not quite the same protection as would be afforded by the double wall. By the use of more sawdust in packing the ice, however, an ice house built of cement blocks should be entirely satisfactory in service, and would be much more durable and of better appearance than would a wooden building.

Fall Plowing for Cutworms.

Can you tell me of a remedy for cutworms? Would plowing the ground in the fall be a preventative? Would an application of salt to the ground have any effect? What lays the egg that hatches them? Could we fight the pest now so they would not trouble next year? Have heard of using poisoned sweetened meal but I would rather use some other method on account of the danger.

Lake Co.

R. L. C.

Deep fall plowing is recommended as a means of reducing the damage done by cutworms and other similar pests which pass the winter in the larval stage. This process breaks up the soil about the worms where they have ensconced themselves for the winter, and many of them will succumb to the weather before they again get into suitable winter quarters. The damage from insects of this nature is greatly lessened by devoting the soil to a short crop rotation. Some farmers claim that the application of salt materially lessens the damage done by cutworms, but there is little authentic evidence to support this claim.

The term, "cutworm," is used to describe the larvae of several species of moths of similar habits. The adult insect is a moth with dark fore wings variously marked, which are folded over the back when at rest, and with lighter rear wings, the wings having a spread of about one and a half inches. Like the cutworms, they feed at night, so are not ordinarily noticed when in this stage. The eggs are laid in midsummer, and the larvae becomes partially grown before winter, wintering over in a small cell in the ground, completing its life cycle the following spring.

The most successful method of combating cutworms is to fall-plow the land, cultivating thoroughly before a crop is planted so that the worms may be deprived of a suitable food supply during that period. Another method is to plow the ground late and plant the crop at once, on the theory that the worms will continue to work on the grass and its roots until the corn

or other crop gets well started. They may also be easily killed in large numbers by the use of poisoned mash.

Fall vs. Spring Plowing of Clover Sod.

I have a field sowed to clover; have taken a big crop at the first cutting and could get another cutting, as it is now about a foot high. Would like your advice as to which would be best, to cut the second cutting and plow the land in the spring, or let the second cutting remain and plow under this fall.

Wayne Co.

H. G.

The best method of handling this soil will depend not a little upon its character and condition, also the need of the hay crop which would be furnished by the second growth of clover. It would, in the writer's opinion, be better practice to plow the clover sod next spring, rather than this fall, unless it is desirable to get the work out of the way before the spring rush. If the hay is needed, it would be good economy to cut and feed the same to live stock this winter and return the manure to the soil before same is plowed in the spring, but if weather conditions are such as to be favorable for a clover seed crop, it might be more profitable to harvest the second growth for seed. In case it is desired to let same go back on the ground to add humus to the soil, as much benefit would be derived from it if plowed under next spring as if plowed this fall. However, as this land has grown a heavy crop of clover this year, it is probably in a fairly fertile condition, and the growth made by the clover next spring, together with the extensive root system of the plant, will supply needed humus, while the bacteria which are peculiar to the clover plant will continue to gather and store nitrogen on the roots until the clover dies or is plowed up. This, however, is an individual problem which depends for its correct solution upon the local conditions above mentioned.

Turnips as a Crop for Green Manure.

I have a field which has been a timothy and June grass sod. This year I plowed it and planted to corn. I want to know if it would be all right to sow it to turnip seed just before cultivating the last time, for fertilizer for potatoes next year, some say the turnips will not freeze down so but they will come up next year and bother in the potatoes, and others say they will not bother; this is about a nine-acre field. Would like your advice.

Antrim Co.

M. G.

There would, in the writer's opinion, be no trouble about the turnips growing after the land was plowed for potatoes, although if handled in this way it should be plowed early in the spring, and cultivated several times before planting the potatoes. It would, however, be a more satisfactory plan to sow winter vetch and rye in the corn to be plowed down as a green manure crop next spring, for the reason that this would add some available plant food and vegetable matter in a better condition to be quickly available as a fertilizer for the ensuing potato crop.

Top-Dressing Wheat with Stable Manure.

I have a piece of ground which I expect to top-dress with manure before sowing wheat. Would it be better to disc the ground after manure is put on to more thoroughly mix same, or leave some on the top of the ground to act as a mulch? Would lime be any benefit to the wheat? I expect to seed this ground to clover next spring. The soil is a sandy loam with a heavy clay and gravel subsoil, with some large stone.

Kalamazoo Co.

H. O. S.

Where stable manure is to be applied to wheat ground as a top-dressing before the wheat is sown it would, in the writer's opinion, be better to disk it into the soil, since its plant food content would be more quickly available and the benefit derived from the addition of humus to the soil and the increased activity of soil bacteria would be more quickly noted. Wheat is not directly benefited by the application of lime, but if there is any tendency toward acidity in this soil, the crop of clover succeeding the

wheat would be very materially benefited by an application of lime.

SOIL AND FERTILIZER QUESTIONS.

Lime and Fertilizer.

I live four and one-half miles from a railroad, and to haul limestone so far would be too expensive. So would like to know if I cannot use common ground sack lime? How much ought I to use to the acre? I also want to sow fertilizer for wheat. What kind and how much ought I to sow? The land is fairly rich and neither sand or clay. I grow from 100 to 125 baskets of corn to the acre but other grains do not do so well, and clover does not grow well any more. I have never used lime or fertilizer and any information you can give me will be gladly received.

Calhoun Co.

J. L. B.

Common ground lime or hydrated lime is just as good, and more effective, than ground limestone. If you intend to use a ton or more of ground limestone, half a ton of hydrated lime will be as effective but, of course, will not last as long, that is, you will need to lime the field sooner again if you use the hydrate. It would be much cheaper to purchase your lime, either hydrated or limestone, in carlots than to purchase of a dealer who supplies the building trade and who sells at retail. If you are only experimenting in a small way then you are right.

On land that will produce 100 baskets of corn per acre, I don't think that it is necessary to purchase nitrogen in a fertilizer. What you need is phosphoric acid and potash, or what is commonly known as a rock and potash fertilizer, like 9:3 or 10:4 or 10:8. If you use only 200 to 300 lbs. it will improve the wheat. To improve both the wheat and the land I would recommend 400 to 500 lbs. per acre.

Seeding Vetch in a Clover Field.

I seeded a field of rye and one of oats to clover and timothy and have a good stand on about two-thirds of each field. Soil is a medium heavy clay. Can I sow vetch in the vacant spots with profit? How much should I sow to the acre? How prepare the soil?

Montcalm Co.

E. O.

If these poor places in the seeding are of sufficient area so it will be practical to work them up with disks and spring-tooth harrow, they may be sown to vetch and rye. It is better to sow rye with the vetch to keep the vetch from laying flat on the ground, for this plant has a very weak stem. You should sow as soon as possible if there is sufficient moisture and seed at the rate of one bushel of rye and a bushel of vetch per acre. In my judgment, however, it would be better to fit up those poor spots and seed to clover so as to have the field all the same. I think the clover will be quite as apt to do well as the vetch. In either case, it would pay to topdress these spots with manure if you have it, if not, then use commercial fertilizer.

Lime and Fertilizer for Alfalfa.

I would like to seed some alfalfa and want to use some lime as more or less sorrel grows on it now. Can you advise me whether to use ground limestone or caustic lime and how much per acre? Where can I best get this material? Could I top-dress with commercial fertilizer to good advantage at seeding time?

Allegan Co.

H. H.

Either caustic lime or ground limestone will do. If you use limestone use at least one ton per acre; if caustic lime half a ton will be as effective. If you need less than a carload you can probably get caustic lime from your town dealer, but if you need a carload you had best buy of someone of those advertising lime in the Michigan Farmer.

It would be a splendid thing to use commercial fertilizer when seeding the alfalfa. If you sow the alfalfa with a grain fertilizer drill you can sow the fertilizer at the same time, but if you do not, then sow the fertilizer before seeding the alfalfa and harrow the land before sowing the alfalfa.

COLON C. LILLIE.

Practical Science.

THE USE OF ALUM IN FOOD PRODUCTS.

BY FLOYD W. ROBISON.

Along with sodium benzoate, boracic acid and the like, some question has been thrown around the use of alum, particularly in connection with food products. The principal place where alum is used as such, in connection with food products, is in the preparation of cucumber pickles. But curiously enough, the greatest question of the propriety of its use has not arisen in connection with alum in pickles, but rather with the use of alum in baking powder.

The Baking Powder Controversy.

Before food laws generally were made operative in this country a warfare had grown up over the employment of alum in baking powder. We are not certain that at that time the objection to the use of alum, and the public antagonism toward alum engendered, was because of the primary interest in the integrity of the food supply. The alum question arose, we think, largely because the employment of alum in baking powder threatened the supremacy of the cream of tartar industry. At any rate, the original warfare on alum was a warfare between two rival baking powder companies. We think that weapons were used in this warfare that were ethically outside the rules of the game, but as in real war, ethics play a small part in the procedure.

Many food commissioners and public officials became aroused over the question of alum and its use when its employment had very little to do with the question of food purity.

The Alum Baking Powder War.

We have not been greatly interested in the warfare against alum as employed in baking powder, for we have considered it largely a warfare of one group of interests against another group of interests, without either considering the real interest of the public insofar as it may be warped to their particular advantage. The question of the employment of this or that acid ingredient in baking powder really amounts to nothing more nor less than the choice of the least injurious ingredient. There are three active acid agents used in baking powders; first, cream of tartar and tartaric acid; second, phosphates; third, alum. We have felt that their relative values lay in the order named. There are certain distinct disadvantages in the use of cream of tartar in baking powder, and there are certain disadvantages in the use of phosphates in baking powder. Likewise there is objection to the use of alum in baking powder. None of these products can be considered wholesome additions to food products, but employed in baking powders where they undergo chemical changes before they are introduced into the foods, their possible or probable injuriousness is, of course, minimized.

What is Alum?

By alum is commonly known a combination of sulphate of alumina with one of the alkalis. There are three combinations giving a crystal of practically the same form, with almost the same physical characteristics; these are the combination of aluminum sulphate with, first, potassium, forming potassium aluminum sulphate; second, with soda, forming sodium aluminum sulphate; third, with ammonia, forming ammonium aluminum sulphate. The first one is called potassium alum; the second, soda alum, and the third, ammonia alum. Without doubt the part of these compounds which give character to them as alum is the aluminum sulphate, chemically, $Al_2(SO_4)_3$.

There is a tremendous field in commerce and manufacturing for alum and the arts is the proper field for the exploitation of alum, a field all sufficient in itself without encroaching upon the domain of food commerce.

All Baking Powders Are Objectionable.

Baking powders are a seemingly almost necessary adjunct to modern living, although there are certain well-known pure food champions who argue with much reason against the use of baking powders. The world's foremost pure food champion, Dr. Harvey Wiley, does not believe in the use of baking powders in food products. Unfortunately, baking powder will be used and we are not greatly in sympathy with official antagonism to any one of the three mentioned solely on the ground of injuring the health, for as we have stated before, to our mind it is largely a question of individual preference, for they are all antagonistic to natural food digestion.

We have, therefore, passed over without censure the employment of alum in baking powder and our principal reason is that when it gets into the food it is no longer alum but has become probably an insoluble hydroxide of alumina. As nature's first effort in repelling any injurious product which may be introduced into the system is to change its chemical form and render it insoluble, we think the chemical reaction in bread making has changed the alum to its most unobjectionable form.

Alum in Pickles.

There has been however, an extended use of alum throughout the country in the preparation of cucumber pickles, and it is in this capacity that we most strongly object to its employment. We have been unable to figure any real valid excuse for the employment of alum in pickles although certain manufacturers have persisted in its use and many householders put a small amount of alum in the jar or can of pickles to produce a certain desired crispness in the pickles. There is no doubt that alum will accomplish this purpose; but it certainly does so at the expense of the wholesomeness of the pickles. We think the most apt expression describing pickles which have been treated with alum is to call them embalmed.

Alum is a Menace to Health.

We consider the employment of alum in food products to be on the same general line as the employment of copper for coloring cucumbers, peas, beans, etc., and the employment of preservatives in food products and the use of creosote in the preserving of hams, and others fully as objectionable. We consider the employment of alum in food products to be a distinct menace to health. Pickles can be prepared in the home and in the factory without the employment of alum just the same as corn can be canned in the home without the employment of chemical preservatives.

One thing for which we commend Dr. Wiley more than anything else, for which he has been accused of sensationalism and radicalism, is his firm stand against the employment of any ingredient in food products which does not make toward the actual improvement of that product from a nutritive point of view. Too much care cannot be thrown around the manufacture of food products, and before a chemical of any description should be permitted to be introduced into a food product it should be demonstrated beyond a shadow of doubt that its employment is a distinct and real improvement to that product. Under these specifications we find no excuse for the employment of alum.

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HORSE TROUBLES.

HORSES are valuable property on the farm nowadays, and with the certainty that the European nations, now at war, will soon have agents here buying horses and mules for use in their armies it is evident that values will be rapidly advanced in the near future. Farmers, especially, should use every precaution to keep their horses in good health, for the death of a good horse is not to be lightly considered, under the conditions now existent.

Bad Teeth.

There are several well defined ailments to which horses are subject that every farmer is familiar with and is prepared to treat, but there are others which result from causes which far too many farmers give little consideration. A cause for various ailments in the horse is the bad condition of the teeth, yet on many farms the horses' teeth are never examined. Indigestion is one of the ailments which are most prevalent among the horses, frequently resulting in flatulent colic, and defective teeth are responsible in many cases for the trouble.

Not many years ago in a stable of 600 express horses, 25 were indiscriminately selected for proper dental treatment in order that a test might be made as to the benefit that might follow. The teeth of these 25 horses were put into proper condition and their ration of oats and corn was reduced two quarts per day each. After the first month a great improvement in their general condition was noted, continuing during the second and third months, when they were again weighed and it was found that an average increase of 48 pounds per head was the result. The test was made during the hot months of July, August and September, when flatulent colic is most common among hard-worked horses, yet not a single case appeared among the 25 horses tested. Since this experiment every lot of new horses purchased by this company have their teeth examined and put into proper shape, as it is considered a waste to feed them until this has been done.

At first thought it would seem ridiculous to say that there are some forms of lameness which may be prevented or cured by proper treatment of the teeth, but is so nevertheless. A common form of lameness, especially among young horses working on the farm, is due to interference. Young horses first put to hard work frequently show weakness and fatigue, get limber-legged and interfere badly, or perhaps over-reach and grab the quarters of the fore feet and often keep it up until they become very lame.

Ordinarily practitioners would order condition powders, tonic balls, change of shoes and a few days' rest. This would give temporary relief, but supposing the horses' teeth are in such shape that he cannot properly masticate his food? The result is a failure to assimilate the nutritive qualities of his food—indigestion, in fact—resulting in the weakness that, in many cases, is the direct cause of interference.

It is an economical policy therefore, to see that the horses' teeth are kept in proper condition. The constant wear on them frequently leaves sharp edges that lacerate the sides of the mouth and this not only prevents the animal from chewing his food, but sets him on a nervous edge that assists materially in reducing his flesh and his strength. Sometimes the grinders wear down much faster than the frontal teeth and then the horse becomes unable to grind his food at all, indigestion being quite certain to follow this condition.

Often, too, a horse will suffer greatly from a decaying tooth. He will be-

come nervous and irritable, run down in flesh rapidly, and be unable to do anywhere near the amount of work he would do otherwise.

The expense of having a veterinary examine the teeth of the farm horses once a year is very small, compared with the saving of feed, the reduction of the chances of sickness and death and the greater amount of work they will do, when their teeth are in shape to permit them to utilize their food to the fullest extent.

Choking.

Another ailment, not a frequent one, in horses, but one that is very serious in its consequences, if not successfully treated at once, is choking. Horses that are inclined to bolt their feed are the most frequent victims of choking. Owing to the narrowness and great length of the oesophagus or gullet, it is peculiarly liable to impactment of dry food when the horse swallows it without sufficient mastication to moisten it. A horse choking from impacted food in the gullet will show distress in his breathing and a saliva-like foam will come from his mouth and nostrils. When the obstruction is near the larynx the animal's distress is greatest and usually it may be felt on both sides of the neck above the windpipe, but best on the left side of the neck. When the obstruction is low down in the chest diagnosis is not so easy, but when fluid is swallowed it accumulates in the tube until it is distended for some distance up the neck, which indicates the nature of the trouble.

For this form of choking, before anything else is attempted, raw linseed oil should be administered by the mouth and carefully kneaded into the substance in order to soften it so that it may be swallowed. Not too much oil should be administered at a time and the horse should be allowed to expel it at intervals, as it will distress him to keep his head up for a long period.

If the obstruction be hard, however, like an apple or a potato, it will be best to send for a veterinary, although sometimes oil carefully kneaded around the object with the hands will permit it to be worked down the tube into the stomach. One should never, under any circumstances, try to push the obstruction down the tube with a broom stick, or other unbending object. A piece of three-quarter-inch rubber hose with the end made perfectly smooth and well oiled, may be used if other methods fail, and a veterinary cannot be secured. When this is done the horse's head and neck should be held in as nearly a straight line as possible, otherwise the obstruction may pass into the windpipe, which will result in suffocation.

As before remarked, choking is not a frequent occurrence in horses, but it requires such prompt treatment when it does occur, that the knowledge of what to do at once may save a valuable horse.

New York.

H. L. ALLEN.

REMEDY FOR SHEEP BOT.

One of the worst parasites with which sheep herdsmen must contend is the sheep bot. The adult fly lays its eggs on the nose of the sheep and in a day or so, the eggs hatch out and the larva or maggots work their way up the sinuses of the nose and eventually reach the brain.

By watching a flock of sheep one can usually tell when they are troubled with the sheep bot. They crowd together and sneeze often. They keep their noses close to the ground or rubbed against another sheep—the main object being that of hiding their faces. At other times they will be seen pawing at their noses with their front feet. Usually these symptoms will diagnose sheep bot trouble.

The remedy is to put anything on the nose that will keep the adult from laying its eggs. Tar is about the best remedy there is for it sticks well, lasts quite a long time and is effective against the fly. It might be applied by hand but that method is too long and laborious. A very effective way of applying tar to the sheep's nose is to bore a hole in a log in the pasture. The hole should be just a little smaller than the muzzle of the sheep. In the bottom of the hole place some salt and then smear tar around the top of the hole each three or four days. The sheep, in their endeavor to get the salt, will keep their noses well smeared and if the hole is kept filled with salt and well smeared with tar, the sheep will not be troubled with this parasite which is so hard to combat medicinally and which nearly always results fatally.

Ingham Co.

I. J. MATHEWS.

FEEDERS' PROBLEMS.

Eradicating Sheep Ticks.

Will you advise me if there is any way of ridding sheep of ticks without dipping them?

Missaukee Co.

C. Y.

There is no very satisfactory way of eradicating sheep ticks except by dipping the sheep in some solution, such as creosote or nicotine solution. This is not a very expensive proposition, and the best plan is to use one of the standard dips which can be purchased on the open market at moderate cost.

Will Brood Sow Get Too Fat on Alfalfa?

I have a pure-bred sow, due September 10, that is running in alfalfa pasture and seems to be quite fat. She is not fed anything but water. This is my first experience in pasturing alfalfa. Will she get too fat?

Wexford Co.

G. E. S.

A Poland-China sow has a right to be heavily fleshed. That is characteristic of the breed. Of course, you can get them too fat. But this usually is brought about by confining them quite closely and feeding them freely on corn. Where they have the run of a good-sized pasture they rarely get too fat, even if they are fed grain in connection with the pasture. Exercise and plenty of it, usually takes care of anything of this character. You don't want your sow thin in flesh when she farrows. You want her vigorous and a Poland-China is not vigorous if she is poor. My judgment would be that the sow should have a little corn with the alfalfa, even if not more than one ear each day. This will help balance the ration and will give her better heart and more vigor.

THE BROOKWATER SALE.

The public sale of Durocs held by Prof. Herbert W. Mumford, at Brookwater Farm, near Ann Arbor, Mich., on August 4, was well attended, with a fair number of buyers present from other states, as well as Michigan. The offering was first-class in every respect. The breeding of the animals catalogued was rich in the blood of many of the most noted individuals of the breed, and all came into the ring in the pink of condition.

Without an exception, all were strong individuals, showing the vigor of healthy growth, stimulated by proper feeding as well as the type which is the mark of good breeding. Forty-six head went through the ring at an average of \$46.90. One hundred dollars was the top price of the sale, paid for the bred sow Orioness 96390 by an Ohio breeder. While the choice end of the offering went to widely scattered buyers from outside states, a considerable portion of the animals offered went to Michigan bidders and will aid in upbuilding the quality of Michigan herds of this breed. At the prices which prevailed in the ring, many Michigan farmers could have done a profitable stroke of business by buying foundation stock from this excellent herd, which is the largest in the state and one of the very best in the country.

"The Dairy Type"

WHILE reading the Michigan Farmer for April 25, 1914, I came upon an article written by N. A. Clapp, and entitled "The Dairy Type." This article is very unique for several reasons, and I was very much interested in it—in fact, so interested that I cut it out, pasted it into my scrapbook. Since that time most of my spare moments have been taken up investigating dairy literature—this in a vain endeavor to find something that would corroborate some of the "empirical" statements found in the article referred to above.

One of the most unique features of "The Dairy Type" is its unwarranted attack upon a prominent dairy educator and gross misrepresentation of the literature which this man has embodied in a book, title, "Cow Demonstration." Friend Clapp leads us to believe this man to be a pseudo-professor of "cowology" but I have heard him speak—likewise I have seen him perform in the dairy pavillion, and I am frank to confess that his talk sounded pretty reasonable, while his pavillion performance was very entertaining, if not instructive—at least, it was for me.

What Constitutes Dairy Type?

This question has been asked a great many times, yet, as far as I am able to judge, the dairy type is one of the greatest will-o'-the-wisps of the stock judging pavillion. There are scores of men who can spot instantly the superior beef animal in a bunch of beeves, the best lard type in a pen of Tamworths, or the best wool type in a drove of Rambouillets, but I have yet to see the man who can tell infallibly the best producer in a herd of ten cows, or the best layer out of a pen of ten hens. The reason is obvious: the fine characteristics which distinguish a high-producing dairy cow from a low producer are internal, rather than external, and are not revealed by a physical examination, alone. Again, I am reminded of the instance so commonly known among dairy judges. After a careful examination of form, shape of head, tri-wedge conformation, shape of udder, and prominence of milk veins, a notable dairy judge placed ten cows of the great Beidler type in order of their superiority (supposedly on the basis of production). He then called for the milk sheets to verify his placings. At the end of the line and in the tenth place stood a heifer that later developed into the former world's champion Guernsey, Spottwood Daisy Pearl.

What we ordinarily understand by "dairy type" is an imaginary cow that numbers among her physical characteristics all those which go to make for high productive ability. The real, live cow presenting all these perfections of form never lived. The perfect dairy type is purely imaginary and therefore, my perfect cow does not look exactly like Friend Clapp's perfect cow, yet even that does not signify that my cow is a superior producer.

Large Mouth Indicates a Good Feeder.

Another unique feature of "The Dairy Type" is its quibble over the statement above, and an apparent desire to lead us to believe that the author of this book judges a cow's capacity by the size of her mouth alone, for this statement follows: "I feel fully justified in advising those who wish to be judges of good feeders when selecting cows, to look farther than merely a large mouth; the whole animal's system is concerned in the matter."

Another statement is: "If the professor had said that a good, broad, strong underjaw, which goes with large vital organs that constitute the working machinery of the animal, indicates a good feeder, we could say: 'You are right.' Following is a direct

quotation from "Cow Demonstration," under the heading given above:

"It is when the cow chews her cud that the saliva secreted by glands entering the mouth is mixed with the food, changing starches to sugar and beginning the many chemical changes that take place before the food can be assimilated. For these reasons strong jaws of well defined width and depth are desirable. Weakness in these parts indicates poor feeding qualities to quite as great an extent as does a small mouth, and is to be guarded against."

"A careful study of the different processes and the many organs involved in digesting the food after it has left the mouth, as well as a consideration of the great amount of food nutrients necessary for the maintenance of the animal, and for great milk production, points to the significance of an adequate and roomy space where the foods may be stored and digestion carried on."

While it may be that the diction of the first statement is superior to that of the last, and the words may be chosen more carefully, yet I see no great difference in the meaning.

Dairy Temperament.

Whatever temperament is the correct one for the would-be high-producing animal, I am not prepared to say, for I do not believe there is any single temperament which is "the one." However far it may be removed from the common ideal of dairy temperament, the World's Champion Brown Swiss cow, College Bravura 2nd, is a pretty drowsy appearing cow, yet the performance which she put up at the pail and churn was quite phenomenal. On the other hand, the former World's Champion Jersey cow of the Roycroft Farm was anything but sleepy looking, and I feel safe in saying that eight of ten of all the high-producing cows I have seen have the nervous temperament.

Temperament is constituted by the continuation of a mood. The habitual tendency to laziness is designated as the lymphatic temperament and the term lymphatic temperament bears no relation to the lymphatic glands—in fact, physiology tells us there are no true lymphatic glands. Likewise, vigorous in style is synonymous with nervous temperament. I found a book on dairying copyrighted in the early nineties, in which the statement was made that temperaments were dependent upon the various body systems which were in the lead. That was the old idea, but it has slowly undergone revision on account of the disclosures which modern physiology have made. We know now that the size of the different body systems has a very remote influence upon the temperament of the animal.

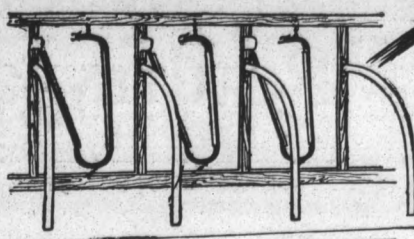
Well Balanced Temperament Best.

We are advised to select cows with a well-balanced temperament. The question now that arises is, what constitutes a well-balanced temperament? Here we have a question that baffles even the sages and I come to the point of giving advice, but I will only suggest that if I were buying cows, I would not pay much for physical characteristics. I want a cow, in general, to have a symmetrical tri-wedge form with a clean-cut head. Outside of these requirements, I would pay the rest of my money for her milk record, together with that of her ancestors.

However, when it comes down to the last analysis, there are two potent factors which are essential in getting the true measure of a dairy animal. These are cow and man in about the proportion of 51 per cent cow and 49 per cent man. No cow can make a high record in spite of her manager and in this connection it is interesting to notice that the same man who cared for Jacoba Irene when she made her world's record for the Jersey breed, has just made another and bigger record in Massachusetts with Sophie 19th.

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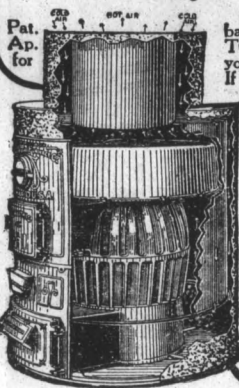
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Poultry and Bees.

FATTENING CHICKENS FOR THE MARKET.

Few farmers think of making any special effort to fatten the chickens before placing them on the market, yet the small amount of work and expense required to put the young cockerels in first-class condition will well repay in added size and price obtained. Professional poultrymen, and in some sections regular buyers, realize this fact and rake in the shekles accordingly. There is no reason why the farmer, himself, should not reap this extra profit. In reality, the fattening of the young birds is a very simple matter.

After being out on the range, as most farm birds are, all summer, the birds are prepared with bone and muscle of ample proportions to be brought into condition for the top-notch market with just a few weeks of rounding off. It is not so much that birds should be extra fat, but they should have plump, well-filled out bodies with just enough fat to make them look well. Most farm chicks are sold for roasters. Few of them are hatched early enough to fit in for high-priced broilers.

Watch the Market.

Some of the earliest chicks may be ready by August to get into condition. One should be governed by the market. If one has a demand for roasters of three or four pounds in weight, it is a good plan to take them off in summer. Usually the price is considerably higher at that time, and it will scarcely pay to hold them a month or two longer for the extra weight they will put on.

As to the fattening process, the idea is to make them eat as much as possible of meat-producing food, and at the same time keep them from wasting this in exercise. Professionals use a cramming machine, in some cases, but this is not practical for the farmer. Young cockerels may be confined in coops or crates, not more than six to ten in each, allowing them just enough space to move about comfortably and eat and drink without being in each other's way. It is claimed that quicker and better results are obtained from the use of crates, but with most farmers it is more convenient to use coops or pens. Any sort of a place to confine the birds will do, however. An argument in favor of the crate method is the fact that they may be piled up in tiers, where large numbers of chicks are being fattened and thus make a saving in room.

Chickens Fattened in Three Weeks.

Three weeks is about the right length of time to get the birds into condition. A few days more may be needed in some cases, but it usually does not pay to feed too long. The first few days they should be fed sparingly, never quite enough to satisfy them. This helps them to get used to the inaction and heavy feed. Feed should be given to them three times a day at first. Some recommend only two meals the last week. They should have plenty of water. Grit should be fed them two or three times a week. A surplus of food should never be given. Keen appetites will keep the birds growing. Cleanliness is necessary. To this end dust two or three times with insect powder or sulphur to keep away parasites. If sulphur is used, it must be in small quantities, as it sometimes gives the skin an unsightly appearance, when the birds are dressed off.

As to the ration, finely ground grains, mixed with water or sour milk, are best. Whole or cracked grains should be discarded. Mixtures of corn, oats, barley, buckwheat, or in fact, any combination of grains seems to

do the work. Milk will take the place of animal food if available in sufficient quantities. If not, beef scrap, say ten per cent of the ration, will do. It is a good plan to soak the scrap in water a few hours before adding to the mash.

New Hamp.

C. H. CHESLEY.

SALT AND CHICKS.

In an article I read a few days ago, in one of our farm papers, a contributor asks regarding the use of salt as a top-dressing for asparagus, and asks if it will kill his chicks if they should pick it up. I would like to give a bit of our experience along this line.

We had a flock of 50 fine Plymouth Rocks, of which I was very proud. One morning on opening their coop a woeful sight met our gaze. The floor under the roosts was covered with dead birds. One after another was taken out, until 26 had been counted—one-half of our cherished flock.

And now the question arose, "What had created this awful havoc?" Cholera, skunks and rats were all discussed, but examination pointed to none of these.

Finally the solution of the mystery came to me like a flash. Wishing to use a pork barrel which contained a small quantity of brine, it was taken to manure heap and emptied, where we thought it could do no harm; but the fowls, finding small bits of meat, had picked in the heap, with the above stated result.

During the day, while they had access to plenty of water, there were no casualties; but during the night, one after another had succumbed to its cruel fate.

So I would sound a warning note. If you must have both salt and chicks in the same yard, be sure and have plenty of water; but it would be the better part of valor to have the chicks in the park. One practical demonstration proved enough for me. I learned my lesson.

JENNIE WILLSON.

A HOUSE FOR TWO HUNDRED HENS.

Can you send me a plan for a poultry house, that is the right size to accommodate about 200 hens? I have several plans, taken from farm magazines, but there is none that is just right. I am going to build one soon and thought you might be able to help me out with a plan.

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L. W. B.

In my judgment, 200 hens should not be kept in one house. There are too many hens together to do well. You had better divide them up and have more houses or have partitions in the house so that that many hens will not run together. My best judgment is that 50 hens in one enclosure is a sufficient number of hens to be kept together to have them do their best. I have three hen houses on the farm intended to keep 100 hens in each house, but these houses are double and only 50 hens are kept in one flock. The houses are 16 feet wide and 60 feet long. Then there is a partition in the center dividing them into two flocks of 50 each. Each flock has two compartments, a scratching shed and a roosting compartment. The scratching shed is open in front, with simply wire netting to keep the hens in, while the roosting compartment contains windows and is made tighter and warmer. This contains the roosts and also the nest boxes. The nest boxes and the roosts are on a platform so that the whole lower surface can be utilized as a scratching shed. One good window in each roosting compartment is sufficient. I know of no better plan for a hen house.

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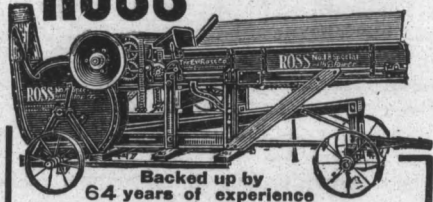
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Fire Blight of Fruit Trees.

FIRE blight is one of the most destructive diseases to which pomeaceous fruits are subject. Annually it causes the loss of several million dollars. The pear, apple, plum, quince, apricot, and loquat are all subject to its devastation. While the pear and apple are especially endangered, the disease is not serious to the drupe fruits. To the mountain ash, hawthorn, and June berry it is still less harmful, yet it was from these trees, the native hosts of the disease, that the infection was spread to our orchards.

From the numerous hosts, and the fact that the disorder may attack any part of the tree, the symptoms are varied. It is for this reason that the affection is known by many names. Fire blight is the most approved title for the disease in general. When found on the pear, and often on the apple, it is known as pear blight. Terms which attempt to indicate the nature of the infection are common "blossom blight," "body blight," "twig blight," "collar rot," and "root blight" are much used and very confusing names. Even the term "fire blight" is objectionable, for the symptoms which resemble the scorched appearance produced by flames are by no means always present. The term "bacterial pome blight" has been suggested, and were it to come into common use much error would perhaps be averted. The disease is due to bacteria.

The Symptoms of the Disease.

The symptoms of the disease are most evident during the early part of the growing season, when they appear in the blackened flower clusters and the withered foliage at the ends of

it appears in the form of dead wood and cankered areas. This is the "body blight" or "canker blight" stage. Here the bacteria live over the winter. In truly dead wood they die in a few days, but at the margin of the diseased area there is sufficient food upon which to live until warm weather.

With the ascent of sap in the spring and the return of favorable conditions the organisms multiply with great rapidity. So vast does their number become, that mixed with the sap they form a sticky substance which exudes from lenticles and wounds in the bark, and collecting in a sweet, gummy mass, attracts insects. As these fly through the orchard from flower to flower, the busy little creatures who have fed upon the germ-laden material, carry bacteria upon their feet and bodies, and drop them into the nectar of the blossoms. Here a single germ may in a few hours' time produce thousands like himself. The disease is then carried by other insects from the sick flower to other blossoms. The blossoms wilt, blacken, and die, and the disease is said to be in the "blossom blight" stage.

Twig Blight.

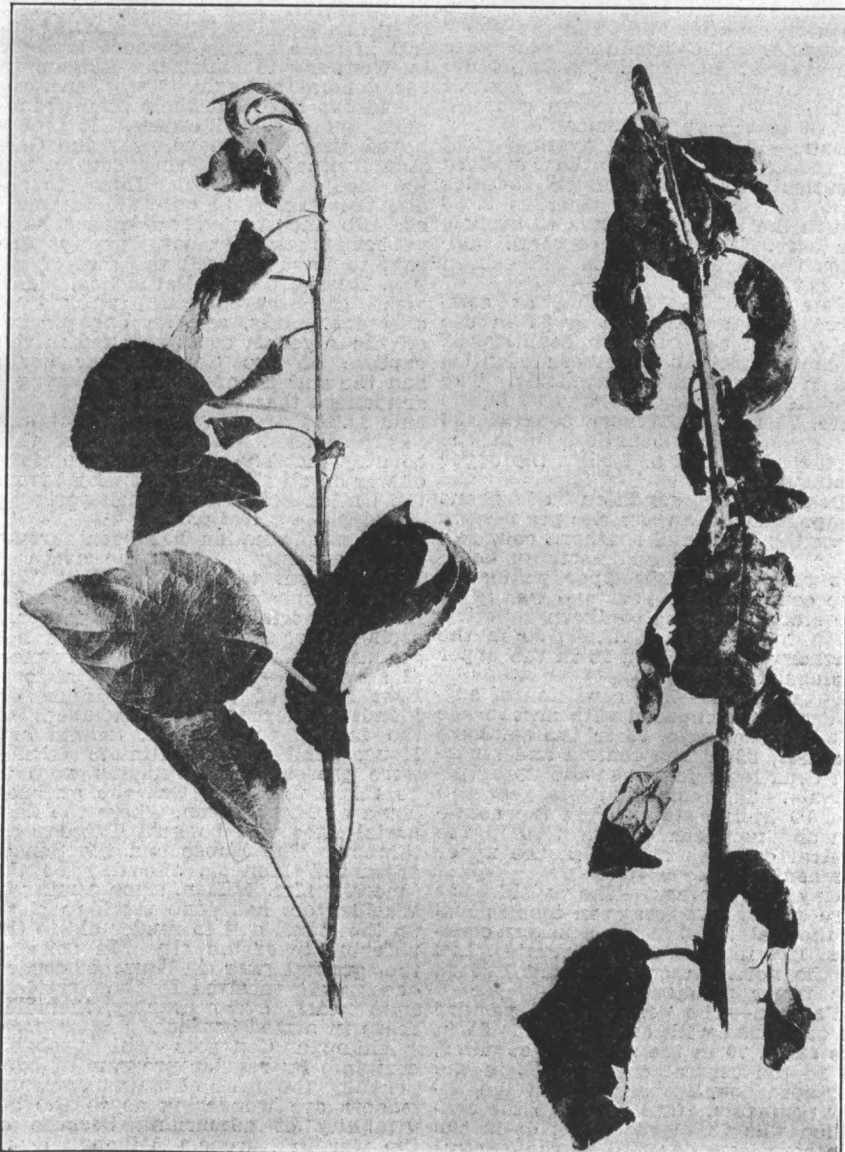
Having destroyed the flowers the bacteria seek new fields of conquest. They invade the succulent young twig growth, where the soft, sappy material furnishes an ideal medium for rapid multiplication. The bark, too, which was once so efficient in keeping the enemy out, gives perfect protection to the invaders when they are once inside. Thus harbored, they work back through the growing layer, and spread their destruction further and further along the branch. In some

or destroyed the entire tree, just as conditions have checked or favored its growth.

Like fungi, bacteria grow best in abundant moisture and warmth. Over weather conditions we have little control. However, by avoiding soft watery growth in the trees, and having the wood ripened and mature, we make conditions unfavorable to bacterial growth. A strong, healthy, well-fed tree is resistant to disease. The varieties, too, vary in their suscepti-



Canker Stage of Fire Blight on Apple Tree.



Characteristic Appearance of Fire Blight or Twig Blight on Apple Tree.

the twigs. It is the brown, dead leaves clinging to the dying branches which give the orchard the scorched appearance from which the name fire blight is derived. At other seasons the disorder is observed by looking more closely at the trunk and limbs, where

months it may have reached the trunk or larger branches, where, with the approach of winter, it rests in these newly formed stages of the "body" or "canker blight." The disease has completed its annual cycle of devastation. It has attacked a single small twig,

bility. Bartlett, Seckel, and Le Conte are much more susceptible than Kieffer, Dutchess, or Winter Nelis pears. In the apple the difference is less marked. Lowell, Isham, Smith's Cider, and Yellow Transparent are all said to be susceptible, while Celestia, Buckingham, Mammoth Black Twig, Winter Pearmain, Winesap, and Ben Davis are relatively resistant.

The Method of Control.

The true control of fire blight does not consist in merely making conditions unfavorable to its growth. As with the weeds, we must remove the source of infection. Nor is this a purely theoretical treatment. In many localities the blight has been controlled or practically eradicated by thoroughly pruning out the diseased wood during the fall and winter. If there be no blight wintered over, there can be no source of infection the following spring.

In removing the affected parts it is necessary to cut back at least two inches into the healthy wood. The wounds are then disinfected with a one to 1,000 solution of bichloride of mercury. This is easily done by dissolving one ounce of the poison in seven gallons of water, and applying the mixture with a sponge tied to the neck of a convenient bottle. The liquid should also be used to keep the tools sterilized. Large wounds are painted with white lead and oil, or asphaltum, or covered with grafting wax. The precaution of burning the wood removed is unnecessary, for the bacteria live but a few days in dead wood.

Constant care throughout the growing season gives very efficient control. The removal of a small twig at this time may save a limb. In an orchard of any size the trees may be gone over once a week at a cost of three cents per tree for the entire season. All twigs or blossoms showing any signs of infection are removed at once. No attempt is made to preserve the shape of the tree. Fear of mutilating a tree may result in its death. Nor is the slightest delay permissible. When the trouble appears fight it at once. This is the remedy; cut; cut deeply and cut now.

Penn. R. P. MARSHALL.



The General says:-

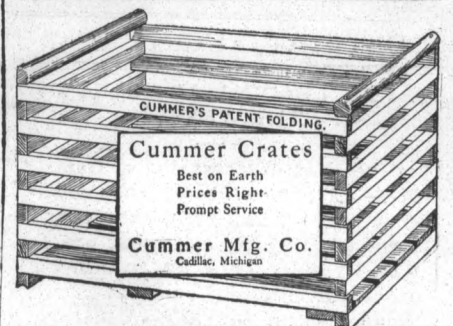
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DETROIT, AUG. 15, 1914.

A FEW LEADING ARTICLES OF THE WEEK.

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CURRENT COMMENT.

Since the sudden outbreak of war in Europe many and diverse opinions have been expressed by business men and economists regarding the probable effect of the conflict upon business conditions in this country. That general business will be affected to some extent is a patent fact upon which all agree, but in what manner and to what extent only time will reveal, all opinions on this point being speculative, since there is no precedent by which the situation can be accurately judged. Already the effect in some lines of business is becoming apparent, as reflected in the market for drugs and certain raw materials which are imported for use in domestic manufactures. Just how great this last mentioned handicap will prove is one of the factors of the present situation which we must wait for time to demonstrate. Gradually we will find, should the European war be of long duration, that Europe produces many things, ordinarily considered of minor importance in our commerce, yet quite essential in our domestic industries,

without which we will have to get along. Only as these things are one by one discovered to the public will we learn to what extent our domestic industries will be adversely affected by the practical suspension of our commerce with Europe. It seems a safe conclusion, however, that unless unforeseen complications arise, the European trouble will not have any immediate or general adverse effect upon American business. Indeed, it may tend to open up new fields of commerce to us which will be increasingly profitable in the future, notably with South America.

But our readers will be more vitally interested in the probable effect of the war upon the price of agricultural staples in our markets during the present year. Here again it will be found that those who should be the best judges of the situation are "many men of many minds," but with a preponderance of opinion favoring an upward trend of prices for staple products of our farms. The rise in wheat since the outbreak of the war evidences this consensus of opinion, while the fluctuating market has evidenced the uncertainty of the situation and the varying opinions of big operators regarding the probable outcome. Thus, while any analysis of the situation is necessarily speculative to some extent, there would seem to be little cause for pessimism among American farmers, and a calm survey of conditions should therefore be profitable.

Since the wheat market is one in which most American farmers have the greatest interest at the present time, a brief review of the factors entering into our foreign trade in this staple should prove of interest. Under ordinary conditions three of the European countries now engaged in war import something like 330,000,000 bushels of wheat. Of this amount England takes about 200,000,000 bushels, France 70,000,000 bushels and Germany 60,000,000 bushels. At this season of the year, when our harvest is on and the wheat crop of the southern hemisphere has been largely marketed, the bulk of the current European supply comes from the United States and Canada. In southern Europe a comparatively poor wheat crop has been harvested, while in northern Europe the crop has not yet been secured, and the withdrawal of a large proportion of the able bodied men for military service must materially affect the quantity and quality of the grain secured. With the available supply of wheat at a low point in Europe, a natural condition at the approach of their harvest, it is certain that our surplus will be needed and needed badly. It is one of the strange manifestations of fate that in the time of their need and of our plenty, the usual avenues of trade should be practically closed by a general state of war. How long this practical embargo will remain effective is naturally a matter of speculation rather than knowledge, but the need of bread will naturally tend to overbalance the hazards of getting the wheat from which to make it. Also Europe will need our wheat as badly after the war is over as during its progress, which will be a sustaining factor in the market for a staple product like wheat.

When the proposition is viewed from every angle, it would seem to be the part of wisdom for Michigan farmers to market their wheat and other grains even more conservatively than they would have done under normal conditions. This position is the more tenable from the fact that prices for live stock of all kinds are certain to be stimulated as a result of the European war, should it be of long duration, and it is entirely conceivable that, even at present prices, some of our immense wheat crop might be profitably used as feed for cattle and hogs in case the export demand is kept in check by the difficulties of

shipment to foreign countries under present conditions.

It should also be remembered that but a fortnight has elapsed since the trouble in Europe assumed serious proportions and that the news from the seat of trouble has been most fragmentary. So, while the war must of necessity continue to hold public attention and interest we should not permit it to greatly influence our business judgment until we gain more certain knowledge of its probable influence upon our commerce.

MICHIGAN CROP REPORT.

Wheat.—The average estimated yield per acre in the state is 18.67, in the southern counties 18.58, in the central counties 20.33, in the northern counties 16.66 and in the upper peninsula 24.42 bushels. A large percentage of crop correspondents throughout the state report wheat of good quality, some counties in the southwestern portion of the state report considerable damage by the Hessian fly. The estimates at present indicate that the state yield will be very close to 13,500,000 bushels. The per cent of plowing done for wheat is 11 in the state, 10 in the southern counties, 15 in the central counties, 12 in the northern counties and nine in the upper peninsula.

The total number of bushels of wheat marketed by farmers in July at 66 mills is 76,701 and at 67 elevators and to grain dealers 125,573, or a total of 202,274 bushels. The estimate of wheat marketed by farmers for the 12 months, August-July, indicates that about 2,000,000 bushels are yet in possession of the growers. One hundred and thirty-three mills, elevators and grain dealers report no wheat marketed in July.

Rye.—The average estimated yield in the state is 15.33, in the southern counties 15.17, in the central counties 15.43, in the northern counties 14.77 and in the upper peninsula 23.36 bushels per acre. According to the above estimate the state yield should be about 5,750,000 bushels.

Corn.—The condition of corn as compared with an average is 89 in the state, 87 in the southern counties, 93 in the central counties, 91 in the northern counties and 96 in the upper peninsula. The condition one year ago was 87 in the state, 83 in the southern counties, 92 in the central counties, 90 in the northern counties and 89 in the upper peninsula.

Oats.—The estimated average yield in the state 35.06, in the southern counties 34.26, in the central counties 34.35, in the northern counties 35.88 and in the upper peninsula 43 bushels per acre. The above estimate indicates that the state yield will exceed 55,000,000 bushels.

Potatoes.—The condition as compared with an average is 88 in the state, 84 in the southern counties, 91 in the central and northern counties and 100 in the upper peninsula. The condition one year ago was 80 in the state, 71 in the southern counties, 86 in the central counties, 90 in the northern counties and 95 in the upper peninsula.

Beans.—The condition of beans compared with an average per cent is 88 in the state and southern counties, 89 in the central and northern counties and 95 in the upper peninsula. The condition one year ago was 87 in the state, 81 in the southern counties, 94 in the central counties, 90 in the northern counties and 96 in the upper peninsula.

Sugar Beets.—The condition of sugar beets as compared with an average is 88 in the state, 93 in the southern counties, 82 in the central and northern counties, and 100 in the upper peninsula. The condition one year ago was 89 in the state, 87 in the southern and northern counties, 90 in the central counties and 97 in the upper peninsula.

Hay and Forage.—The yield per acre of hay and forage in tons is 1.28 in the state, 1.26 in the southern counties, 1.36 in the central counties, 1.22 in the northern counties and 1.29 in the upper peninsula.

Pasture.—The condition of pasture as compared with an average is 85 in the state, 79 in the southern counties, 93 in the central counties, 88 in the northern counties and 100 in the upper peninsula. One year ago the condition was 73 in the state, 64 in the southern counties, 77 in the central counties, 84 in the northern counties and 98 in the upper peninsula.

Apples.—As a result of more thorough spraying than in former years, and a fairly favorable season, the apple crop promises to be considerably above the average, both in quantity and quality. The prospect for an average crop is 71 in the state, 63 in the southern counties, 73 in the central counties, 80 in the northern counties and 88 in the upper peninsula.

One year ago the average was 58 in the state, 47 in the southern counties, 61 in the central counties, 59 in the northern counties and 91 in the upper peninsula. The state average for five years, from 1909 to 1913 inclusive, was 48. The winter varieties that promise best, are in their order: Baldwin, Northern Spy, Ben Davis, Greening, Wagener, Tolman Sweet, Tompkins King and Russet. Of the early sorts the most promising are Duchess, Wealthy, Fameuse, Red Astrachan, Yellow Transparent, Maiden Blush, Early Harvest and Fall Pippin.

Peaches.—In many localities the peach buds started during the warm weather in January and were severely injured by frost in February, March and April and again by a late frost in June. The prospect for an average crop of peaches in the state is 34 and in the Michigan Fruit Belt 42 per cent. One year ago the prospect was 53 for the state and 54 for the fruit belt. The state and Michigan Fruit Belt average for five years, from 1909 to 1913 inclusive, was 51 and 54 respectively. The varieties that promise best, are in their order: Elberta, Gold Drop, New Prolific, Kalamazoo, Engle's Mammoth, Early Michigan, Barnard and Hill's Chili.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Austria, Serbia, Russia, Germany, France, Belgium and England are now at war. The Germans have captured the city of Liege, Belgium, but the forts continue to hold out against repeated attacks. A large force of French and 22,000 British troops are reported to have joined the Belgians against the Germans. French troops have invaded Alsace-Lorraine, captured Mulhausen and Kolmar and are now marching toward Strassburg. England is transporting large commands of troops to Belgium. Germany appears to be concentrating a large army to repulse the French in Alsace-Lorraine. It appears that the Austrians are also moving troops to help the Germans against the French. The Austrians are also gathering a fleet in the Adriatic Sea. It is reported that the Germans have captured Warsaw, the capital of Russian Poland. The Servians are to receive assistance from Montenegrins. Cholera is said to have broken out in the Serbian and Austrian armies. Italy has again voted to remain neutral in spite of the pressure brought by Germany to enlist the Italians in the general struggle. Two Japanese squadrons have left their base of supplies under sealed orders. It is believed they will move near the German fortified base, Tsing Tau, in the province of Kiao-Chau, China, to assist the English in case aid is wanted. No important naval battles have yet been fought. German warships are said to have reduced the fort of Libau, Russia, on the Baltic Sea, many small craft have been destroyed at different points, and an engagement off the Algerian coast resulted in the capture of two German war boats and the sinking of another. Portugal announces that she will support England in the present trouble. Belgium has notified wheat shippers of this country that she will stand the risks of war on all shipments of wheat from the United States to Belgian ports.

National.

The whole nation has been thrown into mourning through the death of Mrs. Wilson, wife of President Wilson, on August 7, at the White House. Exacting social duties and a fall last spring were indirect causes of her gradual decline and death. The funeral services were held in the historic East Room of the White House on Monday afternoon and members of the family, the cabinet, Senate and House, and a few intimate friends were present. The remains were to be taken to Rome, Ga., the girlhood home of Mrs. Wilson, where the final burial rites will be held Tuesday afternoon. The House and the Senate adjourned Monday, the day of the funeral. Mrs. Wilson, since coming to Washington, has done much to clean up the slums and to render aid to the unfortunate of the city. In spite of the general war in Europe condolences were received by the President from nearly every country, including those in armed conflict.

Although Congress will probably complete its regular program of business by the first of September, the leaders are wondering as to the advisability of adjourning because of the war in Europe. Although emergency measures have already been taken to protect our financial interests, aid Americans abroad, and to secure our neutrality, the situation is such that new problems are apt to arise suddenly and the action of Congress may be needed quickly. Hence the quandary the members feel themselves in, especially those who are again candidates for re-election. The anti-trust bills are being rushed through as rapidly as possible.

Magazine Section

LITERATURE
POETRY
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MICHIGAN FARMER
AND *LIVE STOCK* JOURNAL
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SCIENTIFIC and
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Alligator Farming Unlikely to Become Popular

By LELA ANGIER LENFEST.

IN this day of specialized farming we may find a farm devoted to raising almost anything in the vegetable or animal world. In the southern states alligator farming has become quite an industry. The demand for alligator skins is increasing and the supply, which was once so plentiful around the Gulf of Mexico, is rapidly disappearing. Like the bison and the elk, the alligator is becoming extinct. Louisiana has aroused to the situation and has made game laws, which are not rigidly enforced, so the destruction goes on.

Los Angeles has the distinction of having the largest alligator farm in the United States. In a space, not over an acre in extent, are found two thousand saurians, in all stages of development, from the incubating egg to a huge creature fifteen feet long, and weighing nine hundred pounds. This grotesque reptile called Okeechobee, was recently acquired from the Everglades of Florida. He lies, a huge, unwieldy hulk, in a pond of his own quite apart from the wriggling herds of young alligators. The most vicious whacks only cause him to yawn sleepily. If the young 'gators were placed in his pond, he might manifest life enough to eat them up, for, like fish, the "big alligators eat up the little alligators." For this reason all of the same age are placed in ponds together. To those of their own age they do not show this cannibalistic disposition unless, by chance, they fall to fighting, then the victor devours the vanquished and all is harmony again.

If the care-taker appears on the scene before this denouement is reached, and the vanquished is only maimed by having a tail or claw torn off, he is removed to the 'gator hospital, a muddy pond where the patient lies quietly and the wound soon heals. The soft mud is like ointment to the alligator flesh. One of the patients in the hospital had a broken lower jaw. It seems cruel to keep a reptile in such a pitiful condition. It is said that in the wild, they are frequently maimed in this manner; and loss of a tail is quite a frequent occurrence. Those that have lost this important appendage are called "stubbails" and probably suffer the same contumely

among their mates as the well-known fox.

The tail is very important as a weapon. In the wild state the alligator lies sleepily on the bank of stream or pond until some luckless animal comes down to the water to drink, then with a flip of its tail, it sweeps the victim into its wide open jaws.

The snap of an alligator's jaw is a never to be forgotten sound. It may be properly described in that much overworked phrase, a "dull thud." It makes one glad to be standing safely outside the wire fence. The bite is not poisonous, but one would probably wish it were, if he were so unfortunate as to fall into its vise-like grip. The fast closed jaw of an alligator cannot be pried open with a crow bar. It has no tongue and its manner of eating beef, which is its principal food in captivity, is especially interesting. If a chunk of meat is thrown into an enclosure of young alligators, there is a wonderful commotion. Instantly twenty jaws have fastened on the meat and the most curious tug-of-war begins. Instead of pulling and hauling, over and over the bodies of the reptiles spin in opposite directions, meanwhile holding to the piece of meat with fast clamped teeth. This rapid revolution soon tears off the desired morsel and the reptile runs off to the pond to eat in quiet.

He does not Fletcherize, but bolts it whole. The teeth are not adapted to mastication, as they overlap. They are made for grasping and tearing. On account of their habits of bolting and gorging, alligators have to be fed carefully. The babies are fed about every day and their diet consists of bits of meat, insects and worms. Many people, who attempt to keep young alligators as pets, make the mistake of feeding them on vegetables. They are very fond of ordinary earth worms. The older they grow the less frequent are the times of feeding. Reptiles from three to five years old are fed three times a week. Those twenty-five and thirty years old are fed once a week; and a veteran of Okeechobee's years receives food

once in three weeks. In captivity they are fed entirely upon raw beef; but in their native element they feed upon fish and fowl and occasionally upon men and dogs.

The alligator's greatest protection from its enemies is its hard and horny skin, impervious to bullets. The only points where a shot can pierce its coat of mail, are at the insertion of the front legs and the eyes. The skin is one of the main sources of profit for the alligator farmer.

The use of the alligator skin, as leather, is of comparatively recent date. It first became fashionable in 1855, and during the Civil War was extensively used as shoes for the soldiers. In 1869, it came into fashion for bags, belts, music rolls, coin purses and card cases, and from that time its use has increased steadily. In 1904 the output of the tanneries in the United States was 280,000 skins worth about \$420,000. It is said, however, that only about ten per cent of the supply of skins is used in this country. The remainder are shipped to Europe, where they are made into various articles, which are frequently shipped back again to this country.

The skin of the alligator is useless until the reptile is three or four years old. At this age, it makes coin purses, gem cases, hat pin settings, and other small articles. At this age the skin is very soft and pliable, but the very best skin comes from saurians twenty-five and thirty years old. The hides are from four to eight feet long and are soft and pliable, yet firm. They bring from fifty cents to three dollars apiece, according to the quality. From them are made ladies' bags, suit-cases, traveling cases, music rolls, chair covers, and anything which needs a leather combining firmness and pliability.

From skins of reptiles sixty years and over, trunks and chair coverings are made. But the skin at this age is too hard and stiff to be made into smaller articles. The tubercles on the back have become hard and horny. When alligator skins were first used, they were split up the back and only the leather of the lower part was

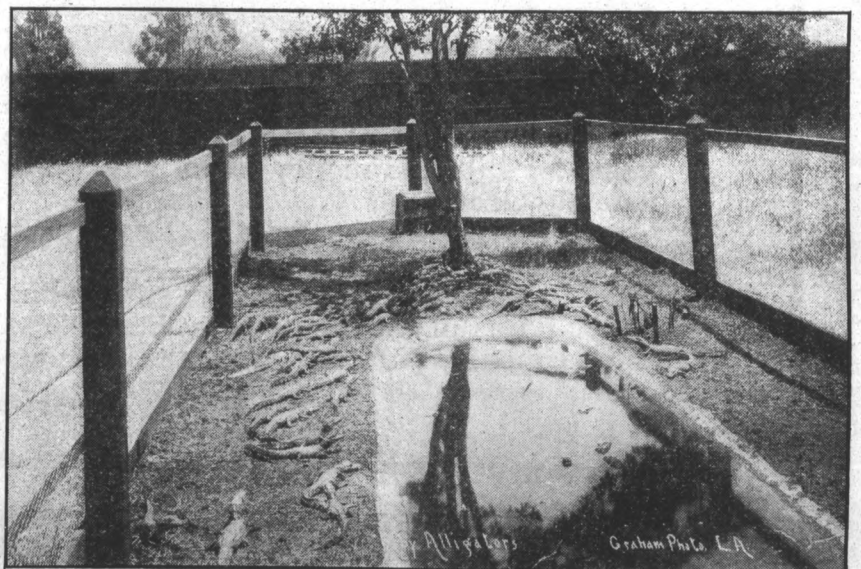
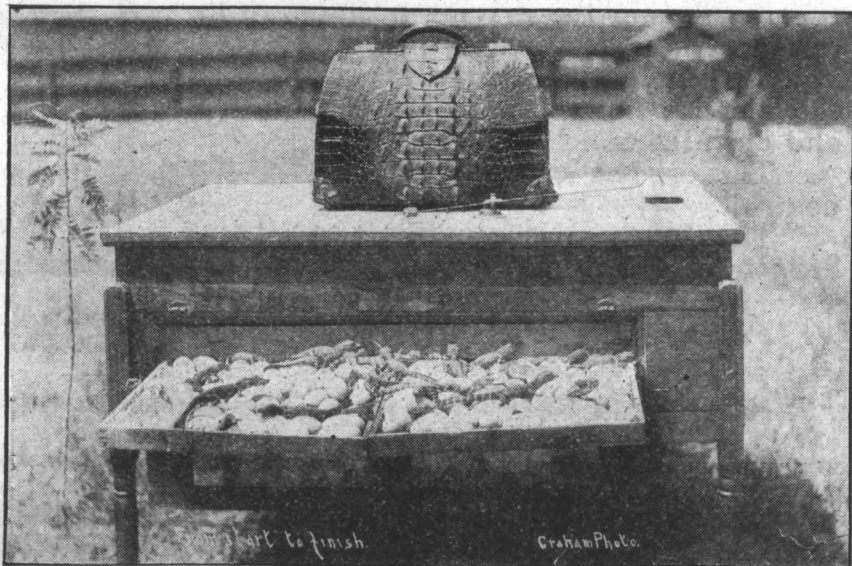
used, but since "horn alligator" has become fashionable, the hides are cut up the middle of the abdomen, and the leather of the back is considered the best. No part of this useful reptile is wasted, the flesh is used for feeding the other alligators, and even the teeth and claws are used in the manufacture of bags, hat pin settings and various ornamental purposes.

The tanning of the hides is a slow process, lasting some five or six weeks. Upon removal from the tanning liquor, they are colored in a bath of wood and aniline dyes. Many are left in the natural color, a yellowish brown, but many are dyed, black, brown, green, or red.

Imitation leather is prepared in large quantities from sheepskin and the buffing from cows' hide. These are tanned in the regular manner and before the skins are finished off, they are embossed with the characteristic alligator markings by passing them between two rollers.

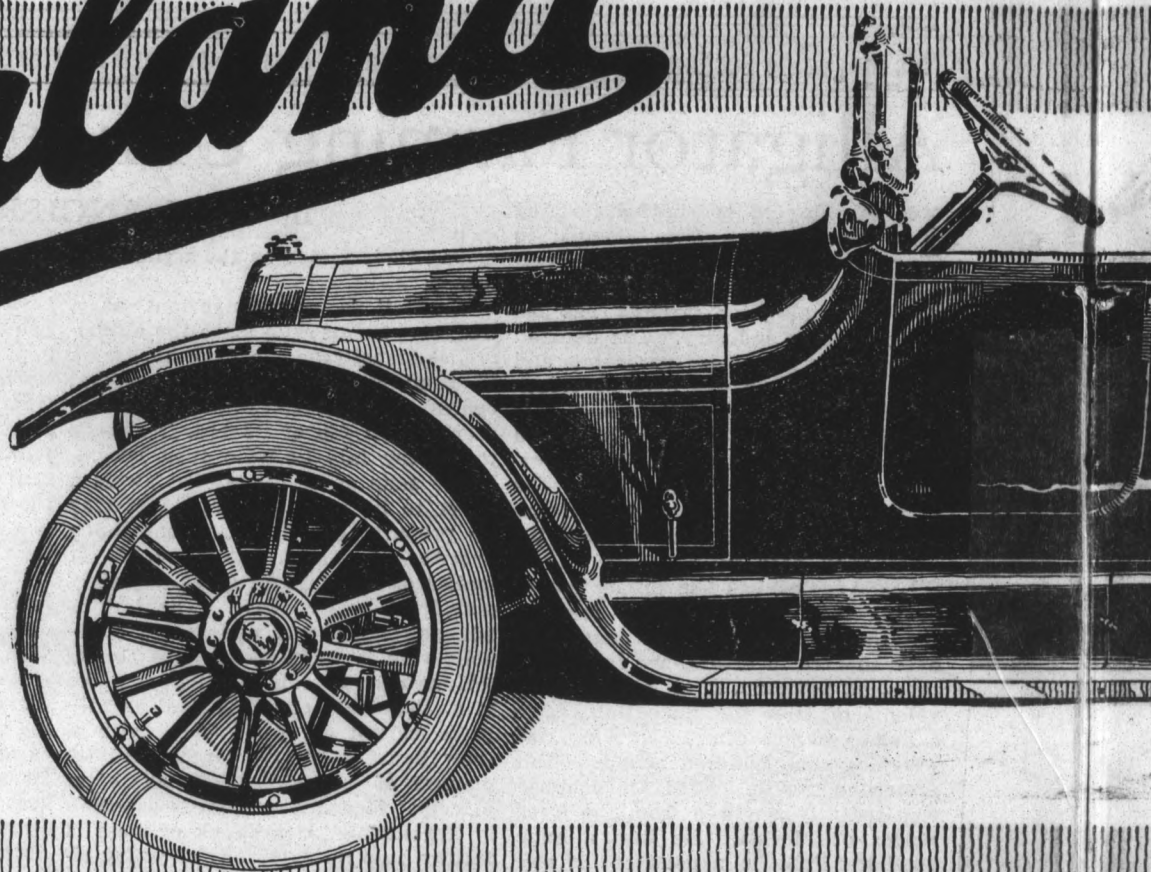
While the alligator farmer is waiting for his brood to raise profitable hides, he makes money by training them to do tricks. The alligator intelligence is not of a very high order, and the things which it can be trained to do are rather limited. In its native state it will form the habit of coming at regular times for its food. The planters in Louisiana often amuse themselves by calling up pet alligators along their canals and dividing their lunches with them. The expectant noses will be seen above the water in response to a call and the creatures eagerly devour the bits of cake and bread thrown to them. In that country the school children carry baby alligators to teacher the same as our children carry polywogs, and in the same manner they are kept in tanks and jars, in the schoolroom, giving the children much enjoyment watching their pretty lively antics.

The age at which they best perform tricks is about twenty-five or thirty years. Beyond this age they become too sluggish and also too unwieldy to be handled easily by the trainers. Some idea of the strength of the reptiles may be gained by watching a trainer struggle with a creature of that size. (Continued on page 132).



It Requires Many Years Before the Alligators Hatched in Incubators have Hides Fit to be Made into Traveling Bags. Because Large Alligators Devour the Little Ones, those of a Size are Kept Together in a Small Pond.

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This car has left-hand drive and center control.

The tires are larger this year, being 34 inch by 4 inch all around. These tires

A Few of the Model 80 Features

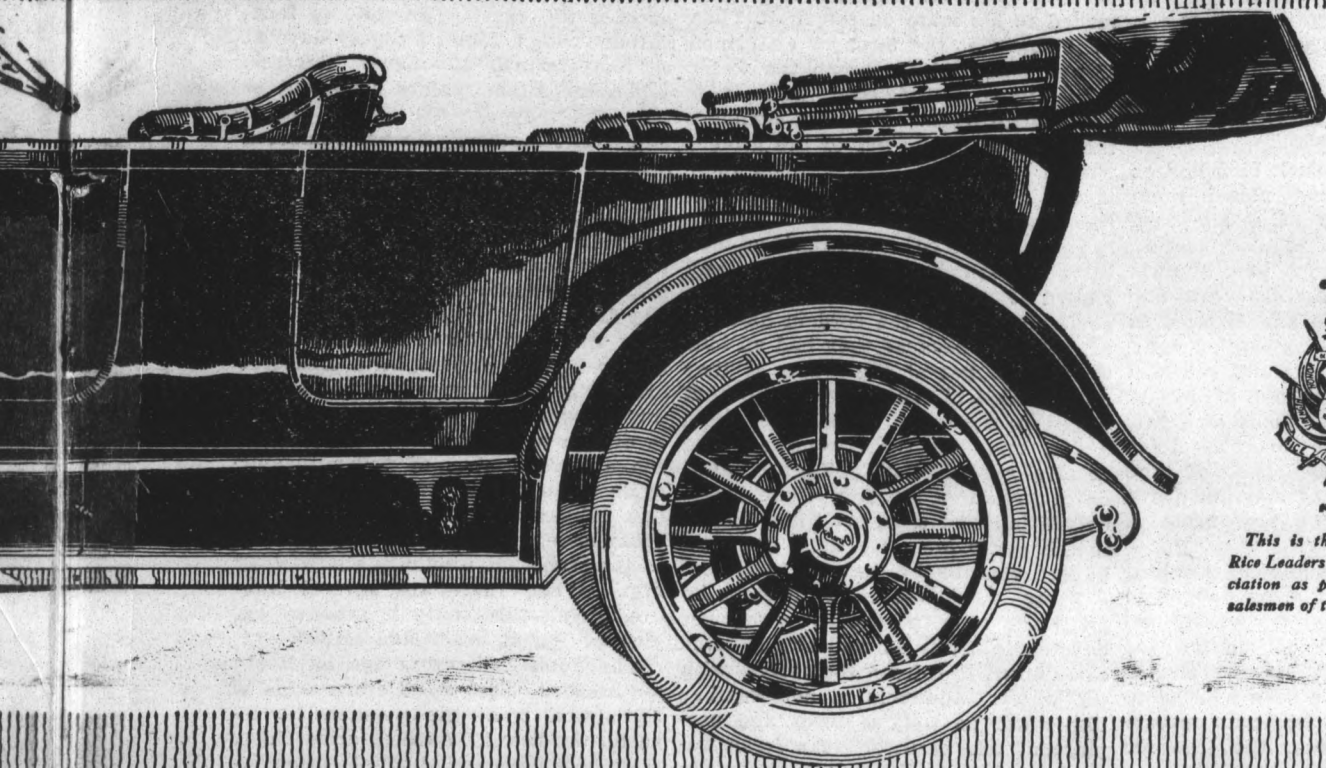
- Motor 35 h. p.
- New full stream-line body
- Instrument board in cow
- Individual front seats, hi
- Tonneau, longer and wi
- Upholstery, deeper and
- Windshield, rain vision
- type, built-in
- Crowned fenders
- Electric starter
- Electric lights
- High-tension ignition
- Thermo-syphon cooling
- Five-bearing crankshaft
- Rear axle, floating type
- Spring, rear, 3-4 elliptic,
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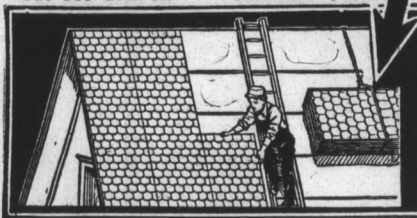
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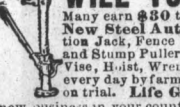


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Bird Boxes in the Orchard.

By GEORGE E. WALSH.

BIRD houses around the house are not nearly so attractive to the spring and summer birds as those perched in the trees of the orchard. Instead of building a solitary bird house and perching it on top of a tall pole make half a dozen little ones and put them up in the trees of the orchard or nearby woods.

You will be surprised, then, to find the big colony of birds that will come and build in them. A bird house near the home offers a tempting bait to the house cat, and the birds are very shy where tabby is left to roam about. Among the green leaves of a tree, however, the feathered creatures are quite at home.

One boy built ten such bird houses of different sizes and nailed them among the branches of a big tree. The tree became a regular nesting colony that summer. A pair of owls evidently mistook the entrance to one for a hole in the tree and crawled in and made their nest. A pair of squirrels pre-empted another and raised a brood of young squirrels in it. A third was the summer home of a pair of bluebirds, and a flock of noisy sparrows fought for two of the houses; but a pair of martins drove them away from one and made it their home.

All through the summer the bird tree was a source of great delight to the boy, for whenever he walked under it many pairs of sharp eyes watched him from the branches above. But the birds soon learned to trust him, and when he began spreading food around under the tree for them they grew more intimate.

While the nesting birds of the tree had food enough they had to go a long distance for water. The nearest place they could find this on a hot day was at a pond nearly a mile off. The boy first tried to entice them to the house by leaving a bucket of water standing outside. But owing to the presence of two house cats the birds preferred to fly away to the pond to get their drink and bath.

Finally he hit on a novel idea. Why not make a tree bird basin for them to bathe in and drink? He got an old tin basin a foot and a half in diameter across the mouth and punched four holes in the rim. Running short strings through these he tied them in a knot at one end, and then fastened a long piece of stout cord to this.

The other end of the cord was thrown over a branch of the tree by means of a stone tied to it, and then the basin filled with water was slowly hauled up until it dangled within a few feet of the limb and twenty feet from the ground. No cat could reach the basin, but the birds could. Every day he would lower the basin and fill it with fresh water and then haul it up and tie the rope to the foot of the tree.

The birds used to splash around in this water on warm days, and scarcely an hour passed that some of the little feathered creatures were not found perched on the rim of the basin. They would peer over the side at people below, but they were not afraid. They seemed to know that they were safe from cats, dogs, and bad little boys. Sometimes they would splash around so violently that they would spill most of the water, and the basin had to be refilled frequently. In hot weather it must have been a great relief to them.

But one day the basin fell to the ground with a splash. An examination showed that the cord had either been worn away by the wind swaying the basin in the air or somebody had broken it. A new cord was attached and the same accident happened the next day. Suspicious of something, the boy hid in the bushes and watched the following morning.

Toward noon the two squirrels that had a nest in the tree came down and stood chattering on the limb. They looked at the swinging basin of water, and then one of them made a few ineffectual attempts to climb down the cord. The birds splashing around in the basin set up a cry, and the squirrels answered back with their loud chattering.

But the cord was too small to support the squirrel and he finally returned to his mate on the limb. Then as if angry at the birds or chagrined at not being able to reach the water they attacked the cord with their sharp little teeth. In a few moments the basin of water fell to the ground with a crash. The little watcher knew instantly why it had fallen so many times before.

This time he got a rope half an inch thick and attached it to the basin and hauled it up. He did not think the squirrels gnawed the cord in half out of spite, but because they had an idea they could get at the water if they made it fall to the ground. The next day the squirrels visited the basin again, and the thick rope afforded them a good foothold. They climbed down it, sat on the rim of the basin, drank and had a bath. They played in the water for some time, and then hopped back to the limb of the tree.

There was no further attempt to gnaw the rope in two, but every not day the squirrels as well as the birds came down to refresh themselves with the water. Squirrels in hot weather like water as well as birds and people, and this basin of clean fresh water hauled up to them every day made their summer more enjoyable.

ALLIGATOR FARMING.

(Continued from page 128).

Even the hard-hided and cold-blooded saurian is not unmindful of honeyed words, for the trainer, who praises and uses pet names, has better success than the one who depends entirely on brute force and the "big stick." One of the favorite implements of the showman is the broom handle. This he sticks into the back of the alligator's neck and forces him to go where he will. The piece of resistance of the reptiles repertoire is climbing the stairs. When it gets to the top, the trainer shakes the support and it slides down the chute into the pond. Sometimes, however, it becomes refractory and does not wait for the signal, but jumps with a splash into the pool. For this procedure it is soundly thrashed with the before mentioned broomstick.

Another trick is the so-called hypnotization of the reptile. This consists of grasping it by the tail and around the front of the jaw and placing it on its back. The trainer waves his hand dramatically over the grotesque creature and he remains quiet the fraction of a second, then speedily recovers and wriggles off. It much prefers basking lazily in the sunshine.

The showman soberly assures you that there is no odor from the alligators, and, though the ponds are very sanitary and clean there is a very strong musky odor, coming from a fluid secreted in the glands of the throat. This is said to act as a bait to attract the fish upon which they prey in their native state.

Another source of income to the alligator farmer is the sale of the young alligators for pets. The graceful lizard-like appearance of the young and their slow development make them particularly desirable for pets. It is a good many years before they begin to show undesirable qualities. Baby alligators of three years, eighteen inches in length, bring from \$1.00 to \$4.00. An alligator six feet brings \$20.00. The larger ones are sold at

so much per foot, and are in demand for museums, aquariums and circuses.

The alligators are raised on the farm from the eggs, which are hatched in incubators especially made for the purpose. The eggs are about the size of ducks eggs and contain no yolk. They are said to be extremely nutritious for human food, but they have a musky flavor and so far are not a popular dainty.

The female alligator lays fifty or sixty eggs during the summer. In the wild state, she makes a cone-shaped nest of mud, where there is decaying vegetation. The heat of the mud, together with that of fermentation, hatches the eggs. The time of incubation is long, requiring sixty days at a temperature of eighty degrees. When the infant 'gators come out of the shell they are five or six inches long. The mother, who has remained near the nest all the time, leads the wriggling young things to the water and then they are left to shift for themselves. Not more than half the brood survives, the remainder falling prey to the male alligators and ravenous fish.

At the farm two or three hundred of the newly hatched little creatures are put in a pond together where they form a squirming, writhing mass. This is due to a peculiar characteristic of the alligators, that of never turning aside to go around any object. When one alligator meets another in his promenade, he does not step politely to the right but promptly climbs over him. When there are several hundred doing this, there is a funny agglomeration of heads and tails.

The young alligators are as lively as lizards. The word alligator is a corruption from the Spanish El legarto, the lizard. As they grow older, they become more sluggish, often lying immovable for several days at a time. In Los Angeles they are not allowed to hibernate, but are kept active for exhibition purposes. This has no effect upon them except that they are more sluggish all the year around than they are in their native state.

The alligators of the southern United States are much more active than the South American species. The latter are larger and have a more elongated head. They reach a length of eighteen feet. The skin is not nearly so useful for leather. They never attack men or dogs unless their nests are disturbed and never prey upon carcasses, but feed entirely upon fish and water fowl.

While raising alligators may be a profitable industry at present, and while the demand exceeds the supply, it could soon be overdone. One writer, waxing enthusiastic upon the subject, recommends it as a pursuit open to women. He says:

"It is an undertaking open to women as there is very little danger involved in the handling of reptiles." While there are so many other lines open to women, it is not probably that any woman would take up a business which involves the care of hundreds of such hideous and disgusting reptiles as are the full grown alligators. Alligators could not be profitably raised in the north as they require a minimum temperature of seventy degrees for their proper development. All things considered, it is not probable that this unique kind of farming will ever become popular.

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For literature regarding home-made acetylene gas, "safest light and cooking fuel," interested readers should write Union Carbide Sales Co., Dept. 13, Forty-third Street Building, New York, or People's Gas Building, Chicago, Ill. This literature will furnish information regarding installation of acetylene lights and cooking apparatus, together with proofs regarding its safety and reliability. Send for this literature, and learn the best way to make acetylene for home use and how it is used exclusively for cooking as well as lighting. Mention the Michigan Farmer when writing for this interesting literature.

Woman and Her Needs

At Home and Elsewhere

WHY?

WHY are we here? Not a person living but has asked himself the question in those rare moments when we forget the things of the moment and look realities in the face. And whatever the answer to ourselves, we feel, most of us, that in some way we have lost out on the real reason for our existence.

For instance, does anyone think that we were put on this earth to devote all our time to securing the means of keeping us alive? Was it intended that all our moments were to be spent in a continuous effort to secure food, clothing and shelter, and in sleep which would prepare us for fresh efforts on the morrow? Who can believe that the sole meaning of life is earning a living? And yet are not the most of us so occupied in just securing a livelihood that we haven't time to look around us at much else? To be sure, there are some who are taken up solely with having a good time, but these few are supported by others who do double toil to make up for the idlers. I do not believe that "in the beginning" man was meant for incessant labor, with at best a day off once in a while for which he must make up by working twice as hard the week before the holiday and the week after. I believe that life should be so managed that at least half our time might be spent in getting acquainted with our families and neighbors, and in keeping in touch with our world brothers by reading, or even going to see them.

Life is hard and complex because we have made it so. We are eager for large farms and imposing houses and strain every effort to acquire them, only to find in the end that we have to work so hard to keep them up that we have no time to enjoy them. We load ourselves with possessions, fine china, mahogany furniture, costly rugs, all sorts of things we do not actually need, and the only enjoyment we ever get out of them is the pride we feel when we tell folks about them. The constant effort of "keeping things up" enervates us so we are too tired actually to enjoy our possessions.

How much better if we could content ourselves with a farm just large enough to give us a comfortable living, and a house small enough to leave no spare rooms. Then, instead of being tied down at home with unceasing work there would be time to enjoy the world in which we must live for our allotted time. To add acre upon acre so that we may gratify our pride of possession, or in order to leave for our descendants, is not only foolish but downright wicked. Each couple should aim to do no more than provide for daily needs and insure independence in old age. Any money which comes to them after that should be spent in making life easy today, in hiring help, in travel, in buying books and helping others. Nothing is truer than the saying that we brought nothing into the world and can take nothing out. Why not, then, enjoy what comes to us instead of hoarding it for others? We are robbing ourselves of pleasure now and our descendants of the best legacy we could leave them, the necessity of legitimate work.

A few weeks ago a foreign potentate was shot. As a result of his death, Europe is today plunged into war, a war which many thinking men believe will change the map of Eu-

rope and the social situation of the world. Yet how many of us have time to read about this war which will no doubt effect each one of us directly or indirectly? Perhaps half of us read the headlines in the papers, and the rest only know that war is in progress because we have heard someone speak about it. We are so busy sweeping, canning fruit, making pickles, and jelly, sewing on buttons, or tangoing or turkey-trotting that we haven't time to watch history in the making. We are leaving the really important things in life to chase manufactured business.

Why not arrange these complex lives of ours so that we may have time to apply ourselves to wisdom? Can we not get along with fewer garments, fewer dishes per meal, fewer articles of furniture and bric-a-brac to

dust, fewer nerve racking pleasures, and go after the real things instead? We were meant to be men and women, not machines to grind out so much work per day. We were meant to enjoy the earth, the sun, the moon, the clouds, the birds, flowers, trees, water, air, everything. Our eyes were given us to see things, to enjoy color, our ears to enjoy sounds, our noses to enjoy odors. And yet, in the hustle of our daily lives we are like that olden people who, having eyes saw not, ears heard not, and noses smelled not.

Knowing that the "why" of life is not hard work, but living, why not begin? Every woman could eliminate a third of her work if she had the courage to defy the traditions of the neighbors. How many are brave enough to do it?

DEBORAH.

Hot Weather Campaigning.

DOESN'T it seem a shame, to put it mildly, that at the very time of the year when it is the hardest to work, the farm women have to work the hardest? In July and August, when the sun is doing his very best to make life intolerable and town folks are vacationing, farm folk are just forced to keep jumping if they are to be prepared for the winter.

Is it not the part of wisdom, then, for the housewife to make her work as light as possible? If she does as little as she can, she will still have plenty to do, so why not eliminate everything except absolute necessities?

Here is the way one wise woman cut out a great deal of hard labor. The parlor, which she had, not because she wanted it, but because the room was there, she shut up entirely after spring housecleaning, first swathing everything in cheesecloth to exclude as much dust as possible. It was at one side of the house so it was not needed for ventilation. Then, shocking as it may seem to neat housewives, she did not put up a single lace or muslin curtain in any other room in the house. Windows must be open during the summer and this meant dust blowing in and dirty curtains, which she abhorred, and that meant washing curtains once or twice during dog days, which meant more work. So the clean curtains were laid away, unstarched, not to be brought out again until cool days in the fall.

All bric-a-brac and unused articles in living-room and bedrooms were dusted and stowed away in drawers. The fancy dishes which adorned the sideboard were banished, and the beautifully embroidered cover was replaced by a 25 cents one which could be ironed in about three minutes. Crepe tray cloths on the table replaced those of linen, which spelled ironing, and there were crepe night dresses and night shirts for all, and seersucker rompers and blouses provided for the children. This eliminated two-thirds of the usual ironing, and by folding the clothes neatly as each article was taken from the line, she managed to get out of ironing towels and sheets as well.

The worst is yet to tell, however. There wasn't a bed made in that house all summer, not really made with bedding neatly tucked in and spread arranged without a wrinkle, and pillows plumped up just so and covered by shams. Each bed was provided with two sheets and one light weight blanket. In the morning

the blanket and top sheet were straightened out and the top folded back to the foot. Then they were thrown over the footboard, the bottom sheet smoothed out, pillows thumped up and laid on a chair by the window to air, and the beds left open all day long. It took a quarter of the usual time and the beds were always cool and well aired at night.

In the kitchen there were sweeping changes. Believe it or not, there wasn't a pie nor a cake nor a fried cake made on that farm all summer long. No, nor a pudding, either bread or cornstarch or rice or fruit. There was fresh fruit of all sorts from the beginning of strawberries until the end of grapes, and fresh fruit, undorned by crusts, sufficed that family for desserts. On gala days there was ice cream or fruit sherbets, but no heating of the kitchen by a hot oven for baking pies or cakes. And the family were all the better for the change. Fresh vegetables from the garden, an occasional chicken, good bread and butter, and meat once a week from the wagon which drove by, kept the table going. There was a great deal of canned fish used, too, of various sorts. Salmon, sardines, anything the grocer could supply was kept on hand and served either cold, or combined with cold rice or potatoes dipped in beaten eggs, and fried for fish balls.

Thus, freed of much baking there was more time for the inevitable canning and jelly-making, the care of the garden and other outside work which must be done. When fall came this particular woman was not all tired out and cross. She had squeezed in time each day for a doze in the hammock and had managed to get away from home entirely a half day each week. Some of the thrifty neighbors talked about her, but she reflected that gossip always hurts the gossip more than the one against whom it is directed, and promptly forgot the unkind remarks in thinking up new ways of getting out of work.

The family were well, the cellar shelves full, the house clean, and what else mattered?

HOME QUERIES.

Household Editor:—Will you please send me a baby book?—P. H.

We have no "baby book" on sale. If you will send a self-addressed and stamped envelope I will send you the name of a book and the address of a firm where it may be bought.



Mrs. Peevish—"I declare, I'm ashamed to ask you into this smelly place, Anty Drudge, but you know how it is on washday, with boiling clothes filling the room with steam. I'm just sick with the odor, and I'm about ready to give up."

Anty Drudge—"I think it's time you *did* give up your old-fashioned notions. Nobody up to date boils their clothes these days. They use Fels-Naptha Soap in cool or lukewarm water. There's no chance for disagreeable smell then. The only smell to Fels-Naptha is *clean* smell."

When you was with Fels-Naptha Soap and cool or lukewarm water, you don't breathe in sudsy steam, nor fill your house with the smell of boiling clothes—and you get your work done easier, better and in half the time than ever before.

Fels-Naptha dissolves grease and makes dirt and stains vanish. It's just as good for all kinds of housework as it is for washing clothes.

Buy it by the box or carton and follow the easy directions on the Red and Green Wrapper.

Fels & Co., Philadelphia.



Markets.

GRAINS AND SEEDS.

August 11, 1914.

Wheat.—The expected advance in wheat prices due to hostilities in Europe, came, as may be seen from a glance at the quotations below. To date fully 15c has been added to the cash quotations since war was declared between Austria and Serbia. Exporters are confident that means of getting the wheat to Europe will be found. Already Belgium and England are insuring the cargoes destined to their respective ports against the risks of war. Not only is war aiding the American farmer in getting a long price for his bumper crop of wheat, but the report of the International Institute shows that crops of the northern hemisphere are much below the aggregate of a year ago. This of itself ought to improve prices beyond what the crop of this country would warrant dealers to pay. On Tuesday there was a reaction in prices, but this would naturally be expected, following the heavy advance. One year ago the price for No. 2 red wheat was 88½c per bushel. Quotations are as follows:

	No. 2	No. 1	
	Red.	White.	Sept.
Wednesday	92½	91½	94
Thursday	94½	94	95
Saturday	97½	97	98½
Monday	1.01	1.00½	1.02
Tuesday	1.00	99½	1.01

Chicago, (Aug. 11).—No. 2 red wheat 95½c; Sept., 94½c; December \$1.00½.

Corn.—With the strong influence of wheat upon this cereal and the government report showing a decline in the crop of ten per cent for July, further advances in quotations naturally follow. Especially in the corn belt have weather conditions been unfavorable to the development of the grain. The demand is very strong and the supply of old corn is limited. One year ago the price for No. 3 corn was 72½c per bushel. Quotations for the past week are:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	80	82
Thursday	81	83
Saturday	86	88
Monday	88	90
Tuesday	87	89

Chicago, (Aug. 11).—September corn 78½c; December 69½c; May 70½c per bushel.

Oats.—Following corn and wheat, oats put 5c onto the prices of a week ago and the grain has a good demand at the new figures. The crop shows a falling off in condition for the month of July but the decline is not so large as that for corn. One year ago the price for standard oats was 43½c per bushel. Quotations for the past week are:

	Standard.	No. 3
		White.
Wednesday	41	40
Thursday	41	40
Saturday	44½	43½
Monday	45½	44½
Tuesday	45½	44½

Chicago, (Aug. 11).—September oats 41½c per bu; Dec., 44½c; May 47½c.

Rye.—Another advance of 5c was made last week. Demand is improving and the supply limited. No. 2 is quoted at 75c per bushel.

Beans.—Cash beans have advanced nearly a half dollar the past week. The crop is light and war cuts off supplies from Europe. Quotations: Immediate and prompt shipments \$2.50 per bu; October \$2.02. Chicago. —Prices are much higher and market is firm. Pea beans, hand-picked, choice, are quoted at \$3; common at \$2.75@2.90; red kidneys, choice \$3.50 @4.

Cloverseed.—Another sharp advance was made last week with the market strong. Alsike also higher. Prime spot \$11; October and December \$11.40; alsike sales were made at \$9.75.

Timothy Seed.—Prime spot \$3 per bushel.

Alfalfa Seed.—Prime spot \$8.35.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs. as follows. Best patent \$5.80; second, \$5.30; straight \$4.80; spring patent \$5.80; rye flour \$4.40 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$26; standard middlings \$28; fine middlings \$30; coarse cornmeal \$33.50; cracked corn \$34.50; corn and oat chop \$30 per ton.

Hay.—Prices steady. Carlots on track at Detroit are: No. 1 timothy \$16@17; standard \$15.50@16; No. 2, \$13@14; light mixed \$15.50@16;

No. 1 mixed, \$13@13.50; No. 1 clover \$12.50@13 per ton; new No. 1 timothy \$15.

New York.—Market firm. No. 1 timothy \$22@22.50; No. 3 to No. 2 \$18@21.

Chicago.—Best grades firm, with prices higher. Choice timothy quoted at \$20@20.50 per ton; No. 1, \$17.50@18; No. 2, \$15@16; new timothy \$14 @17.

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

DAIRY AND POULTRY PRODUCTS.

Butter.—Market steady, with prices slightly higher. Extra creamery 28c per lb; firsts 27c; dairy 20c; packing stock 19c.

Chicago.—Market is quiet with little change in prices. On account of high interest rates little heavy buying is done. Extra creamery 28c; extra firsts 27@27½c per lb; firsts 24@25½c; seconds 21½@23c; packing stock 18½@19c.

Elgin.—On this market 28½c per pound was bid but no sales were made.

New York.—The market is irregular, with prices slightly lower. Packing stock is higher. Creamery extras 29@29½c; firsts 20@20½c; seconds 23@25c; packing stock 20@20½c.

Eggs.—Market is strong with prices advancing. Fresh stock sells at 23c per dozen.

Chicago.—The feeling is firm, especially for fresh stock. Prices continue to advance. Fresh stock, free from heated conditions is quickly sold. Miscellaneous lots, cases included 15@20½c per dozen; ordinary firsts 18@19½c; firsts 20@21c.

New York.—Market steady, with prices on fresh stock higher. Fresh gathered extras 27@28c; firsts 23@24c; extra firsts 25@26c per dozen.

Poultry.—Market quiet and steady. Prices are unchanged. Live—Broilers 19@20c per lb; hens 15@16c.

Chicago.—The trading is fair at reduced prices. The demand is entirely local. Quotations on live are: Fowls 14c; sprink chickens 15c; ducks, good stock 12@14c; guinea hens per dozen \$3.50; spring geese 12@13c.

FRUITS AND VEGETABLES.

Fruits.—Cherries, sour \$1.25@1.50 a case; sweet \$1@1.25 per case; blackberries \$1.50@1.75 per case; pears \$1.50@2 per bu; plums \$1.50@2 per bushel.

Chicago.—Cherries, sour \$1.50@1.60 per case; sweet \$2@2.50 per case; currants \$1@1.25 per case; Michigan peaches 15@25c per 1-5 bu. basket; Michigan Japanese plums 60@75c; Clapp's Favorite pears \$3.50@4 per bbl; Bartlett \$1.10@1.25 per bushel.

Vegetables.—Home-grown cabbage, \$1.25@1.50 per bbl; new beets 65c per bushel; radishes 10c per dozen; home-grown green corn \$1@1.10 per sack; lettuce 40c per lb; green beans 75c per bu; wax beans 75c per bu.

Apples.—Good stock in demand but poor is beginning to hurt the market. Transparent 75c@81; Duchess \$1@1.10 per crate, and \$3@3.50 per bbl.

Chicago.—The market is good for nice stock; poor stuff is hard to sell. Transparent \$1@1.25 per bushel basket; Duchess 75c@81; Transparent \$3 @3.50 per bbl; Duchess \$2.75@3.25; Astricans \$1.50@2.50.

WOOL.

The European war had a very depressing influence on the wool market last week and sales were of much small volume; nevertheless, the market situation was never better from the standpoint of the seller. The war is likely to make it necessary for manufacturers to substitute the domestic wools for foreign grades. Fleece wools particularly have been strengthened and the production of this class in this country has declined fully 50c in the past three years. Prices are steady and all dealers are anticipating further advances. Boston quotations are: Michigan unwashed delaine 27@28c; unwashed combing 26 @29c; Michigan fine 23@24c; unwashed clothing 23@26c.

GRAND RAPIDS.

The egg market opens this week at 19@19½c; dairy butter 20c. Potatoes are quoted at 60@70c. The drouth has been rather severe in this section and corn, late potatoes and beans have suffered. However the week opens with rains in Grand Rapids territory and crops will be greatly benefited. Duchess apples bring from 50@75c, and other early varieties are worth around \$1. Huckleberries are worth \$2@2.25; blackberries \$1.75@2. Local mills paid 85c for wheat Monday and 89c Tuesday of this week, which gives an idea of the general uncertainty of grain and produce prices. Old corn has also jumped and some dealers are quoting 93c to farmers. The price of

white pea beans has advanced to \$2.15 and red kidneys are reported to be pretty well out of farmers' hands.

DETROIT EASTERN MARKET.

An increased number of farmers and buyers were present at the market Tuesday morning. Prices are being fairly well maintained, considering the heavy offerings. Potatoes are scarce and selling at 90c per bushel. Cabbage plentiful at 30c; tomatoes \$1.25@2; cucumbers, large 30c per bushel; do., small, 20c per hundred; onions \$1.50 per bushel; silver onions 25c per two quarts. Huckleberries 15c per quart. Apples \$1@1.50 per bushel; string beans 80c@1 per bushel; celery 25c per bunch; loose hay is scarce at \$16@18 per ton.

THE LIVE STOCK MARKETS.

Buffalo.

August 10, 1914.

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

Receipts here today as follows: Cattle 210 cars; hogs 70 d. d.; sheep and lambs 33 d. d.; calves 1100 head.

With 210 cars of cattle on the market here today, and only 12,000 reported in Chicago, our market was strong 10c, and in some instances a quarter higher than last Monday on all grades of good fat cattle, while the thin, poor and slippery kinds that were not wanted sold at only about last Monday's prices. At the close of the market about everything was sold with the exception of a few loads of good weight Canadian cattle, which are going over on account of the price bid for them was not satisfactory to the owners.

We had a high and excited hog market here today, owing to moderate supply and very light supplies at all western markets. Packers opened the deal, buying their hogs anywhere from a quarter to 40c per cwt. higher than Saturday, and the shippers followed at the same advance on the lighter weights. A few heavy weight hogs sold at \$10@10.25, with the bulk of the mixed and mediums at \$10.45@10.50. Lights sold at \$10.50@10.60, with a few fancy up to \$10.65; roughs \$9; stags \$7@8. Late market was a little bit timid and the outlook is rather uncertain under present conditions.

The market was active today on lambs and sheep. Prices a quarter higher than the close of last week. Choice handy lambs selling mostly at \$9@9.25. We look for steady prices the balance of the week.

We quote: Spring lambs \$9@9.25; cull to fair \$6.50@8.75; yearlings \$6@7.50; bucks \$3@3.50; handy ewes \$5.50 @5.75; heavy ewes \$4.75@5; wethers \$6@6.50; cull sheep \$2@3.75; veals, choice to extra \$12.50@12.75; fair to good \$10.50@12.25; heavy calves \$6 @8.50.

Chicago.

August 10, 1914.

Cattle. Hogs. Sheep. Receipts today..11,500 16,000 23,000 Same day 1913..12,821 28,592 9,272 Last week31,750 64,496 47,654 Same wk 1913..36,962 122,798 93,077

Cattle and hog markets went on a wild rampage at the outset of the week. Under scant supplies beef steers advanced 25c all along the line compared with the close of last week. There were even some trades at 25@35c advance. She stock also sold 15 @25c higher and feeders at 10@20c gain. Prime 1400-lb. branded Hereford steers sold at \$10.40, highest in two years, and other 1500 to 1597-lb. steers made \$10.35, while numerous droves of yearlings and heavy grades made \$10@10.25. Bulk of the general run cleared at \$8.75@9.90, the prices showing 40@60c rise over levels noted at the start the week before. Normal money situation and a keen packer and shipper demand, coupled with the light supplies which have been a market feature for weeks past caused the price boosts and predictions were freely made by traders that unless choice steers come more freely the top will shortly be elevated to \$11.

Last week's steer market had a bad start and an unexpectedly good finish. Tight money occasioned a bearish deal at the opening, in which values went 15@25c lower, but loosening up of the financial situation later, coupled with free eastern buying put values sharply higher. Closing sales were 15@35c higher than Monday, the good to choice showing most gain and the trade looks ahead to a good demand for moderate supplies in the near future. Argentine beef shipments into the east have dwindled as result of the European war, and a little better domestic demand prevails now for beef, despite its high cost at retail. Growers are holding bullish views and fear of a breaking market as a result of the European disturbance and its effect on domestic financial conditions has passed. Scarcity of prime grades has put them on a

strong basis, a lot of choice to prime steers selling the past week at \$9.50 @9.90 and tops at \$9.95, while \$10 top was looked for the week ahead. Bulk of medium to good steers sold at \$8.50 @9.15 and common and plain grassers at \$7.50@8.25. Range steers topped at \$9.50, and a trainload made \$8.85 with bulk at \$7.25@8.10. She stock opened 15@25c lower but regained the decline. Cows sold mainly at \$5.25@7; prime heifers up to \$9@9.25 and a fair to good kind at \$6.50@7.50. Canners made \$3@4.60. Bulls sold at \$5.50@7.40 for common to choice. Calves made \$11@11.65, scoring a 25@50c advance in the week. Feeder trade had mean action and declines were 15@25c from the week before, bulk of steers selling at \$6.65@7.40 and tops up to \$7.75.

Hogs sold 25c higher at the opening and later were 35@50c higher. Tops advanced to \$10.20 against \$9.75 on the close last week. Bulk of the crop sold at \$9.40@10 and general range was \$1.50@2 higher than low point Tuesday of last week.

Sheep trade had a mean tone, wethers and yearlings showing a basis weak to 10c lower than the close last week while native lambs sold 15@25c lower and rangers at 10@15c decline. Top native lambs made \$8.85 and rangers went at \$8.60. Montana wethers made \$6.10 and natives \$6.50. Ewes topped at \$5.85; yearlings at \$7.25.

Horse market had dull action, the demand locally and in the east showing no improvement over recent weeks, although operators are looking forward to a better call as the season advances and early fall orders from commercial houses are received in the trade. Few drafters sold above \$235 and a fair to good class of medium and handy weight chunks at \$160@200 with common light chunks down to \$85@100.

CROP AND MARKET NOTES.

(Continued from page 133).

Some farmers are forced to sell their stock on account of pasture shortage. Hogs are plentiful, bringing \$8@8.75; lambs \$6@7; oats 40c; wheat 75@80c.

Clermont Co., Aug. 5.—Corn in river bottoms is in good condition. All crops on hill ground are short because of drouth. Wheat averaged 20 bushels per acre, some 25 bushels; oats yielded 18 bushels. About the usual amount of hogs and beef cattle will be marketed this fall, on account of pastures drying up and water being scarce. There are no preparations for seeding yet. About all threshing is done, and farmers are baling straw and hay. Potatoes are a poor crop. Eggs 17c; butter 22c.

Indiana.

Allen Co., Aug. 6.—The drouth has so far had little effect on the crops. Corn has not been affected as yet, but if rain does not come soon it will begin to dry up. Peach canning is in order. Shipments are arriving daily. Price \$2.40 per bushel. Wheat remains unchanged at 82c. Southern Indiana watermelons are coming in and quality is good. The first load of new oats arrived Tuesday and brought 32c per bushel. Old oats brought 38c. Barley was reduced 5c and rye advanced the same amount. Fresh eggs have gone up and are now 18½@19c. Fowls went down to 14c; old hens 14c; springers 17@18c.

Wisconsin.

Polk Co., Aug. 5.—The average corn fields are later this year than last, but if we have favorable weather we will have a good crop of corn this year. Potatoes are looking fine, no blight has affected them this year. Wheat and oats are very poor; they were burned up by the hot winds that we had when it should have been cool. Hay was well above the average. The farmers have just commenced picking pickles. Grain is all cut and threshing will commence next week. Hay is selling at \$6 per ton. Butter 28c; eggs 22c.

North Dakota.

Foster Co., Aug. 4.—Harvest is on with us now. Crops are fine except late barley, which will need some rain before it makes a crop. Corn is doing fine this year, and it has been a fine season for keeping it clean. Our Marquis wheat has been a good success, for it seemed to be ahead of the rust. Black rust has got several of the fields pretty bad. Hogs and cattle are at the best price we have ever out here, and none for sale at that. Some sheep coming from the range to graze on the stubble fields, to reship this fall.

The blueberry crop in upper Michigan this season is reported the lightest in many years. Frosts the latter part of June killed the buds in many fields and forest fires destroyed large quantities of the bushes in other districts. Buyers are paying \$3 a bushel for the fruit, an advance of \$1 over the price of a year ago. The colonies of pickers are much smaller than usual.—Alton D. Spencer.

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.

Cattle.

August 13, 1914.

Receipts 1332. Market dull at Wednesday's prices; all grades 10@20c higher than last week; quality common.

We quote: Best heavy steers \$8.50@8.75; best handy weight butcher steers \$7.50@7.75; mixed steers and heifers \$7@7.50; haidy light butchers \$6.75@7.50; light butchers \$6.25@7; best cows \$6@7; butcher cows \$5@5.75; common cows \$4@5; canners \$3@4.25; best heavy bulls \$6.50@7; bologna bulls \$6.25@6.75; stock bulls \$5.50@6.50; feeders \$6.75@7.25; stockers \$6.25@6.75; milkers and springers \$4@8.5.

Bishop, B. & H. sold Sullivan P. Co. 9 steers av 977 at \$7.80, 2 bulls av 1245 at \$6.25, 1 do wgh 920 at \$5, 1 steer wgh 890 at \$7.50, 3 cows av 870 at \$4.75, 3 do av 1043 at \$6.50, 10 butchers av 823 at \$7.25, 2 cows av 1105 at \$6.25, 3 butchers av 807 at \$7, 6 cows av 911 at \$6.25, 13 do av 998 at \$6, 12 heifers av 750 at \$7; to Goose 3 heifers av 677 at \$6.50; to Findlay 1 cow wgh 1050 at \$4.50, 1 feeder wgh 730 at \$6.75; to Goose 1 bull wgh 1300 at \$6.50; to Mich. B. Co. 19 butchers av 790 at \$7; to Thompson Bros. 4 do av 725 at \$7, 2 steers av 1425 at \$7.50; to Rattkowsky 2 cows av 1190 at \$6.45; to Goose 3 bulls av 1227 at \$6.75; to Findlay 14 stockers av 535 at \$6.50; to Parker, W. & Co. 3 cows av 1077 at \$6, 5 do av 900 at \$4.25, 1 bull wgh 790 at \$6; to Marx 5 butchers av 766 at \$7.15; to Findlay 7 stockers av 511 at \$6.25; to Schultz 10 do av 542 at \$6.75; to Mich. B. Co. 4 bulls av 1222 at \$6.45, 2 do av 945 at \$6.50, 2 do av 925 at \$6.50; to Hammond, S. & Co. 3 cows av 1153 at \$6.25, 4 do av 932 at \$4.25, 6 canners av 866 at \$4, 2 do av 910 at \$4; to Sullivan P. Co. 15 mixed av 900 at \$6; to Lutz 14 stockers av 588 at \$5.90; to Bresnahan 5 heifers av 686 at \$6.75, 6 stockers av 633 at \$5.50; to Thompson Bros. 1 bull wgh 1630 at \$6.50.

Roe Com. Co. sold Rattkowsky 2 bulls av 825 at \$6, 1 do wgh 500 at \$5.50; to Goose 1 do wgh 800 at \$5.25; to Kull 11 steers av 817 at \$7.65; to Applebaum 8 cows av 882 at \$5.85, 2 bulls av 725 at \$5.75; to Kamman B. Co. 3 steers av 833 at \$7.50; to Heinrich 20 do av 1063 at \$8; to Ratner 3 do av 560 at \$6.50; to Gainor 13 butchers av 621 at \$6.80, 11 do av 825 at \$7.25.

Haley & M. sold Mich. B. Co. 7 butchers av 723 at \$6.25, 15 do av 759 at \$6.90; to Mason B. Co. 1 bull wgh 970 at \$6, 2 butchers av 925 at \$7.85, 1 heifer wgh 630 at \$6.50, 2 steers av 1000 at \$7.25, 5 butchers av 656 at \$6.75, 1 steer wgh 820 at \$8, 1 bull wgh 1150 at \$6.50, 3 do av 780 at \$5.75, 1 cow wgh 1070 at \$6.85, 1 bull wgh 770 at \$6; to Thompson Bros. 2 oxen av 1325 at \$6.75, 5 butchers av 674 at \$5.65, 4 cows av 957 at \$5.85, 6 butchers av 958 at \$6.50; to Hammond, S. & Co. 1 cow wgh 890 at \$4, 1 bull wgh 1200 at \$6; to Gerisch Market Co. 22 steers av 920 at \$8.05; to Schultz 12 feeders av 730 at \$7.30; to Applebaum 1 bull wgh 660 at \$5.85, 2 cows av 1040 at \$6.25; to Lachalt 5 butchers av 756 at \$6.35; to Goose 2 cows av 960 at \$5.25, 1 heifer wgh 540 at \$6, 3 do av 400 at \$6, 1 cow wgh 800 at \$5.25, 1 do wgh 1120 at \$6; to Rattkowsky 2 bulls av 940 at \$6.25.

Veal Calves.

Receipts 599. Market 50c higher than last week on good; common is steady. Best \$12@12.50; others \$8@10.50.

Spicer & R. sold Parker, W. & Co. 5 av 250 at \$12, 6 av 150 at \$12, 3 av 180 at \$12.50, 1 wgh 250 at \$10, 5 av 185 at \$12.50, 5 av 150 at \$10, 2 av 245 at \$8, 12 av 180 at \$12, 3 av 220 at \$9, 12 av 160 at \$12.

Haley & M. sold Newton B. Co. 2 av 135 at \$10, 3 av 180 at \$12, 7 av 170 at \$11.50, 10 av 174 at \$12.50; to Goose 11 av 135 at \$11, 1 wgh 150 at \$11.

Roe Com. Co. sold Rattkowsky 11 av 180 at \$12; to Hammond, S. & Co. 6 av 160 at \$12, 3 av 165 at \$12.

Haddrell & C. sold Thompson Bros. 2 av 160 at \$12.50.

Sheep and Lambs.

Receipts 3602. Lambs, quality considered, steady; sheep steady. Best lambs \$8.75; fair lambs \$7.50@8.25; light to common lambs \$5.50@7; fair to good sheep \$4@5; culls and common \$2.50@3.

Haley & M. sold Newton B. Co. 3 lambs av 70 at \$8, 32 do av 73 at \$8.50, 91 do av 75 at \$8.50; to Fitzpatrick Bros. 6 sheep av 125 at \$3.50, 69 do av 125 at \$4.75, 35 do av 85 at \$4.25; to Costello 7 do av 95 at \$4, 20 lambs

av 50 at \$7; to Mich. B. Co. 26 do av 75 at \$8.75.

Spicer & R. sold Parker, W. & Co. 15 sheep av 100 at \$4.75, 7 lambs av 60 at \$8.25, 7 do av 80 at \$6.50, 5 do av 60 at \$7.50, 45 do av 75 at \$8.75; to Mich. B. Co. 10 do av 48 at \$7.50, 105 do av 60 at \$8.75; to Costello 9 sheep av 85 at \$5.50, 18 lambs av 45 at \$6.50.

Roe Com. Co. sold Hammond, S. & Co. 19 lambs av 75 at \$8.50, 27 do av 83 at \$8.50; to Barlage 50 do av 65 at \$8.25, 19 do av 50 at \$7, 10 sheep av 85 at \$5.25; to Sullivan P. Co. 9 do av 95 at \$5, 17 do av 97 at \$4; to Rattkowsky 8 do av 120 at \$4.75; to Mich. B. Co. 74 lambs av 75 at \$8.65.

Hogs.

Receipts 2802. Heavy grades \$9.25; others \$9.30@9.35.

Bishop, B. & H. sold Hammond, S. & Co. 800 av 190 at \$9.30, 500 av 170 at \$9.35, 300 av 250 at \$9.25.

Roe Com. Co. sold Sullivan P. Co. 175 av 175 at \$9.35.

Spicer & R. sold Parker, W. & Co. 150 av 175 at \$9.35, 160 av 190 at \$9.30.

Haley & M. sold same 160 av 155 at \$9.35, 80 av 190 at \$9.30.

Friday's Market.

August 7, 1914.

Cattle.

Receipts this week 1545; last week 1259; market dull. Best heavy steers \$8.25@8.50; best handy weight butchers \$7.25@7.75; mixed steers and heifers \$7@7.25; handy light butchers \$6.75@7; light butchers \$5.50@6.50; best cows \$6@6.50; butcher cows \$5.50@6; common cows \$4.50@5; canners \$3@4.25; best heavy bulls \$6.50@6.75; bologna bulls \$6@6.25; stock bulls \$5.25@5.75; feeders \$6.75@7.25; stockers \$6@7; milkers and springers \$4@8.0.

Veal Calves.

Receipts this week 527; last week 746; market strong. Best \$12; others \$8@11.

Sheep and Lambs.

Receipts this week 2637; last week 2026; market strong. Best lambs \$8.50; fair lambs \$7@8; light to common lambs \$5@6.50; fair to good sheep \$4@5; culls and common \$2.50@3.50.

Hogs.

Receipts this week 2210; last week 2517; market 25c higher. Mixed and lights \$9.25; heavy \$8.90@9.

LIVE STOCK NOTES.

In market circles the first effects of the European disturbances were felt in a sympathetic tightening up of money. As yet calling of loans by bankers who hold cattle and sheep paper has not been general, but the fear that money would be wanted urgently by loaners has caused no small number of cattle, as well as sheep, to be liquidated. The impression prevails that shortage of fat cattle will not permit of severe declines in market prices, despite the reaction in the grain values of late. The United States will have practically no fresh beef to export to hungry Europe and has had little of it for five years. Our own consumptive demands require all we can produce, and more too. If cattle and sheep values go sharply lower as a result of banks calling loans on many animals, there should be a speedy recovery of prices after the first flurry of excitement over the European situation passes. Those who have good grass and plenty of old corn, are, in the belief of market operators, in a safe position to carry stock with little fear of general depression in the markets a few weeks or two months off.

Two Washington experts, connected with the Bureau of Markets of the Department of Commerce and Labor, Louis D. Hall and F. M. Simpson, both formerly connected with the University of Illinois as instructors in animal husbandry, were in Chicago the past week on a tour of investigation into marketing conditions. Messrs. Hall and Simpson have been assigned the task of studying marketing cost, as well as feeding costs in various sections of the United States and their work will take them to all the chief market centers. A government bulletin thoroughly covering the investigation will be issued from their office within the next few months.

Grain elevators about the great lakes are being rapidly filled from the receipts of new grain. Inability to export the cereal while war is on in Europe will likely cause stocks to accumulate, but it is expected that an outlet will finally appear to absorb the surplus crop.

FOR SALE—A large Boomer and Borchart Cider Press and Feed Mill, cheap. W. H. RAMALIA, R. No. 3, Ewart, Mich.

Eggs, Etc. Small consignments from producers in Michigan bring very attractive prices. Returns day of arrival. Refer to Dunn's, Bradstreet's. Zenith Butter & Egg Co., 355-59 Greenwich St., N. Y.

WHEAT

All countries involved in the

European War

are Fall Wheat countries. They can't plant much wheat and fight at the same time.

Big Prices

are reasonably assured for both our present and next year's crop. Every farmer owes it to humanity to put in the biggest acreage of wheat possible. He owes it to himself to get big yields and good quality. The logical way is by using good animal matter fertilizer.

Darling's Animal Matter Fertilizers give the biggest yields and the best quality. Darling's Animal Matter Fertilizers are the best

Crop Insurance

a farmer can buy. We have a very large supply of bone and are in a position to make prompt shipments on all grades of fertilizers.

Every farmer in the Middle West should write us today for our book "The Soil Builders." It contains facts every wheat grower should know. Mailed free.

DARLING & COMPANY

Dept. A, Union Stock Yards

Chicago, Illinois

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T & T STEEL POSTS

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Made of best basic open hearth steel—galvanized after forming or special painted after forming, with all edges protected, which makes the T & T posts much longer-lived than any other steel post on the market.

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Acid Proofed Galvanized.

Special Galvanized, coated with pure zinc.

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T & T posts are made in various sizes and lengths according to your requirements. They are shipped nested, which reduces the freight rate.

Write for booklet giving you full information and prices. Tell us the nature of your soil, whether acid or stony, and we will tell you which of the three grades you should use.

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Sooner or later you will come to metal fence posts—why not begin now, by investigating the T & T? Be sure to send for that booklet.

The Metal Post & Culvert Co., Niles, Ohio

LIVE POULTRY, BROILERS, FRUITS, POTATOES, ONIONS, ETC.

Let us handle your poultry, fruits, farm products. Our 25 years in the same store assures your satisfactory results. **CHAS. W. RUDD & SON, Detroit, Michigan.**

HAY

Ship your Hay to Pittsburgh and to Daniel McCaffrey Sons Company Pittsburgh, Pa.

Ref.—any bank or Mercantile Agency.

Griggs, Fuller & Co., Wholesale Commission House, potatoes, poultry and rabbits. Quick returns.

FARMERS—We are paying good premium above the Official Detroit Market for new-laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co. 31-33 Griswold St., Detroit, Mich.

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

MUST BE SOLD: 260 acres, 45 Imp., 2 miles from Saginaw. For particulars address, H. L. TURNER, Basin, Mont.

FOR SALE—120 a., good soil, 50 a. improved, fair buildings, ¼ down, easy terms, \$2200. GEO. M. GILL, R. R. No. 1, Kalkaska, Michigan.

Southern Michigan Farms in the best agricultural district in Mich. List free. HARPSTER & MURRAY, Bellevue, Michigan.

FARMS, GOOD, CHEAP, PROFITABLE. UNUSUAL OPPORTUNITIES NOW. State Board of Agriculture, Dover, Delaware.

FOR SALE FARM and Fruit Lands, also large tracts for stock grazing and ranch purposes. Clay loam soil, lime rock subsoil, near market and railroad. Address: THAD B. PRESTON, Trustee, Onaway, Michigan.

Central Michigan Farms Best and cheapest on earth. \$50 up. Catalog. HOLMES REALTY AGENCY, Lansing Mich.

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

A BEAUTIFUL LITTLE FARM HOME About 36 acres, on state macadam road, four miles north of Three Rivers, Mich.; good buildings; nicely shaded; good water; quarter mile from Moore Park village school; 18 acres in fruit, consisting of grapes, peaches, cherries and some small fruit; all in good condition; price right for quick sale. Address, N. T. KESLER, Zion City, Ill.

Want to Trade

One 56-acre farm, 1¼ miles from town. 20 acres of grapes, 5 acres fruit trees, 8-acre grove on Paw Paw river, the balance in crop land, good buildings. Will trade for 40 to 60 acres of general farm, close to city or good town. Inspection is invited. Write to R. A. WEIR, Paw Paw, Michigan.

Farm Commerce.

Markets Demand Better Handling of Fruit.

By D. W. FRANCISCO.

IF Michigan horticultural products, such as apples, peaches, grapes and cherries, actually have the generally acknowledged superiority in flavor and general quality, then we are forced to the conclusion that either the public is not educated to fully appreciate its desirable qualities or the fruits themselves are not placed upon the market so as to appear to the best advantage.

It seems probable that the latter criticism is the fundamental one and that if the absolute necessity for careful grading and uniform and scrupulous packing was realized the demand would take care of itself.

That the bulk of the fruit of this state is poorly packed is clearly evident to any visitor to Water street, Chicago, where one sees the products of all parts of the country displayed for sale. The most encouraging fact to be found here is the general opinion among the fruit dealers that the standard of Michigan fruit has been greatly raised during the past few years. But, we must add, it has not kept pace with that of other states, California for instance, which during the deciduous season ships carloads of pears, peaches, plums and grapes across the continent and into our markets at Detroit and Grand Rapids, where they are sold at a profit alongside of the fruit of our own state. And this in the face of the fact that the western fruit (unlike that from Michigan) must be picked green in order to reach Chicago in a sound condition.

Honest Packing Necessary.

A few days ago I was interested in looking over the fruit of a Chicago dealer who handled fruit from the district around Chicago, the bulk of which came from Michigan. I was shown the results of an attempt of a cherry grower from the Frankfort district to pack a fancy grade of Windsor cherries. The fruit was of good quality but of irregular size and degree of ripeness, so that instead of presenting the smooth regular appearance of the fancy boxes of northwestern cherries the face of the package was uneven and mottled with pink and dark red fruits. During the week previous cherries in similar boxes from Washington had sold for an average of \$2.25 per box and the following week at \$2.

While I was there a customer contemplated the purchase of a crate of cherries which made a comparatively good appearance. The dealer, anxious to display his wares, emptied a box into his hands. The bottom berries were undersized, many over-ripe or rotted, and the stems withered, showing delay in packing and shipping. The sale was lost.

"There's your Michigan pack," said the dealer later, and pointing to the unsold cherries, "Some of the best berries we handle come from Michigan, but we never know whether they are going to be good or bad. When we do get good stuff it sells fast, and the customer invariably returns for more of the same kind."

He Lacked Business Qualities.

By endeavoring to get rid of his inferior cherries the Frankfort grower had spoiled the sale of his first-class fruit. A brand or grower's name on such a package only marks it as one to be avoided. This farmer might have been a successful fruit grower but he was surely no business man, and it is absolutely essential to be both to secure a reputation. It seems that in this principle lies the success of the western grower. Most of the ranches near the Pacific coast are

handled by men who are, or have been, real business men. Furthermore, competition has forced them to adopt the highest standards in grading and packing. Fruit growing is a business with them. Co-operation and uniform handling were essential. If such is the case in Michigan, and I believe that it is, then the grower has not yet come to its realization. Fruit growing has received but a portion of the farmer's time and commonly these growers knew little or nothing about getting the crop onto the market. It is gratifying to note the entrance of business men into fruit raising in our own state, and the membership lists of some of our foremost co-operative fruit-selling organizations include the names of men who have already made

Since the first co-operative organization in the state was founded in 1865, scores of attempts to unite the growers have been made. Among those which have succeeded and which give the greatest promise today may be mentioned the following: The Michigan Fruit Exchange, The Fruit Growers' Central Packing Company at Fenville, The South Michigan Fruit Association at Lawton, The Michigan Fruit Exchange at Lawton, The Fruit Growers' Union at Paw Paw, The Fremont Co-operative Produce Company, The St. Joseph Michigan Fruit Association, the Northport Fruit Growers' Association, The Northern District Apple Association, and The South Michigan Fruit Exchange at South Haven.

It has been declared that European countries far surpass us in methods of co-operation and clearly the Pacific coast states have outdone their sisters in co-operative organization. But Michigan, too, has had her experience and is ready to profit by the activities in California. The farmer has come to be less idealistic and to realize the advantages of combined efforts, labor and capital. Michigan is ripe for the



Fancy Sour Cherries from Morgan Orchards, of Grand Traverse Co., Reach Consumer in Detroit in Perfect Condition.

reputations in the business professions. Fruit raising has become in itself a profession.

Advantage in Pooling.

The greatest single factor which has brought about the noticeable increase in the estimates placed upon Michigan fruit on Water street is without doubt due to the adoption of co-operative methods by the growers. In co-operation the farmer has come to see the advantages of shipping in carload lots, of the value of establishing a reputation for the brand, the ability to demand better transportation facilities, to secure reliable news service as to crop and market conditions, to establish a more fraternal community spirit, to eliminate waste and utilize by-products, develop new markets, and to encourage and enforce habits of thrift and honesty in grading, packing and inspecting.

Michigan's co-operative organizations in general cannot yet be termed highly successful. The important thing is that the necessity for their existence has been felt. It is frequently said that a co-operative organization must be borne of necessity if it proves a success. Then it is safe to predict that those of Michigan are to succeed for the direst of necessities will soon compel far greater co-operation. Nothing but superior methods of co-operation enabled the Washington cherry grower to ship his fruit under ice in a week's journey across the country and sell at twice the price of that of the Michigan grower who was able to get his product onto the same market in 24 hours and without refrigeration.

reception of the schooling which may be in store from the Office of Markets at Washington, and efforts to enforce careful grading and honest packing by co-operative associations or by the state are, in the future, going to bring results.

The old adage, "every man for himself and the devil take the hind most" has been discarded, and for the future the Michigan farmer has adopted the slogan, "co-operate."

THE AMERICAN APPLE CROP FOR 1914.

Present prospects are that the apple crop of the United States and Canada will be considerably larger than the crop of last year. Some sections will have very large harvests, some promise almost complete failures, while the majority of the producing communities have a crop running a little better than that of 1913.

The New England states started the season with reports of almost a perfect stand, and while the crop is still declared to be good for the whole section, a few places have reported only fair prospects, chiefly among these being points in Connecticut. This section produces about seven per cent of our apples.

In the middle Atlantic states where around 24 per cent of the apple crop of the country is grown, the crop is above the average, but early expectations of as large a crop as that of 1906 will not materialize, since the aphids and tent caterpillar have been doing considerable damage in the best producing districts. Notwithstanding this

damage the crop will be large in New York and Pennsylvania, the two heaviest yielding commonwealths, although in the Hudson River district of New York the latest reports indicate a small crop. Baldwins are especially good in this division of states.

The East North Central States exhibits a variety of conditions with the general outlook less favorable than in the eastern states. Michigan's crop will average better than last year but there are a number of localities where the yield is reported light. Ohio will probably produce less than in 1913, while Indiana, Illinois and Wisconsin indicate a crop about equal to that of a year ago. This group of states produce about 18 per cent of the nation's crop.

In the west north central states the general prospects are still less favorable than in the last mentioned group, with the exception of the Ozark region, where a good crop will be harvested, but not nearly so large a one as was anticipated at blossoming time. The twig blight hit this district quite hard. Iowa's crop is all but a failure, while Nebraska and Kansas offer only a fair yield. This group of states will ordinarily furnish around 14 per cent of the country's crop.

The mountain states will deliver a good crop. Colorado reports fine prospects in most sections, and a normal outlook in others. Montana will have a light yield, but Idaho and Utah show splendid prospects. The division's output represent something like seven per cent of the total output of the country.

The reports from the Pacific states range from fair to excellent, with most of the valleys promising a good crop. The quality of the fruit will be high. Fully nine per cent of the crop comes from the three Pacific states.

In the southern states the crop has been fairly good. The late varieties in North Carolina promise well, while the Virginia and West Virginia prospects range from fair to good. Hailstorms, blight and drouth were the enemies of many southern sections this year. The South Atlantic, South Central and West Central states produce about 21 per cent of the country's crop.

Canada will have a medium to good crop. In Ontario the growers do not anticipate a much better crop than was harvested a year ago. The drop during June and July was rather heavy. The western portion of the province promises to fare better than the eastern part, while the Niagara district holds out prospects for an excellent crop. In the Annapolis Valley of Nova Scotia the crop will be 50 per cent above last year's yield, while the remaining districts of that province are short because of damage from the frosts early in the season.

Crop and Market Notes.

Michigan.

Hillsdale Co., Aug. 5.—Threshers are busy, and a large part of the threshing is already done, much of the grain having been drawn from the fields directly to the machine. The wheat crop will average light although now and then a field is heavy, yielding 30 bushels per acre or better. Insects worked in many fields and are responsible in large measure, for the light crop. The oat crop is fairly good, the yield ranging from 30 to 60 bushels per acre. Rye is a good crop. The prospect for a big crop of corn is good, but rain is needed, at this writing. New seeding presents a fairly good showing, so far, but is also in need of rain. There will be but little clover seed, due to the fact that there is but little clover. The acreage of alfalfa is increasing steadily, and the cuttings this year have been very heavy. Early potatoes are a good crop and the prospect for late potatoes is promising. Apples, both early and late, are not plentiful, and except where systematic spraying was carried on, are of poor quality. Peaches will be scarce, as so many trees died during the winter. Pears will be fairly abundant. Milch cows and young cattle are scarce. Hogs are fairly plentiful. The army worm has ap-

peared in several localities, but its ravages have been checked before much damage was done. Wind and hail have also done considerable damage to fruit and growing crops, in some neighborhoods. Butter 25c; eggs 18c; wheat 75c; rye 50c; oats 38c; potatoes 75c.

St. Joseph Co., Aug. 1.—It is terribly dry here; wheat was a failure on account of the fly and winter-killing. This is the fourth crop in succession which has been lost. Corn is drying up; late potatoes at a standstill; pasture dried up; oat two-thirds of a crop and white field beans will make a fair crop if rain comes soon. Hog cholera prevails in this vicinity, some whole herds having been lost.

Livingston Co., Aug. 7.—The weather has been ideal for harvest and as a result harvesting is about completed. We are having the most severe drouth of the season; all the growing crops need rain badly. Pastures are drying up and stock is being turned onto new seeding, which is the best in years. Corn and beans are very promising if we get rain soon. Threshing has begun, with grain yielding the best in years. There will be practically no peaches in this section and apples will be scarce. Pears, plums and grapes are plentiful.

Arenac Co., Aug. 7.—The weather is very dry and crops look quite badly wilted. The army worm destroyed the oat fields in many localities. Corn, potatoes and onions are looking good but need rain. Wheat is threshing out fine; oats good; hay medium. Apples are not an extra good crop in this locality. No peaches and few pears. Eggs 17c; butter 18@20c; butter-fat 24c; oats, old 40c; hogs, live 6@8½c; cattle not quite so high as earlier in the season.

Emmet Co., Aug. 5.—Precipitation for July was sufficient to promote a good growth of crops, especially where an efficient earth mulch was maintained. Oats and peas never looked more promising. Prospects good for potatoes; corn looking fine; hay crop very light. No threshing is done yet; all fruits promising.

Shiawassee Co., Aug. 6.—Weather is favorable for crops. Corn making a good growth, but very spotted. Potatoes promise a fair crop, being injured by the wet weather. Early cut meadows give promises of a good cloverseed crop. Onions are growing nicely. A few farmers have begun plowing for wheat. Grain threshing is under way. Wheat yielding from 30 to 43 bushels; rye 20 to 34; oats 30 to 45; barley 28 to 45 bushels per acre. Plenty of hogs and a few small herds of store cattle. The apple outlook is very poor. Farmers are holding on to their wheat crop looking for better market. Beans growing nicely, but spotted.

Pennsylvania.

Lancaster Co., Aug. 4.—Corn is good; potatoes are half a crop; beans and onions are good. There is no cloverseed. Wheat yielded 30 to 35 bushels per acre; oats 50 bushels. Hay was 75 per cent of a normal crop. Tobacco is good; apples and pears are scarce; peaches are plentiful. Blackberries 8c per quart; huckleberries 10@12c per quart; plums 5@10c per box; peaches \$1@2 per basket; gooseberries 10c per box.

Ohio.

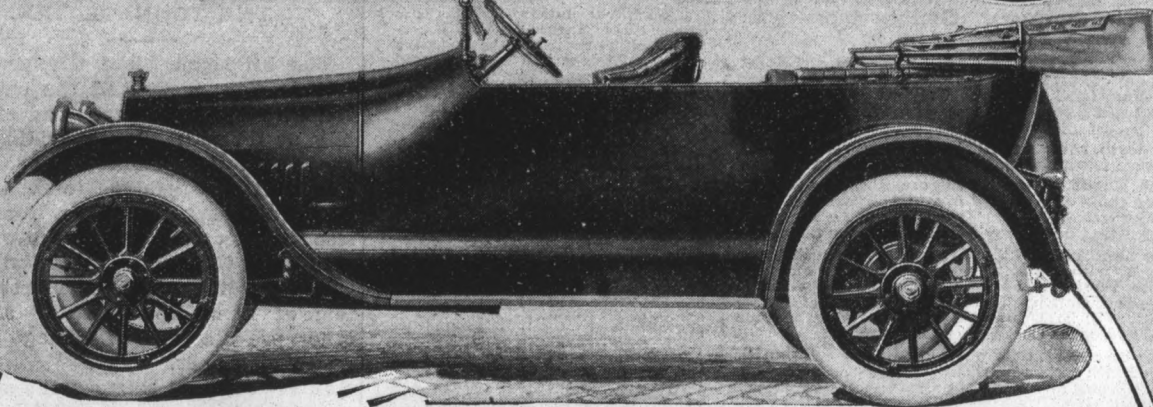
Guernsey Co., Aug. 4.—Corn is uneven, owing to dry weather; it is earing up and needs rain. Potatoes are about 75 per cent of an average crop. Wheat averaged over 15 bushels per acre; oats about 25 bushels; hay about one and a half tons per acre. Some little plowing is being done for wheat. The apple crop will not be as large as was expected. Butter 20c; eggs 20c; berries \$2@2.50 per bushel; early apples 50@60c per bushel. Coal mines have nearly all started to work, as operators and miners signed an agreement for two years. This is the dullest season the Guernsey valley has seen for many years.

Coshocton Co., Aug. 4.—We are experiencing the most severe drouth for years, having had only one small rain since May 10. Early planted corn will be average if it rains soon; late corn will likely be a failure. Early potatoes are a failure in most parts of the county; late ones will be good if the rains come soon. There will be quite a lot of cloverseed. Some farmers have a little plowing done. At present it is impossible to plow sod. The wheat is turning out better than average, but oats are away below average. The hay crop is below average. Early apples are plentiful and hard to sell. Late apples will be average with rains from now on. Farmers are hauling manure and cutting briers. (Continued on page 130).

NEXT WEEK.

Burton H. Allbee, who has spent 15 years in the New York markets, will tell Michigan Farmer readers something of the value of careful preparation of products for market in an article entitled, "Packing for Shipment."

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In fact there is no comfort, no "safety first" appliance, no accessory that adds to the enjoyment of automobile riding that will not be found in this car.

Over 95% of the car is made right in Mitchell shops which cover acres upon acres of space.

No detail is skipped—everything is weighed, judged, measured, tested with critical correctness which gives the great service quality for which the Mitchell is famous.

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In the meantime send for the new literature which tells the whole story. Ask for Book 109.

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Mitchell Light Four—two and five passengers—4 cylinders—35 horse power—116 inch wheel base—34x4 tires, \$1,250
Mitchell Light Four—6 passengers—same as above.....\$1,300
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But why not get the best possible out of both crops?

No crop returns better profit for the right fertilizer than wheat.

What is the right fertilizer? That depends on the soil and on what fertilizer you have used on it. The longer you have used phosphate the sooner it will pay you to balance it with

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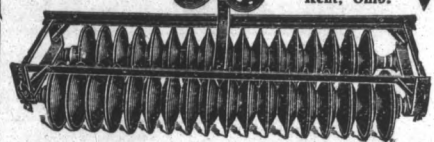
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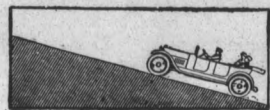
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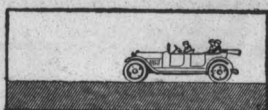
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Heavy Roads



Smooth Roads

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Hills.—You come to a sharp grade. With one lubricant you must drop to a lower speed. With another lubricant you can climb the hill easily. Only oil correct in body and quality will give you full power for the hills.

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For all types of Gasoline and Oil Engines. *Water cooled*—Use Gargoyl Mobiloil "A" in summer; use Gargoyl Mobiloil "Arctic" in winter. *Air cooled*—Use Gargoyl Mobiloil "B" the year 'round. **Tractors**—Use Gargoyl Mobiloil "B" the year 'round.



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MODEL OF	1910	1911	1912	1913	1914
CARS	Summer	Winter	Summer	Winter	Summer
Albion Detroit	A	Arc	A	Arc	A
Alco	A	Arc	A	Arc	A
American	A	Arc	A	Arc	A
Autocar (2 cyl.)	A	Arc	A	Arc	A
Autocar (4 cyl.)	A	Arc	A	Arc	A
Avery	A	Arc	A	Arc	A
Buick (2 cyl.)	A	Arc	A	Arc	A
Buick (4 cyl.)	A	Arc	A	Arc	A
Cadillac	A	Arc	A	Arc	A
Cartercar	A	Arc	A	Arc	A
Chrysler	A	Arc	A	Arc	A
Claire	A	Arc	A	Arc	A
Chalmers	A	Arc	A	Arc	A
Chase (air)	B	B	B	B	B
Cole	A	Arc	A	Arc	A
Cord	A	Arc	A	Arc	A
Dodge	A	Arc	A	Arc	A
Dodge (6 cyl.)	A	Arc	A	Arc	A
Ford	A	Arc	A	Arc	A
Franklin	A	Arc	A	Arc	A
G. M. C. Truck	A	Arc	A	Arc	A
Haynes	A	Arc	A	Arc	A
Hudson	A	Arc	A	Arc	A
Hupmobile (Model 20)	A	Arc	A	Arc	A
Hupmobile (Model 22)	A	Arc	A	Arc	A
H. H. C. (air)	A	Arc	A	Arc	A
Interstate	A	Arc	A	Arc	A
Jackson (2 cyl.)	A	Arc	A	Arc	A
Jackson (4 cyl.)	A	Arc	A	Arc	A
Jeffery	A	Arc	A	Arc	A
Kelley	A	Arc	A	Arc	A
Kelley (Model 48)	A	Arc	A	Arc	A
Kline Kar	A	Arc	A	Arc	A
Knox	A	Arc	A	Arc	A
Kirt	A	Arc	A	Arc	A
Lozier	A	Arc	A	Arc	A
Mack	A	Arc	A	Arc	A
Marion	A	Arc	A	Arc	A
Marion (2 cyl.)	A	Arc	A	Arc	A
Marion (4 cyl.)	A	Arc	A	Arc	A
Mercer	A	Arc	A	Arc	A
Mitchell	A	Arc	A	Arc	A
Moon (4 cyl.)	A	Arc	A	Arc	A
National	A	Arc	A	Arc	A
Oakland	A	Arc	A	Arc	A
Oldsmobile	A	Arc	A	Arc	A
Overland	A	Arc	A	Arc	A
Packard	A	Arc	A	Arc	A
Page Detroit	A	Arc	A	Arc	A
Pathfinder	A	Arc	A	Arc	A
Pope Hartford	A	Arc	A	Arc	A
Premier	A	Arc	A	Arc	A
Rambler	A	Arc	A	Arc	A
Regal	A	Arc	A	Arc	A
Reo	A	Arc	A	Arc	A
Saxon	A	Arc	A	Arc	A
Selden	A	Arc	A	Arc	A
Speedwell	A	Arc	A	Arc	A
Stevens	A	Arc	A	Arc	A
Studebaker	A	Arc	A	Arc	A
Stutz	A	Arc	A	Arc	A
Walter	A	Arc	A	Arc	A
White	A	Arc	A	Arc	A
Winton	A	Arc	A	Arc	A

Grange.

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

THE EXECUTIVE COMMITTEE AND THE TONNAGE TAX.

The Michigan State Grange at its last session, instructed the executive committee to prepare and initiate bills as follows: One providing for a change in the constitution so as to permit the Legislature to fix the per cent necessary for "The Recall" at less than 25, and also to render judges subject to the operation of the recall. One providing for the "Torrens System of Land Registration," and another providing for a tonnage tax on iron and copper.

In the interval between the sessions the executive committee is the State Grange, this being true, its relation to the rank and file of Grange membership throughout the state is of a very intimate nature, and the story of its deliberations, the conclusions reached and the plans formed for carrying its program into action, all these belong of right to the entire membership.

There have been a number of meetings of the committee this year, and partial reports of each have appeared in the press of the state. The people generally, I think, have some idea of what has been going on, but considering the interest in one or two of our propositions, it has seemed to the writer that a letter upon this subject might be of interest to the readers of the Michigan Farmer.

The bill providing for the Torrens System is finished and will soon be distributed with accompanying petition blanks.

We confidently predict that the public generally will approve of this bill. So far as we know, it is the simplest, most workable measure of this kind yet published, and its provisions require less expense to be put into operation than is the rule generally.

The matter of "The Recall" was dropped for the present because the committee realized after some consideration that it had undertaken a big job, even with this subject eliminated.

A large stock company has been organized which it is hoped will take over the present Grange Life Insurance Company.

The executive committee has made a contract to this end which provides that the new company shall pay to the Michigan State Grange one per cent of the renewal premiums to the amount of three thousand dollars per year, in consideration of the money already expended in promoting the Grange Life Insurance Company.

But to return to the tonnage tax. During the month of April, the legislative committee investigated the matter at some length and the more they investigated it, the larger the subject grew. Later, the attorney-general rendered an opinion which limited our possibilities somewhat. Then it was decided that to tax all iron ore at the same rate per ton would be unfair, as that product varies so much in value. Accordingly five classes, two of Bessemer and three of non-Bessemer ore were made and rates fixed.

A bill was then drawn, including this feature. The bill provided for a tax of one-quarter of a cent per pound on refined copper and the rates fixed upon the different classes of iron ore were equal to a uniform rate of about seven and one-half cents per ton.

This tax was to be levied April 1 of each year, upon all iron ore and upon all copper mined during the year preceding.

Now, iron ore is not shipped in the winter, and so it happens that a large quantity often results by the time spring opens again, and shipments begin. It is also the practice to carry

Farmers' Clubs

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

A TRIBUTE TO THE FARMERS' CLUB IN MINNESOTA.

The following tribute is rendered to the community benefit of a local Farmers' Club in Minnesota, by the agricultural instructor in the local township high school:

"The Turtle River Township Farmers' Club which centers around Bass Lake is to be congratulated. The Club which was organized last August by the local agriculturist, certainly has a corps of officers and members who are in for doing things. When these people first met as a Club they were strangers to each other. The women had seldom, if ever, met before. They now meet once a month and each one brings something to eat so that a splendid dinner is served. The women brushed elbows in the preparing of the dinner while the men talked of things which would improve the community and increase farm profits. Outside talent is invited to the meetings and new ideas and suggestions are received. The members are beginning to get acquainted and community interest is growing.

"This is only one of the active Clubs in Beltrami county but after seeing what it is helping to bring about there can be no doubt left in the mind of the most skeptical as to the value of organizing these Clubs. Alfalfa culture, community interest, better farming, a rural mail route, and a telephone line, are some of the direct results, yet the Club is only five months old."

over certain ores from year to year, waiting for a more favorable market.

Varying quantities of copper might also be on hand in the spring, depending upon the state of the market and the judgment of the operator as to the best time to sell. It occurred to us in time that all this personal property would disappear from the assessment rolls if our bill should become a law, and so the tax collected from this source for local purposes would have to be assessed against the remaining property. The effect of this would be to increase the tax paid by every interest outside the mines. This increase would fall upon the business man, the owner of a home, large or small, and upon every pioneer who owned his little home in any county where mining was carried on to any extent.

At first it was thought by some of our committee that this was but a small matter, but investigation proved that the tax levied upon this kind of property this year, will amount to something like four hundred thousand dollars.

The present plan is to return to the localities a sum of the tonnage tax collected equal, in a general way, to the tax which they would derive from that portion of the property taken from the assessment rolls by the operation of the new law. Such an arrangement would be no more than fair, and must meet the approval of every honest man when he comes to understand the reason for it.

Before this letter reaches the reader, the whole matter may be settled, and the result be learned from some other source. I only wish to say, in closing, that in my judgment, this is the most complicated matter which the Michigan State Grange has ever undertaken to handle. That each member of the committee has acted honestly, conscientiously and to the best of his knowledge and ability.

This matter has been long drawn out. It has necessitated a number of meetings of the committee, and the expense of these meetings is considerable; but to have completed this bill and initiated it without thorough investigation and much careful thought, would have been to forfeit the confidence of those who elected us, to have wronged the state and to have committed a crime against that part of our commonwealth in which the mines are located.

W. F. TAYLOR.

GO TO THE Greater Michigan Fair FOR Greater Michigan Farmers AT GRAND RAPIDS September 2-3-4-5-6-7

You will see there—

Blooded Michigan Horses

Pedigreed Michigan Cattle

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Prize Winning Michigan Swine

Finest Michigan Poultry.

**Excellent Music :: Fine Racing
Clean Side Shows**

Best of Free Attractions. Fireworks Every Evening.

TAKE YOUR FRIENDS ALONG.

GRANGE DAY, Thursday, September 3rd.

GLEANERS DAY, Friday, September 4th.

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Veterinary.

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

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

Collar Boil.—One of my horses has a collar boil on shoulder which suppurated and opened; have applied lard and stove blacking without good results. M. A. Bruce Crossing, Mich. You applied wrong remedy. Inject one part tincture iodine and five parts of water into abscess twice a day. Also apply equal parts oxide of zinc, boric acid and powdered alum twice a day. Remember, you should give him rest until his shoulder gets well, or remove a portion of collar to relieve pressure.

Catarrhal Fever.—For past three weeks my yearling colt has discharged mucus from nose and occasionally coughs. I wish you would prescribe a remedy that can be given in feed, for I don't believe I can drench her. W. T. J. Baldwin, Mich.—Give your colt a teaspoonful of baking soda and 20 grs. of copperas at a dose in feed two or three times a day. Also give him 30 drops of Fowler's solution at a dose three or four times a day.

Ringbone.—I have applied sulphuric acid to ringbone and now the sore refuses to heal. Have applied ointment but she keeps biting wound and keeping it raw. C. B. V., Richland, Mich.—Sulphuric acid dissolves lime salts and sloughs and destroys the skin; furthermore, it is almost impossible to heal a wound of this kind during hot weather. Apply one part iodoform and seven parts boric acid, covering sore with either iodoform gauze or oakum. If the wound itches much, stand foot in bichloride of mercury and water, one to 1000 parts, twice a day.

Bruised Udder.—My cow met with an injury affecting one quarter of udder, but now three quarters of bag is inflamed and the injured spot is now quite perceptible. A. A. L., Willis, Mich.—Apply tincture of iodine to the bruised parts and if it is soft open it allowing pus to escape, then inject a small quantity of tincture iodine into abscess daily. Give her a dessert-spoonful of powdered nitrate of potash at a dose in feed two or three times a day.

Knuckling.—My eight-year-old mare upset ankle three different times and I would like to know what I had better do for her. C. M., Newaygo, Mich.—The ligaments of fetlock will perhaps never be as strong as they once were; however, she will be benefited by clipping off hair and applying one part powdered cantharides and six parts fresh lard every ten days. This will blister and strengthen the ligaments of joint. She should be shod level and shoes made not too short.

Capricious Appetite.—We have a flock of Rhode Island Reds that are not quite right; bowels appear to be quite loose, and as soon as the bowels of one move the other fowls seem to dig in this filth. Their egg yield has diminished very much lately. These hens are parked up, but get such green food as grass and weeds that grow in garden. W. W., Chelsea, Mich.—For want of a sufficient variety of feed your chickens have an abnormal craving for filthy things. Mix some ginger, ground gentian and baking soda in their food every day; a grain or two of each of these will do them good.

Breeding Question—Milk Yield.—Is it true that if a cow has twin calves of different sex that the heifer calf will not breed; also, if a cow loses one-quarter of her bag will she also give that much less milk? A. S., Lansing, Mich.—There are cases on record where they have bred, but these cases are very rare. When a cow loses one-quarter of her udder and the disease is strictly confined to this quarter, she will usually give four-fifths instead of three-quarters as much milk as formerly. In some cases cows have been known to give almost as much milk out of three quarters as four, when they were milked three times a day.

Ringworm.—I have two head of young cattle which have lately developed sores on head and neck, but appear to be healthy and well. W. R., Napoleon, Mich.—I am inclined to believe your cattle suffer from ringworm



**BOOK ON
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H. CLAY GLOVER, V. S.
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Gold Coin Seed Wheat, cleaned, bald, 1913 crop over 43 bu. per acre. \$1.40 per bu. No. A bags free. Muncietown Stock Farm, Flat Rock, Mich.

FOR SALE—Gray 2-year-old Percheron Stallion, weighing 1700 pounds, 24 months old. Price, \$500. M. A. BRYAN, Okemos, Ingham Co., Mich.

Registered Percherons, BROOD MARES, FILLIES AND YOUNG STALLIONS at prices that will surprise you. L. C. HUNT & CO., Eaton Rapids, Michigan.

FOR SALE—Registered weanling Stallion Mare, Write, R. S. HUDSON, Michigan Agricultural College, E. Lansing, Michigan.

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HERD FOUNDED IN 1900. Strains represented consist of Trojan Ericas, Blackbirds and Prides, only. Black Quality type, a bull of rare individuality and merit. Heads the herd.

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We have for sale imported and home bred Bull Calves, guaranteed free from tuberculosis. They are fine and have had the best of care. Send for sale list, or what is better for both parties, come and see them.

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Guernseys—Famous May Rose Strain. A select herd. Tub. Tested. Several A. R. O. Cows. J. K. Blatchford, Windermere Farm, Watervliet, Mich.

We have for sale a number of pure Guernsey cows, heifers and bulls, also Berkshire hogs.
VILLAGE FARM, Grass Lake, Michigan.

HEREFORD BULLS 2 six months old 1 13 months old.
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OFFERS A SPLENDID YOUNG

Holstein Bull

His dam a 21.27 lb. 3-year-old. His three nearest dams average 25.64 lbs. butter in 7 days.

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10 A. R. O. cows, YOUR CHOICE of my entire herd. 4 service bulls, one to three years old. 5 very choice bull calves. If you are wanting Holsteins, you had better take advantage of this opportunity.

L. E. CONNELL, Fayette, Ohio.

Holstein-Friesian Breeder—The best families of the breed represented. D. D. AITKEN, Flint, Michigan.

FOR SALE—CAR OF HIGH GRADE HOLSTEIN YEARLING HEIFERS. Tubercular tested. F. B. KIMBALL, Orland, Ind.

HOLSTEINS & BERKSHIRES—Stock guaranteed and priced reasonable. B. B. REAVEY, Akron, Mich.

THE THREE BEST HOLSTEIN CATTLE
Poland China Hogs and S. C. White Leghorns.
FOREST SIDE STOCK FARM
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Holstein Cows I have on hand 100 high grade Heifers, age 6 mo. to 2½ yrs., lots of quality and in good condition. Also a fine selection of full Matured cows. Arthur Birkholz, New Buffalo, Mich.

Very Choice Holstein Bulls
At Farmers Prices.
Long Beach Farms, Augusta, Kalamazoo Co., Mich.

BUY YOUR YEARLING HOLSTEIN BULL EARLY. Every year the supply is short. I offer a large, straight, heavy boned, handsome fellow that will be a year old Dec. 2d, in time to breed for September cows. \$95 delivered, with all papers. Robert W. Fay, Mason, Mich.

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JONES & LUTZ, Oak Grove, Michigan.

Holsteins—11 High Grade Holstein heifers from Heavy Milkers. Also Registered Bull. Price for the bunch \$1000 F. O. B. J. C. BARNEY, Coldwater, Mich.

BIGELOW'S HOLSTEIN FARMS
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Registered Holsteins.

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FOR SALE—At reasonable prices Registered Holstein Friesian Young Sires of world's record breeding. HATCH HERD, Ypsilanti, Michigan.

REGISTERED HOLSTEINS—Herd headed by Albina Bonte Butter Boy No. 93124, whose dam has semi-official yearly record, Butter 802 lbs. Milk 18622 lbs. as a 2-yr.-old. No stock for sale. W. B. Reader, Howell, Mich.

\$100 BUYS express paid, high record, registered eight months old HOLSTEIN BULL 25-lb. sire, King Segis and Hengerveld De Kol blood. RIVERVIEW FARM, R. No. 8, Vassar, Mich.

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NOW IN SERVICE—A Son of the \$50,000 sire King Segis Pontiac Alcartra,
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I would sell two or three young cows. Come and see them. A herd of 20 to choose from.
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You can buy cows of high producing value or you may develop them. The bull is the most important factor in development. A thoroughbred Jersey bull pays big returns on his cost every year. Let us send you some Jersey facts.

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(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed.
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JERSEYS—YEARLING BULL READY FOR SERVICE. Also bull calves.
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BUTTER BRED JERSEY BULLS
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Silver Creek, Allegan County, Michigan.

DAIRY BRED SHORTHORNS—2 young bulls 7 mos. old for sale. Price \$100 and \$125 each. J. B. HUMMEL, Mason, Michigan.

Shorthorns \$500 buys two cows three and four yrs. one yearling heifer and two calves six months. A. A. PATTULLO, Deckerville, Michigan.

Shorthorns—Bulls and females, all ages. Tell just what you want. Also P. C. Hogs, Oxford Sheep. C. W. Crum, Sec. Cent. Mich. Shorthorn Ass'n., McBrides, Mich.

SHORTHORN CATTLE
W. W. KNAPP, Howell, Michigan.

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IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Sheepman of the East" I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. Oxford, Shropshire, Ram-bouillet and Polled-Delaines.
PARSONS, Grand Ledge, Michigan R 1

Oxforddown Yearlings and Ram Lambs
M. F. GANSSLEY, Lennon, Michigan.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

HOGS.

Durocs & Victorias—A few extra Sept. Boars and bunch of Gilts for 1st of April farrow.
M. T. STORY, Lowell, Mich., Citizens Phone 55.

O. I. C. March, April and May pigs; the big, growthy kind that always makes good.
LEMUEL NICHOLS, R. F. D. No. 2, Lawrence, Mich.

Chester Whites—Reg. Bred Gilts—Orders taken for spring pigs and Collie pups. Holstein Bulls at Bargains. RAY B. PARHAM, Bronson, Mich.

O. I. C.—Take orders for spring pigs. One 8 mo. fine type Jersey Bull. Price reasonable.
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O. I. C.—Choice pigs, two to four mos., the long bodied kind. One choice gilt bred for August. ALVIN V. HATT, Grass Lake, Michigan.

O. I. C.—Bred sows and spring pigs, large and growthy. Pairs and trios, not akin. Write your wants.
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O. I. C.—gilts bred for June and July farrow. Also Spring pigs. Serviceable boars all sold. I pay express. G. P. ANDREWS, Dansville, Mich.

O. I. C's All sold. Would be pleased to book your order for spring pigs.
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O. I. C's—Large boned, shipped on approval, pairs not akin, registered free.
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Choice Bred Chester Whites. Spring pigs either sex pedigree furnished. Sent C. O. D. subject to examination, for prices and breeding. Address. John Gintling, Bronson, Mich.

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O. I. C's—Growthy spring boars. Satisfaction Guaranteed.
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O. I. C's—I have a fine lot of last OOT. GILTS, bred. Weight 300 to 350. Also last spring BOARS. Half mile west of Depot, Nashville, Michigan. OTTO B. SCHULZE.

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Spring Pigs and Yearlings

From Prize-Winning Stock

Special Prices for 30 Days.

Write, or better still, come.

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and if you will apply one part iodine and ten parts lard every day or two they will soon get well. Give each of them a tablespoonful of hypo-sulphite soda at a dose in feed twice a day, or it may be given in water as a drench.

Rheumatism.—For the last four weeks my five-year-old mare has been showing stiffness in left fore leg and left hind one; but she showed lameness in front leg first. None of the joints are swollen. O. P. B., Warsaw, Ind.—Give her 2 drs. of sodium salicylate and 2 drs. nitrate of potash at a dose in feed twice a day.

Indigestion—Collar Boil.—My son bought a 12-year-old mare that is shamefully thin on account of over-work and starvation last winter. She also has a large collar boil or soft callous on point of shoulder which I would like to get rid of; furthermore, I would like to build her up in flesh. W. H. S., Ferry, Mich.—Give your mare 1 dr. fluid extract nux vomica, ½ oz. of Fowler's solution and ½ oz. of fluid extract gentian at a dose two or three times a day. The bunch should be cut out of shoulder, then apply one part iodoform and nine parts boracic acid to wound twice a day.

Feeding Rusty Straw.—I have some oat straw that is quite rusty and I would like to know if it can be fed with safety to horses. J. A., Sparta, Mich.—If they do not eat too much of it, it will not prove harmful to horses.

Stifle Lameness.—I have a cow that has been lame in stifle joint for the past three months and blisters fail to help her. G. H., Kent City, Mich.—Either apply one part red iodide of mercury and four parts lard every week or ten days, or sell her to the butcher.

Enlarged Gland.—I have a colt two months old with loose movable bunch in throat. M. M., Emmet, Mich.—Give colt 5 grs. of potassium iodide at a dose twice a day and apply tincture of iodine to bunch twice a week.

Colt Walks on Toe.—I have a colt three months old that walks on toe of fore foot and I might add he was born in this condition, but seems to thrive. S. K., Camden, Mich.—The tendons of fore legs are perhaps too short and if your Vet. will divide them and allow his heels and fetlock to drop, he might get well. Drugs will not help in a case of this kind. In performing the operation cleanliness must be observed; furthermore, a very small opening should be made when tendons are cut off.

Chronic Cracked Heels—Stocking. My ten-year-old mare got scratches last fall and it took a long time to heal sores; since then her legs stock badly, but with exercise nearly all this stocking disappears. C. F. D., Bridgman, Mich.—Apply equal parts glycerine and tincture benzoin to the scaly parts of heel and give her ½ oz. of Fowler's solution at a dose three times a day; also give her 1 dr. of ground nux vomica and 2 drs. of powdered nitrate of potash at a dose in feed twice a day.

Inflamed Leg.—I have a nine-year-old mare that was bred July 1; a few days later she broke out of pasture lot and injured leg so that it has been swollen ever since. A. V., Baldwin, Mich.—Give her a teaspoonful of powdered nitrate of potash, a teaspoonful of powdered rosin and a teaspoonful of powdered buchu leaves at a dose three times a day and apply one part alcohol and two parts warm water to swollen leg twice a day.

Stifle Cap Slips Out of Place.—I would like to have you give me a cure for my colt; his stifle seems to slip out when in stable and when obliged to move over in stable, he appears as if his foot was fastened to floor, and after moving about a few seconds, the cap slips into place with a sort of jerk, then he moves all right. J. G., Gratiot Co., Mich.—Clip hair off stifle and apply one part powdered cantharides and six parts fresh lard every ten days and he will get all right.

Stones in Third Stomach.—One of my cows died a few days ago which we treated for indigestion, but after death I cut her open and found a large number of stones in the third stomach which we supposed might have caused her death. L. V. I., Richmond, Mich.—The foreign bodies found in stomach doubtless caused her death and in order to dislodge them from other cow, if she has any, give her either epsom salts or raw linseed oil.

E. K. L., Vicksburg, Mich.—The food and water supply of your cows is doubtless causing them to give less milk and of poorer quality; therefore, you had better change their food supply and perhaps their water supply.

Swollen Scrotum.—I have a ten-weeks-old pig that was castrated five weeks ago that has large bunch in scrotum which I thought full of water, but when lanced very little fluid ran out. F. R., Marion, Mich.—Rub swelling with spirits of camphor twice a day and give him 20 grs. of powdered nitrate of potash at a dose twice a day.

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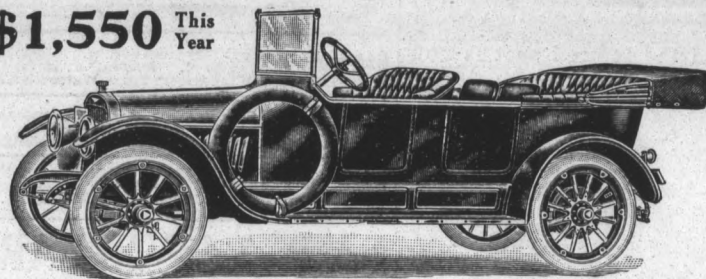
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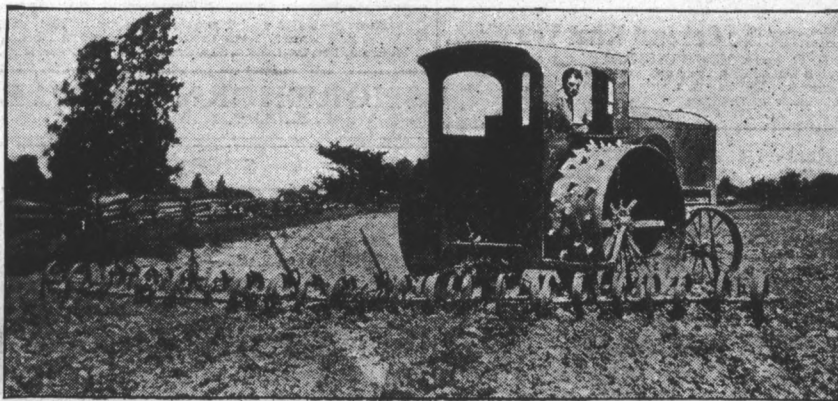


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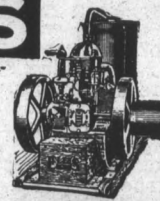
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