

# MICHIGAN FARMER

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## Short-Seasoned Crops for Michigan

By J. F. COX, Professor of Farm Crops, M. A. C.

THE recent heavy frost of June 24 did great damage to beans, corn and potatoes throughout Michigan. In many sections of western Michigan total failures of these crops are reported. At the present time seed beds are in excellent condition for planting and should rain occur within the next week or two crops planted now on land where frost has done serious damage will secure a rapid start. The enemy has gained the first-line trenches but there is still time to drive him back. There are many crops which can yet be seeded with assurance of success.

Beans can be planted early in July and will mature in a favorable season. Potatoes can also be planted as late as the first week of July throughout southern and central Michigan with fair assurance of maturing the crop. Corn for silage purposes will give good yields if planted immediately, and sowed corn either drilled or broadcasted between now and July 15 will give a heavy yield of nutritious fodder. It seems particularly advisable under present conditions for stock men to return to the old practice of planting sowed corn, drilling or broadcasted at the rate of a peck to a half bushel per acre. Heavy yields of fodder or coarse hay can be secured by this practice.

Buckwheat will mature grain in sixty to seventy days. Is adapted to a wide range of soil and will germinate under extremely dry conditions. The usual seeding is three pecks per acre drilled or broadcasted. As a catch crop and crop to seed where others fail, buckwheat has long been considered the most reliable, but unfortunately the seed supply is somewhat limited though seed can at present be secured.

Millet is a most dependable forage crop for early July seeding and will furnish good yields of a useful hay crop. The seed of the common millet is most plentiful, though some Golden is available. From thirty to forty pounds of seed is drilled or broadcasted.

Sorghum is available and is a useful crop for forage purposes. It is another crop which will start under dry conditions.

In fact, best results will be secured by Early Amber variety of sorghum is best adapted.

For silage, sorghum may be drilled in rows thirty-six to twenty-four inches apart at the rate of ten pounds per acre. It is cultivated and put in the silo like corn. For coarse hay or fodder purposes drill or broadcast from forty to sixty pounds per acre. The Rape may be seeded throughout the

summer season. It furnishes excellent hog, sheep and cattle pasturage. The Dwarf Essex variety is by far the best, drilled from two to four pounds per acre in rows twenty-two inches apart and cultivated or broadcasted at the rate of four pounds per acre.

Flat turnips may be seeded throughout July and drilled or broadcasted at the rate of four pounds of seed per acre, or planted in rows twenty to thirty inches apart using two or three pounds of seed and cultivated. Larger yields will be secured by drilling in rows.

### The Seed Supply.

There is ample supply of early Delaware seed corn of high germination held in the war board seed reserve at Grand Rapids, with the A. J. Brown Seed Company. This corn may be secured promptly on order from the Brown Company. at \$5.00 per bushel.

Several thousand bushels are held in this reserve. Michigan seedsmen also report considerable Red Cob ensilage corn and other varieties.

The seedsmen report a good supply of millet, rape and Amber sorghum. It is doubtful, however, whether there is enough buckwheat to furnish the great demand, though at present buckwheat seed is available. The supply of soy bean seed on hand is quite large, the varieties, however, being southern varieties which will furnish a large supply of forage but which will not mature seed. Those who act promptly can still plant beans and buckwheat for grain purposes and corn for silage.

Buckwheat, millet, rape, sorghum, turnips, sowed corn, soy beans for hay or silage, may be planted as late as July 15.

Editor's Note.—Reports from all parts of the state indicate that low ground crops were badly damaged in most sections by the recent frost. The most serious damage to field crops seems to have occurred in western Michigan from Oceana county down, the frosted area extending as far south as central Indiana. This will be a serious handicap to the farmers in the frosted area, but the loss will be minimized by growing substitute crops on these fields.

### Are Yours Two or Six-Finger Hens?

Space the width of two fingers between the pelvic bones and breast means "nothing doing."

Six finger space means egg capacity and "something doing."

A flexible "feel" to this portion of the hen's anatomy means quality and high production. A hard or fatty "feel" means lack of pep in the egg bag.

Keep your good "feeler," three to six-finger hens, it means more money for you. Turn to page three to learn how.

### Everybody Works with Father



A Scene on a Historic Porch, Familiar to Our Older Readers

THE accompanying photograph somehow looks kind o' natural to nearly every reader of the Michigan Farmer, and especially at this time of the year when haying is on.

These are exceedingly busy times on the farm, even for the water jug with its cob seal. The old grindstone is now in its glory and almost every per-

fect day sees dad bearing down on the old scythe on top of the gritty stone and Tom and Sally wearily lifting and pushing on the handle thereof.

About this time the supply of perspiration seems to be away ahead of the demand and the farmer boys furnish a lot of the briny stuff that gets into their eyes and goes to waste while they wearily turn the

grindstone and steal a quick glance sidewise at dad's grim features and wonder where he gets all his muscle.

But it's different when Sally presides at the old grindstone handle. Father looks pleasant and the scythe blade is held more gracefully and reposes more lightly on the top of the stone, and it takes longer to

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## CURRENT COMMENT.

In another column of this issue will be found a letter asking for the editorial discussion of the action of the Federal Farm Loan Bank for this district in refusing a loan on the ground that the land in question did not contain sufficient area to be properly designated as a farm. In order that this proposition might be discussed intelligently, we corresponded with a member of the Federal Farm Loan Board at Washington, and interviewed the secretary of the Federal Land Bank of St. Paul, with a view of securing an accurate knowledge of the policy laid down in this regard, and the reasons for its establishment.

The striking result of these investigations was a better realization of the task which has confronted the Federal Farm Loan Board and the federal land banks in developing this branch of government service from the foundation. When it is remembered that the federal land bank for this district has built its organization and made a total of more than \$16,000,000 in loans during its first fiscal year, something of the enormity of the task will be appreciated. At the outset it was necessary for the Federal Farm Loan Board to formulate rules and regulations under which the business would be transacted in a uniform manner by the federal farm loan banks of the several districts.

In the matter of the area upon which a loan would be made, the board took the view that it was better to submit the farm to an economic test rather than to determine the matter from the standpoint of acreage alone. The ruling of the Federal Farm Loan Board on this point is as follows:

### Area of Farms.

As a basis of determining what area constitutes a farm for loaning purposes the board requires the following test:

First. Generally: The farm must be of sufficient area to yield at the hands of an ordinarily capable farmer, putting it to the use to which it is generally adapted and using average methods, an income sufficient to maintain the family of the applicant and

discharge the interest and amortization payments.

Second. Specially: Where through intensive farming or the practice of a specialty a sufficient income has been regularly derived from a tract deficient in area for ordinary farming, or where the application of the prospective borrower shows that he is by experience capable of producing such an income from such a tract, such area may be accepted as sufficient, provided the land has a stable and permanent market value sufficient to warrant the loan applied for. This ruling does not apply to fruit and orchard lands which have already been the subjects of definite ruling by this board.

In the investigation above noted it was clearly brought out that in the making of a loan on the amortization plan which will not mature until the expiration of a period of thirty-six years, an economic test as above outlined may be more properly applied, and is more essential from the standpoint of safe banking than would be the case with a short-time loan which in all probability would be discharged by the borrower himself, whereas in a long-time loan the completion of payments may devolve upon a succeeding generation.

The difficulty encountered by the Federal Farm Loan Board in outlining a satisfactory policy in relation to the area of a farm upon which federal loans will be made has been more difficult because of the fact that the rules inaugurated must be uniform in character, applying alike to all sections of the country, notwithstanding the fact that conditions vary greatly in different states and different sections of the same state. This, however, is a most important question in its relation to the best development of American agriculture, and the application of this economic ruling will undoubtedly be more or less modified through the experience gained as the system becomes more firmly established and more generally used by the farmers of the country.

There is little doubt but that the great bulk of mortgage loans made by American farmers will ultimately be made through the federal land banks at a very pronounced saving of interest, and to the great advantage of agriculture as a business. Undoubtedly as this business grows, defects will be found and corrected in the law itself, as well as in its administration, and the service will thus continually become more satisfactory to its farmer patrons. In the meantime, constructive discussion of the problems involved should be welcomed by all concerned.

Notwithstanding the fact that the government has fixed a price on this year's wool clip, and has provided the machinery for handling it, there still remains considerable confusion in the public mind with regard to the prices which wool growers should receive for their product.

This is in large measure due to the fact that the price established is made on the scoured basis, which makes the price adjustment on varying grades of wool a matter of judgment rather than of absolute certainty. Notwithstanding the fact that the profit which may be taken by the officially designated receivers of wool for the government and by local buyers has been established there is a tendency on the part of wool buyers everywhere to play safe even though they will not be permitted to retain any profit in excess of that allowed by the government order.

In order to obviate the tendency on the part of buyers to hold country prices down, the government has advised the pooling of clips by farmers and the shipment of wool direct to the designated government receivers. This would save to the seller the local dealer's profit of one and a half cents per pound, and insure him the established

government price as determined by a government inspector at the receiving point. Small producers will in most cases not be able to pool their clips in this manner. They will be obliged to make local shipments to the designated receivers or sell to local buyers. The latter will be the easier course in most cases.

Realizing this, local buyers are active and have made a good many purchases at interior points at prices averaging around sixty-five cents per pound for best Michigan fleece wools. In some localities sales have been reported as high as sixty-seven cents per pound, while in other localities growers are holding for seventy cents per pound, which some good judges believe should be about the price to the grower for the best grades of Michigan fleece wools.

We are in receipt of a copy of a letter received by one Michigan wool grower from the dealer to whom he has been accustomed to sell his wool. In this letter he states, "The price for good long staple wool three-eighths or one-quarter is sixty-five cents, no more, no less. Short staple and black must be discounted. This is the government price, so you cannot make anything by holding it." From our information, we believe this letter to be entirely unwarranted and misleading. While sixty-five cents may be a fair price for this wool, it is not the exact established government price, which as above noted, is made on a scoured basis, and cannot be determined to an exact fraction even by an expert. This letter is being forwarded to Prof. Geo. Brown, of the Agricultural College, who has been appointed by the Chief of the Wool Division of the War Industries Board to cooperate with the Board in its work of collecting the Michigan wool clip, and we hope to publish a statement from him with regard to this matter at an early date.

The Chief of the Wool Division of the War Industries Board advises us that the needs of the Quartermaster General are such that it is desirable to have the wool clip moved as rapidly as possible. It is, however, equally desirable for wool growers to secure the full government price less the cost and designated profit for handling. Our readers will be kept advised of the most accurate information as to what that price should be for the different grades of Michigan wool as soon as exact knowledge on this point is available.

A large delegation of northern Michigan farmers and potato growers met at Traverse City with a large number of county agricultural agents and Field Agent in Marketing, Hale Tennant, of the M. A. C., to take the initial step toward the organization of a comprehensive plan for marketing Michigan potatoes and other food products. The plan outlined follows somewhat closely the lines of successful marketing associations in other states, of which the California Fruit Growers' Exchange is a notable example.

The plan calls for the organization of local shipping associations in each county, and for one or possibly two central agencies or exchanges which will keep in touch with all markets and act as selling agencies for the local organizations of producers. Under the plan all farm bureaus would report the holdings of potatoes or other produce in their various sections to the central exchange, so that full information may be available in regard to supplies as well as demand. Michigan products would be standardized and advertised in the markets of the country as a step toward stimulating their movement marketward.

Under the plan as outlined, the producers' organizations are to be of a strictly cooperative nature not organ-

ized for profit, and as such will be free to adopt such grading rules as they may deem best for the Michigan product, since they would enjoy the producers' exemption from grading rules established for dealers by the Food Administration. This should prove the most practical solution yet advanced for the settlement of the much mooted grading question in this state. The plan also offers greater possibilities for the growers than any other which has yet been advanced, inasmuch as it would enable the marketing of their products in large volume under competent business supervision at a minimum cost and with the elimination of middlemen's profits at the point of origin at least.

Further facts and details with regard to this plan will be presented through these columns as they are developed. Every potato grower in the state should watch for them and study them carefully, to the end that he may be fully informed as to the possible benefits which may be derived from such an organization of state-wide scope.

Pursuant to the authority granted it, as noted in the last issue, the

United States Grain Corporation has made an adjustment of the minimum price of wheat to guarantee the western growers \$2.00 per bushel for their product on board cars in the inter-mountain territory.

The congressional deadlock on the matter of wheat price adjustment continues. On July 1, the first day of the new fiscal year, the senate by a large majority refused to yield to the house opposition to the senate amendment to the annual agricultural appropriation bill providing for a minimum guarantee of \$2.50 per bushel for wheat. This amendment was adopted by the senate last March by a vote of forty-nine to eighteen, and the recent vote against the abandonment of the amendment was forty-six to nineteen.

It is impossible to predict what compromise may finally be effected, but the success of the senators from important wheat growing states in their fight against the defeat of this amendment would seem to insure that some congressional action will result, providing for a readjustment of the minimum guarantee on wheat, unless a general agreement is reached for a price adjustment by the Food Administration which will satisfy producers.

In the meantime, the new wheat crop is beginning to move in the southwest at prices ranging two to four cents above the government guaranteed price, due largely to the superior quality of the product, much of it grading No. 1 and testing as high as sixty-two and a half pounds per bushel.

A good deal of interest is being taken in club work by the boys and girls of Michigan.

In one community which recently came to our attention, a pig club is being organized. The local director of the work had great difficulty in securing pigs for his boys. Whether this was due to a scarcity of pigs in the community or to the cupidity of their owners in not desiring to sell them to the boys for this work at a nominal price we did not ascertain. Finally, through the persistence of the director and the cooperation of a public spirited farmer in the community, enough pigs were secured to enable all the boys who qualified to go on with the club work.

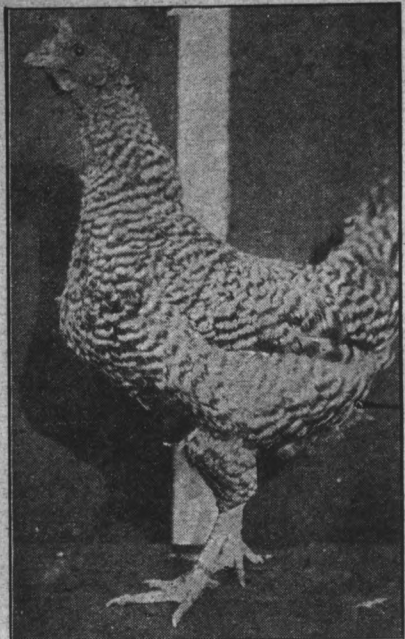
There is no line of educational work in any rural community which promises more for the future of the agriculture of that community than this boy and girl demonstration club work. The public-spirited farmers of any community will be well repaid if they will interest themselves in this line of work and aid it in every possible way.



# How to Pick the Layers In the Farm Flock

By E. C. FOREMAN

## A Simple and Effective Method of Selection which Enables Every Owner of Hens to Eliminate Non-Producers



In her working clothes. This hen laid 256 eggs in one year and is the mother of the prize pullet in the Mission Egg Laying Contest.

**T**HE average hen entered in the present "Missouri Egg Laying Contest," has paid a profit of \$2.09 above feed cost during the first seven months, or approximately \$3.60 per year. The leading pen of five hens gave a profit of \$17.39 in seven months, \$3.48 each, or \$6.00 per year.

With the above facts confronting us, why, then, is there such a lack of enthusiasm in the poultry ranks, and how are we going to correct this condition? It is true the price of grain has advanced without the corresponding increase for poultry products, but money can be made and is being made by those that know how. What, then, is the solution? Intelligent culling must be applied, and a grading-up process inaugurated on all the farm flocks throughout the state.

### Over 20 Per Cent Non-producers.

Every farm has its slackers as well as workers. On the average farm from twenty to forty per cent of the flock should be culled and consigned to the meat market. Due to lack of system and knowledge most farmers have been marketing their best layers and retaining the "big, fine looking hens," along with those that have been "family pets" for the last five years. We need not labor under delusions any

longer. There is too sharp a contrast between the high and low producing hen, for us to grope along blindly. Two methods of selection will be dealt with: (1) summer and fall selection; (2) the quality test.

By intelligent culling we mean the elimination of all slacker hens, without any reduction in the egg yield. It also means higher flock averages, lower grain and labor bills, and greater profits.

### More About the Two Hens Pictured.

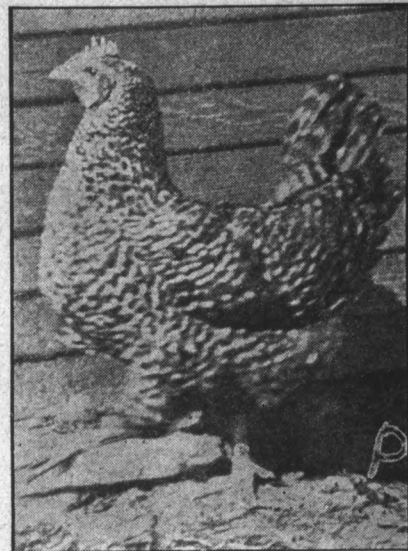
The two Barred Plymouth Rock illustrations are of high and low producing hens. One a 256-egg hen, the other a zero hen. The heavy producers show breeding and also the effects of the strain of manufacturing thirty-two pounds of eggs. Her legs and beak have lost their deep yellow color, and are bleached almost white. Her plumage is faded and ragged. The zero hen is in full millinery display, never did a tap of work and don't intend to. She is the kind most people retain—nice lustrous plumage, bright yellow legs and beak, not a broken or soiled feather in her make-up. This feeding-out process is explained by the

fact that all yellow-skinned varieties of poultry carry a surplus of yellow pigment or fat previous to the time they start laying. At that time their shanks and beak are bright yellow. When production starts, the supply of fat is diverted into making egg yolks and a gradual fading of these parts results. A heavy producer will in every case show the effects of this physical drain.

The comb is the health certificate of the hen. The shriveled, dry, scurvy looking comb of the low producer indicates lack of blood circulation and vitality, while a full bright waxy comb of the heavy producer means vitality and a strong blood circulation.

### Late Moulters Best Layers.

In most cases a late moulting hen is the heaviest layer. She generally defers changing her feathers until the latter part of October or November and quickly moults in again. The opposite is true of the drones, they usually commence in July or August, moult very slowly, taking from one month to six weeks longer than the producers, then wait until the warm spring weather before trying to per-



All dressed up and nothing to do. This hen spends her time parading up and down, showing her fine clothes. She has not laid an egg.

petuate themselves by laying eggs.

The other method of selection by the "quality test" system can be applied at any season of the year with pronounced accuracy. It is not necessary to winter a large number of hens, to feed and care for them for six months and wait for the signs of production, mentioned in above test, to appear. This method must not be confused with other systems, published previously, because it differs very much.

### A Test for Egg Capacity.

The accompanying illustrations are of two White Plymouth Rock hens, both laying, but of two different types, high and low producers. We are dealing now with the pelvic region, which corresponds to the udder of a dairy cow, and we look for the same characteristics in the egg sack of the hen that we do in the udder of a heavy milker, quality and capacity.

Capacity is generally measured by the width or number of fingers that can be placed perpendicular across the abdomen, between the breast and the pelvic bones. This distance varies greatly with different hens. The non-producer has only one or two finger capacity. The slacker, or non-profitable hen, may have from three to six finger capacity, the same as the heavy layer, but it lacks quality, and we

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Index finger of right hand on tip of breast bone, showing flabby inflated egg sack of the meat type or low producing hen. Such a hen should be sent to the butcher.



Index finger of right hand on tip of breast bone, showing flexibility and contractibility of egg sack in a heavy producer. Four-finger capacity.

# Handling Farm Manure In Rush Seasons

By I. J. MATHEWS

**The ideal way is to spread the manure on the land as soon as made, but in rush seasons there is neither time or place to do this. This article tells you what to do with it to conserve its valuable fertilizing elements.**

**A**LMOST everyone who has made and study of the matter would agree that the only way to conserve all of the fertilizing elements in farm manure is to place it on the land as soon as it is available. There are some conditions, however, which preclude such disposition of the manure supply and it becomes necessary therefore, to so arrange the materials and appliances at hand that the greatest amount of fertilizing constituents in the manure shall be saved and made available for future use. At the same time that it is agreed manure should be put on the land as soon as made, it is just as well agreed that it should not be placed upon hilly or rolling land, but a short while before that land is to be plowed or worked up. Freshets and showers when falling upon manure so placed on rolling or hilly land carry away a very large amount of the fertilizing ingredients and for this reason it is not wise to make such a risk.

The other condition which makes it impossible to spread manure as soon as it is made is in the rush season. If there was some way of getting at the

exact amount of loss that takes place while the manure is being stored under ordinary conditions for three or four weeks until the work lightens sufficiently to put it on the soil, we probably would find that there is no season too rushing nor no work that pays better than putting the manure directly onto the soil as soon as it is made. However, since we have been accustomed to think this job can not be done during these rush seasons, it becomes necessary to provide some suitable storage place for the manure.

Taking all the farm manures, by and large, it comes about as close to the truth as we can get to say that sixty per cent of all the fertilizing elements lie in the liquid part of the manure, while forty per cent lie in the solid part. If we wish to put it in another way, we might say that eighty-five per

cent of the available fertilizing elements are in the liquid manure while fifteen per cent are in the solid portion. In other words, the liquid portion is much more valuable than the solid, and where manure is placed out in piles under the eaves of the barn or wheeled out to the side of the hill with the expectation that the rain will wash out portions of it that are too heavy to haul to the field, it will readily be seen that any manure supply so handled might as well be dumped into the river in its entirety since the solid portions of the manure that remain are very inert and it takes a long time before they are decomposed sufficiently to be used by the growing plants.

There are some facts concerning manure that should be kept in mind whenever any system for its handling is mapped out. One of the first is that

the liquid portion of the manure is much more valuable than the solid; the next one is that under normal conditions the nitrogen of the manure is the most valuable part of it. When the small boy goes out to the barn to clean out the stable that he neglected the morning before, he usually gets an eye full of foul smelling gas. This gas is nothing other than ammonia, a combination of nitrogen and hydrogen, and for this reason every bit of ammonia gas should be saved since it contains the nitrogen which is so costly when bought as a fertilizer. The commercial ammonia, so-called, which is bought on the market for use on wash day is nothing more nor less than ammonia gas dissolved in water. Ammonia gas dissolves very readily in water and is somewhat heavier than air and when ammonia is dissolved in water this gas may be driven off very quickly by an application of heat so in both the liquid and solid portions of manure there is a large amount of ammonia gas. It is a well known fact that when horse manure or any other dry manure, is

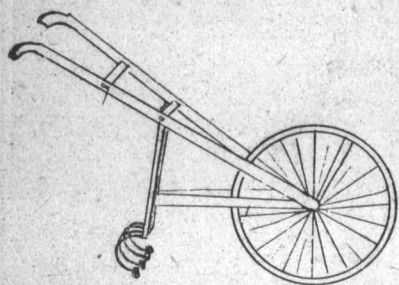
(Continued on page 8).



# Suggestions for Our Busy Farmers

## HOME-MADE GARDEN CULTIVATOR.

The farmer's ingenuity and mechanical skill may be quite accurately judged by the things he permits to go to waste on the farm. The accompanying illustration shows a home-made hand garden cultivator. The wheel is a discarded bicycle wheel and the teeth are the head of a cultivator hoe bolted to the frame. The handles and two strips to which they are attached are made of 1x2-inch oak and the upright to which the teeth are attached



is a 4x4½-inch plank, cut down to 2x2½ inches above where the horizontal strips are bolted on. The handles are four feet long and twenty inches wide at the ends. The two strips through which the axle is fastened are twenty-four inches long and the upright from top of hoe to the rung through the handles is twenty-two inches. The width of the cut is eight and a half inches.

This hoe will run easier than many purchased cultivators because of the high wheel. It is not difficult to make.

## MARKING TOOLS.

To save losses of metal tools from borrowing neighbors whose intentions are good, but who are careless in returning them, they should be marked with the owner's name in such a way that the marks cannot be effaced. This is a very easy matter. Melt a little tallow or beeswax and spread it over the place where the name is to be written. Write the name down through the wax with a big needle or awl and pour a few drops of nitric acid over the letters. In a few minutes wipe off the wax with a rag and the name will be on the iron.—S. H.

## A FREE CROP OF CABBAGE.

In cutting heads of early cabbage, if they are carefully cut from the inside, leaving the outer leaves on the stalk intact, several small heads will soon appear. By removing all of these except two or three, the remaining ones will soon grow into solid heads and eventually reach a good size.

This extra crop costs nothing except

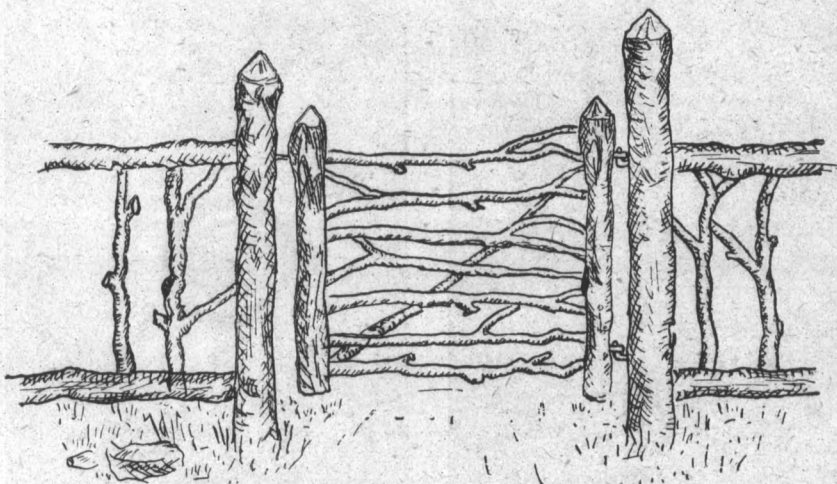
a little time used in removing the small surplus heads, and in these days of food conservation is well worth trying.—H. L. Spooner.

## DON'T HAVE TIRES RESET.

During the hot dry weather of summer, the tires on the wagon wheels often become loose. Of course, this usually happens just at a busy time when one cannot afford to lose the time to visit the blacksmith shop and get them reset. If one is prepared, however, this trip may be avoided. Instead of having the tire cut and set over, heat a half gallon of linseed oil, pour it into a shallow dish, and turn the wheel through it several times. It is surprising how quick the felloes will swell and make the tire as tight as ever.—H. L. S.

## A RUSTIC GATE.

A gate for the farm home that is inexpensive, and yet adds a touch of beauty to the surroundings may be easily made from the smaller limbs of a tree. There is an endless variety of shapes, limited only by the shapes in which the limbs grow. Often the whole gate may be fashioned from the limbs of one tree. In most woodlots, there are many queer growths of limbs, from



which, when used in combination, many odd and beautiful effects may be secured.

## HOW TO SAVE TIRES.

Own an air gauge and test the tires at least one each week whether they seem to be properly inflated or not. It is not possible to judge the pressure in a tire without the gauge and it pays to run them only when the gauge proves that they are carrying the amount of air recommended by the manufacturer.

Stop the car gradually without us-

ing the brakes more than is necessary. You can stop it in this way by shutting down the power and coasting to the stopping place. Speeding injures the tires, especially when quick stops are made necessary to avoid accident.

It pays to examine the tires occasionally for cuts that will later be blowouts. By repairing small injuries the life of the tire can be increased.

The driver who always makes an effort to dodge stones and all small obstacles in the road, will save money on tires. It soon becomes an instinct to drive carefully and avoid unnecessary cutting and bruising of the tires.

## WHAT SHALL I DO WITH A WATERHOLE?

I have a half acre of ground that in wet weather is always full of water. I wish to plant this piece of ground. The water will not settle because of the hardpan. We have dug down below the hardpan and found a watery quicksand. Do you think by digging further we might find a drain? To drain with tile it would cost more than the ground is worth. We have drawn some sand on the low spots but it does not help much. The soil is very rich if we could keep the water off.

Ottawa Co.

Mrs. A. H.

Sometimes a wet depression like this can be drained by what is known as a vertical drain, that is, you dig a well at one side of this depression and if

find it or not. If you do then you can put a tile drain through the depression and have them empty into this vertical drain, say two and one-half feet below the surface. A cap can be put over the top of the vertical drain and the whole thing filled up. If you succeed in finding this strata of gravel everything will work well. But of course, you can have no assurance that you will find a subterranean outlet and then you would have your expense for nothing.

## SEED CORN HANGERS.

This is the way we made our seed corn hangers: Take a piece of number nine wire and make a pattern for the loops. The loops are made four inches long and three and a half inches wide, and the prongs to receive the ears are



two and a half inches long. This requires about sixteen and a half inches of wire to make a loop. These loops can be hung in lengths of fifteen to twenty from a nail, so they will hold from thirty to forty ears of corn.

They hold the ears out with the butts downward so that the corn dries out quickly. They are cheap and are quickly made and when not in use can be stored in a small box.—J. Justice.

## ROOT OF BARBERRY HAS MARKET VALUE.

Opportunities for the man with business instinct to fatten the family exchequer are seen by the Department of Botany of M. A. C. in the campaign now in progress within the state for the eradication of the highbush barberry. The bark on the roots of the plants pulled is worth twenty-five cents a pound, the pathologists have been advised.

"I believe there is a good demand in the drug market at this time for this bark," says Dr. G. H. Coons. "This, of course, is for the dried bark, not the green."

In some parts of the state shrubs to the number of five hundred or more on single estates are being torn out in compliance with the orders of the state nursery inspector.

# The Dairy Cow as a Food Producer

IT is difficult for some people to understand why it is that in countries that become densely populated the dairy cow gradually drives out the steer as a food producer. Out of the realm of agricultural production, experience usually works such matters out correctly and it is a question of the survival of the fittest. The reason why it is necessary to substitute the dairy cow for the beef steer under such conditions is simply because the dairy cow can produce more food from a given amount of feed and produce it cheaper than the beef steer.

If one will consult Prof. Jordan's book on "Feeding of Farm Animals," they will find that very careful experiments have been made which show conclusively that the dairy cow can

make better use of the food that she consumes by way of producing food for the human family than any other of our various species of domestic live stock.

Digestible organic substance required to produce one pound of edible solids:

Milk (average) .....	5.55 lbs.
Steers (average) .....	36.30 lbs.
Sheep and lambs (av).....	37.9 lbs.
Swine (average) .....	6.4 lbs.
Calves (average) .....	12.3 lbs.
Fowls (large, 5 or 6 months) .....	23.4 lbs.
Chickens (broilers, 12 weeks) .....	28.8 lbs.
Eggs .....	19.6 lbs.

This table is worth considering. It shows that the dairy cow only has to consume on the average 5.55 pounds

of digestible organic substance to produce one pound of eatable solids, while the steer has to consume 36.3 pounds, sheep and lamb 37.9 pounds. Hogs come closer in the way of producing cheap food for the human family than any other of our domestic animals, except the dairy cow, producing a pound of eatable food from 6.4 pounds of organic substance. Here again, actual experience has worked out the problem and shows why hogs and the dairy cow are more popular in such countries as Germany, England and Holland and all other densely populated countries than other forms of domestic live stock. It is because they are more profitable.

Another great argument in favor of the dairy cow is the fact that she re-

turns daily cash dividends. The man engaged in dairying gets his pay in cash almost every day. People who sell cream to a creamery get their pay as often as once a week. There is no phase of dairying where the farmer has to wait for more than two weeks to get his pay, consequently, he can use this money to pay current expenses. It furnishes a system whereby he can do a cash business and this cannot be done with any other branch of live stock husbandry. That is one reason why the cow is popular. At the present time, taking into consideration the cost of food and the market price of dairy products, the margin of profit is exceedingly small and yet the dairy cow will be the last one of these animals to go.



## All Good Things are Sure to Grow

By W. F. TAYLOR

**W**E see from Mr. Taylor's article that cow-testers are being put to another service that is certain to make for efficiency. Besides his regular work, the tester in Oceana county will test skim-milk for the members of the association, to determine if the cream separators are wasting cream or not. Have you thought of the advantages it would be to you and your neighborhood to have a man test each cow in yours and your neighbor's herds? It's worth a think.

**I** HAVE no disposition to flatter our county agent, nor to magnify his worth to the county. Well, yes, I would like to say a lot of good things for him for he deserves them, but this is not the time nor the place to say them. What I do want to make clear, is, the county agent has time to do very many helpful things, things that make strongly for the betterment of the county, particularly the rural sections, which could hardly be done at all, without him.

Every county in Michigan needs a live county agent.

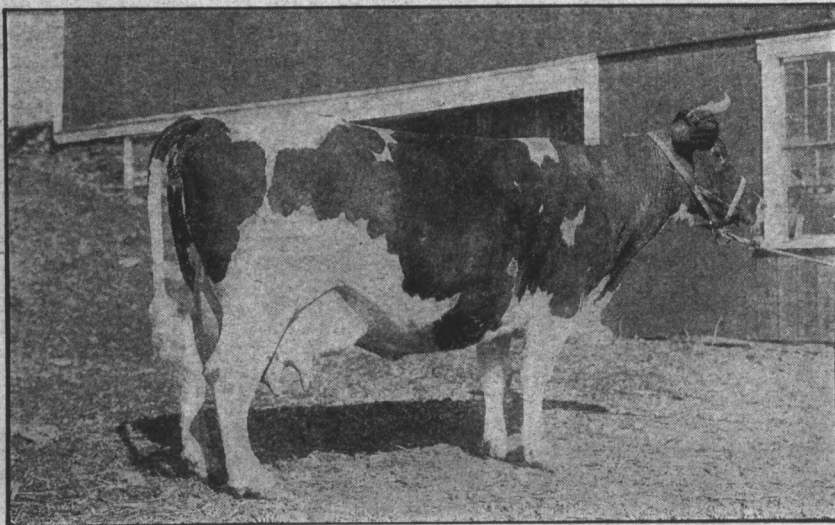
For more than two years there have been a few people wishing and working just a little, for a cooperative cow-testing association here in Oceana county. Some of the time it has seemed as if the project had gone to sleep never to wake up, but so it is with most new enterprises. Not that it was difficult to organize such an effort, had anyone had the time to spend, but this matter of time was our limiting factor. We were all too busy with our own personal matters to give it the attention necessary to an organi-

ed, and thus if any machine is not skimming clean the fact will be discovered.

Already a feeling of most friendly rivalry is beginning to manifest itself and as the time for the tester to arrive draws near, each man's interest in his herd grows. By the time the tester has been once around and results are known, the interest will be greater in every herd of those cows than ever it was before.

No matter what line of effort we may follow on the farm, interest and enthusiasm are essential to success. The cows are bound to get more out of life on account of this organization. When the cows do well, their owners are likewise fortunate. We confidently believe that the average increase of dairy products among the members of this association, will be not less than fifteen per cent, and it may be much more. Something like this is what always follows when men get more interested in their business.

But there is another and a greater object in this movement. It is all we can do to feed a good cow now and



Here is a Good Holstein Cow—Good to Look at and a High-class Producer.

zation. When therefore we secured a permanent county agent we saw our opportunity.

When he really found time to go at it, it took but a few days to round up twenty-one days' work for the tester in each month. If our tester is allowed to do the "Register of Merit testing" for four of our members this is all we can take care of, as he will have to put in four days more on that account. Twenty-five days in a month is enough for steady employment for the tester. It will take more than the twenty-sixth day to finish his reports and take care of other extra work that is bound to show up.

It is hard to secure good men to test cows, owing to conditions growing out of the war, but we secured a bright boy just out of high-school, and he is going to make good.

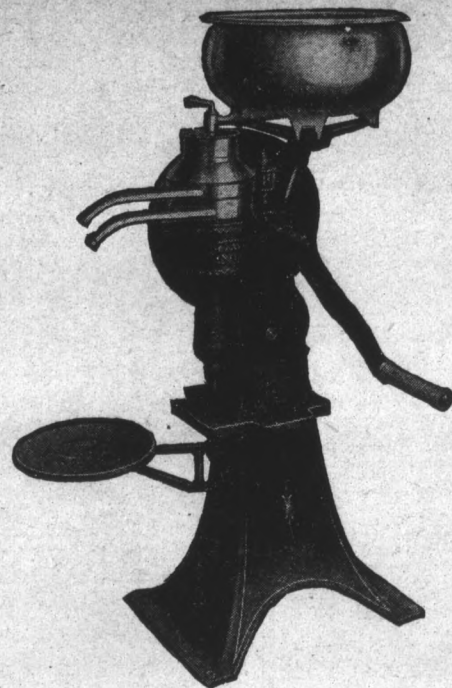
One of the objects of a cow-testing association is to encourage better methods of feeding and caring for the cows. This young man does not expect to be able to give much advice in this line, but we have some most progressive dairymen in our organization, and it will not be long until he will be able to carry from these men's practice some extremely valuable hints.

Skim-milk from the separator will be tested on every farm where desir-

get off without loss. We surely can not afford to keep the cow that does not pay for her feed. Grain is too high, and so long as the war goes on, feeds will be high. If we do not feed well, we lose a lot of the valuable food we do furnish. The only way to find out which are the good cows is to test them. The cost of this effort in money is small indeed, in proportion to the possible good that may be gotten out of it.

Good cows are helping to win the war but the poor ones are "slackers" and they "fight for the Germans." The only way to find them is to use the Babcock test. The Cow-testing Association is the most practical way to do it. Watch for reports of some of our great cows. Watch for the increase in production in our average herds. See the poor cows go to increase the meat supply. But even this is not the best of the story. Whenever, wherever men begin to think more, as they come to test oftener and guess more seldom, as gradually they lose their faith in the moon, and begin in dead earnest to study the earth and its mysteries, they begin to grow. Such growth means financial and intellectual betterment, and these should result after a while in moral and spirit-

(Continued on page 6).



This is a 750-pound latest style

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Acknowledged by cow owners the world over to be the closest skimming, the easiest running and the longest wearing separator

360 pounds of butter would have been needed to buy this machine in 1914.

255 pounds of butter will buy it now.

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There never has been a time when you needed a De Laval so much. There never was a time when you could so well afford to buy it. Don't waste food and money and time trying to get along without a cream separator, or with a half-worn-out or inferior machine. Order your De Laval NOW when you need it most.

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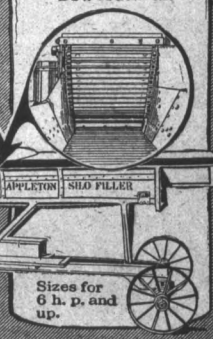
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fully describes and illustrates these big improvements; silo book also free if you want it. Write today, Appleton Mfg. Co., 420 Fargo St., Batavia, Ill.



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— one of the new features.



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**For Sale.** One Avery 5-10 Tractor complete with double plow. Price \$375.00, condition good as new. The Barnard Sheep Ranch, Clare, Mich.



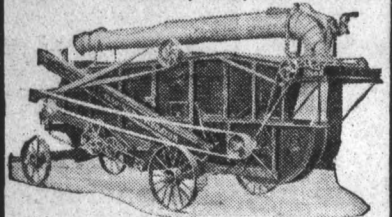


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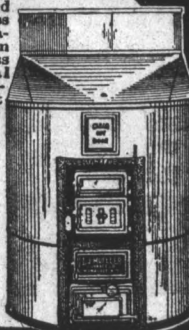
**ALL** the comfort, health and convenience of furnace heat, freedom from annoyance and danger of stoves without tearing up your walls for pipes or flues or heating your cellar.

The only pipeless furnace which completely incorporates correct principles of pipeless heating. Greater warm air capacity and scientifically proportioned heating surface insure constant circulation of warm, moist air in sufficient volume to heat comfortably the entire house.

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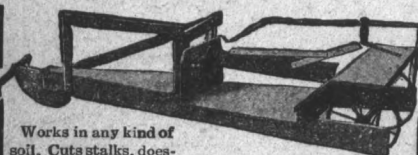
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Works in any kind of soil. Cuts stalks, doesn't pull like other cutters. Absolutely no danger.

**Cuts Four to Seven Acres a Day** with one man and one horse. Here is what one farmer says: "Gentlemen: Am well pleased with your Corn Harvester as it works equally well in light or heavy corn. I cut 45 shocks in 3 hours, just after a heavy rain when the soil was very loose, but did not pull the corn. Thanks for prompt shipment. I remain yours for success. Yours truly, D. H. SPRINGER, Celina, Ohio"

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Send for booklet and circulars telling all about this labor-saving machine; also testimonials of many users.  
**LOVE MANUFACTURING COMPANY**  
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seldom, as gradually they lose their faith in the moon, and begin in dead earnest to study the earth and its mysteries, they begin to grow. Such growth means financial and intellectual betterment, and these should result after a while in moral and spiritual growth.

The more we invest in life, the more we are bound to get out of it. Better than the investment of money, is the giving of our best effort to any cause that helps to make the men and women of a community earnest and resolute in pursuit of a definite ideal that is worth while.

Every dairy county should have a cow-testing association. Your county agent will help organize and the college will assist you also.

## Holstein Breeders a Live Bunch

**T**HE Central Michigan Holstein Breeders' Association held their annual basket picnic Wednesday, June 19, at the farm home of Gottlieb Balduff & Son, eight miles southwest of Lansing.

The forenoon was spent in a trip about the farm and in looking over the large herd of Holstein cattle. Mr. Balduff has a splendid herd of cattle and a fine dairy farm.

At noon three hundred people assembled on the spacious front yard for the picnic dinner. Mr. Balduff and family were the best of entertainers, providing everyone present with a bountiful dish of ice cream, and then forced the ladies to retreat or put on their gas masks by passing the smokes to the men.

Following the dinner, J. B. Strange called the assemblage to order and announced the first speaker of the day, Mr. N. B. Hull, president of the Michigan Milk Producers' Association. Mr. Hull spoke of the value of the dairy industry at the present time, and explained why it was necessary to have an efficient organization of the dairymen. The work of the association for the past year was reviewed, showing very plainly that the association was doing everything in its power to help the dairy industry. In closing, Mr. Hull said: "The dairymen of Michigan must have a price for his dairy products that will give him a just profit, but any man who will ask more than that at this time, is a slacker and just as much an agent of the kaiser as the commander of a German submarine."

Hon. Fred M. Warner, ex-governor, was the next speaker. Mr. Warner gave the dairymen some very timely advice and suggestions, but he devoted most of his time to rapping the kaiser. He explained the good work of the Red Cross and Y. M. C. A. and urged everyone present to give them their wholehearted support. Mr. Warner drove his points home with extracts from several of his son's letters. His son is now an officer in the American army in France. Each and every one of these letters praised the above mentioned organizations and encouraged the American people to do all they can to make their work more effective.

This concluded the speeches of the day, the rest of the time being spent in visiting.

### PRESIDENT ATKINS' APPEAL.

At the recent annual meeting of the Holstein-Friesian Association of America at Milwaukee, President Aitken's address dealt with the splendid part the Holstein cow is playing in the great war, and a special appeal was made to the members to redouble their efforts in order to maintain and increase the food supply of the world at large. Mr. Aitken showed that the association now carries in its reserve and surplus, \$205,000 in Liberty Bonds, and \$52,651 in high-class railroad

bonds. He emphasized the importance of state and local Holstein organizations (of which there are now 176 in thirty-four states) and asked the members to give their support to the principles for which each organization stood. Type and breeding was another strong feature of the president's address, in which he stated that he believed that eighty per cent of all the high-record cows are reasonably true to type.

### BACTERIUM ABORTUS IN MILK FOUND HARMLESS.

Investigations recently completed by L. H. Coolege, of the Bacteriological Experiment Station of M. A. C., have cleared up, apparently, the question as to whether milk from cows affected with infectious abortion is harmful to human beings. According to Mr. Coolege's experiments, which are being given to the public in the form of a

## Prices for "Pedigreed" Grains

The Michigan Agricultural College has been informed by the Michigan Crop Improvement Association that the following will be the schedule of prices which will be asked in 1918 for certified pedigreed grains:

Red Rock wheat \$3.25 for lots of over ten bushels; \$3.50 for lots under ten bushels; rosen rye \$3 for lots over ten bushels; \$3.25 for lots under ten bushels; winter barley \$2.90 for lots over ten bushels, \$3 for lots under ten bushels.

This scale, which was determined at a conference attended by Food Administrator Prescott, was based on the government price plus the actual cost of inspection fees, roguing out the weeds, cartage to station, loss on market value of cleaned seed, cleaning threshers and bins, cleaning and weighing seed and billing and correspondence, plus ten per cent on the added cost of these items only.

technical bulletin, the germs of this disease, called bacterium abortus, work only on bovine species of animals. The question is one which with in recent years has been of much concern to dairymen and physicians, owing to the considerable spread of infectious abortion among the dairy herds of the state.

### EVERYBODY WORKS WITH FATHER.

(Continued from first page).

get a good edge. Sally finally says she is getting tired, and father wishes he hadn't let Tom go fishing that forenoon, even if it did rain. And Tom feels like a colt and works harder having some fun walking six miles out to the lake and back, and hopes the ding-busted old scythe will be sharp enough to suit dad for a spell when he gets home with a nice mess of fish for supper.

And the farmer's wife says it is so hot in the kitchen she believes she will go out and sit on the porch and pare potatoes for dinner. It's so nice and shady on that back porch that even the farmer's daughter-in-law, who happened to be visiting and helping out in various ways, thought that she would try operating the old dash churn on the cool porch where there was plenty of company. And so the "porch" or veranda is right in style

these many perfect days and nights, much more so than it was last February.

And even the bottom step can be utilized by the little kids to play "cat's cradle" without getting in the way of any other doings thereabouts. And sometimes there are other doings on the kitchen porch after dark when one of the big boys on a neighboring farm comes over, but more about that later.

This picture was taken by the writer some years ago on his home farm near Climax, and it was on this farm where rural free delivery started over twenty-one years ago. There are thousands of readers of the Michigan Farmer who will recall those days when this service started and we printed a full page map on the front cover of the Michigan Farmer. We helped lay out the first route and made the map and our hired man was the first mail carrier.

The details of a portion of the first route were talked over on this porch with the government post office inspector and it was on this farm that Michigan's first carrier worked until he shouldered his mail sack and started out on his bicycle to go over his route.

And so this old porch has quite a history. In the picture our father is holding the scythe blade on the grindstone. It is the same old stone we have spent hundreds of hours toiling over, and the old jug is one we carried out in the field for several years. The cob shown is a new one, of course, as we had plenty of them and Hoover hadn't begun to even think about the conservation of corn cobs. One day while cultivating corn we tried to see how close we could come to the jug by casting a small stone at about ten rods. In some way we happened to come as close as the handle and for a spell thereafter the old jug had a wire handle. It cut us deeply to think we were so lucky as to unfortunately hit the handle instead of the jug, otherwise we might have had a new jug.

J. H. BROWN.

### CEMENT STALL PARTITIONS.

I am thinking of putting in model cow stalls with cement partitions, and would like to know whether any readers have had experience with the cement partitions.

Osceola Co.

J. E. S.

I have never seen cement stall partitions in the model stall. In my own it is a wooden partition. I have no doubt but a satisfactory cement partition could be made if it was properly reinforced, but I am quite sure that the cost would be much more than a wooden partition. The form would have to be made and then filled with cement and this partition is so much exposed to knocks that it should be thoroughly reinforced, otherwise I am pretty sure that they would be broken out, but they certainly could be made. My judgment would be that a wooden partition would be just as satisfactory and would cost less.

COLON C. LILLIE.

### SILAGE DISPLACES CORN.

Stockmen in Carroll county, Illinois, are finding their silos come in handy at this time of corn scarcity and dearth. Stockmen say the corn now being fed to pigs and sows costs them \$1.75 a bushel, and silage is used more generally than ever before. A prominent stockman of that district recently marketed some fall shoats which had been fed corn, oats and rye.

### POOR CATTLE FIND A POOR

Most of the yearling cattle marketed of late in Chicago sold badly, as they were poorly fed. Choice yearlings sold as high as \$17.50, but there were many short-fed yearlings which had to be disposed of for \$14@15.50.



## What of the Future of Live Stock?

IT would seem that the live stock industry of the United States at the present time is passing through a very important crisis in its history. Can it be that the food demand of the world at the present time is bringing to this comparatively new country, cheap food conditions that are identical to those which have been brought about in the older countries of the world long ago?

If we study the history of the agriculture of any of the older nations we find that live stock products—beef, pork, etc., in the earlier history of the country was one of the most common food products of the people, that gradually in the course of time as the population of those countries increased, there was such a demand for grains and they became so high-priced that when fed to live stock the cost of the animal product was so great that they became in a measure prohibitive.

This brought about a gradual lessening of the consumption of animal products for food and a substitute of the grains direct. For instance, the corn or the wheat or the oats grown on a certain area when used direct as food for human consumption will support many more people than it will if it is first fed to live stock and then the live stock products is used as food, consequently, when food becomes scarce enough there is such a demand for the grains that live stock becomes a secondary proposition.

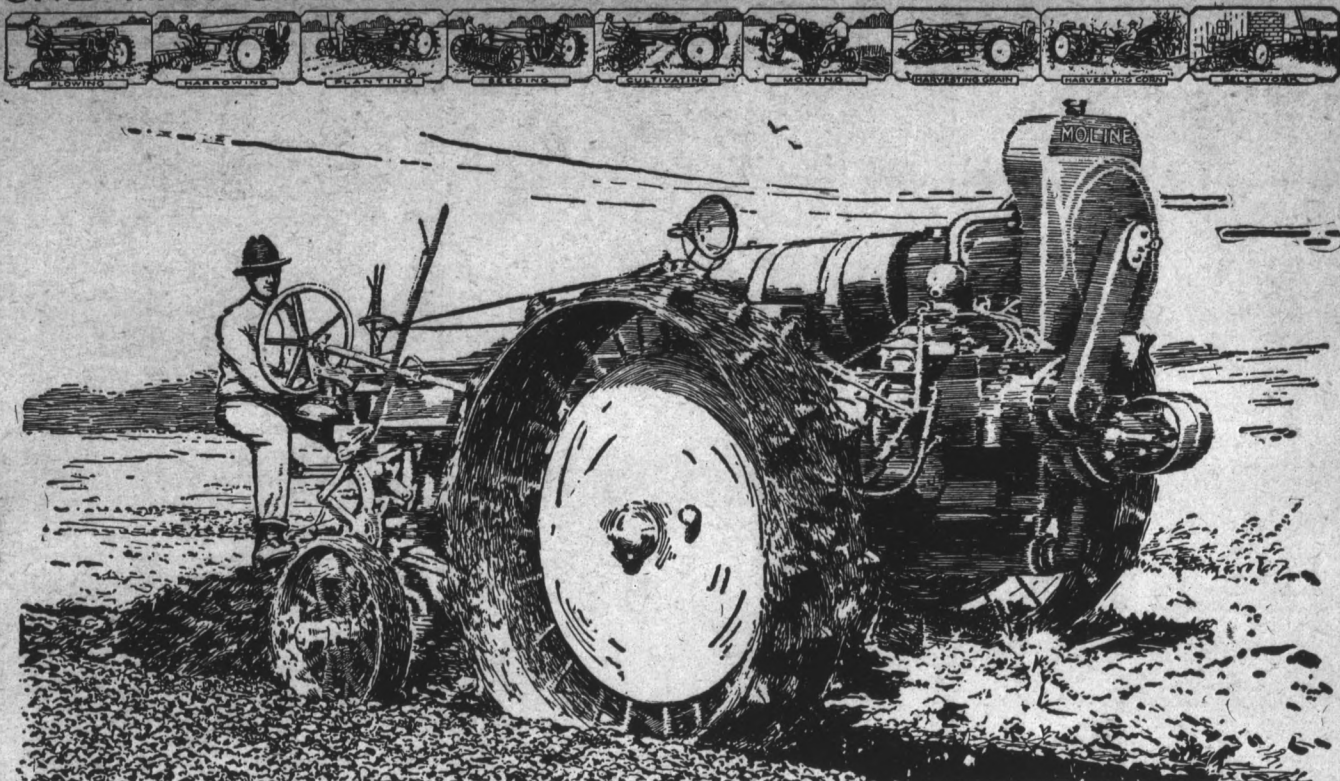
This explains why there are so many people in the older countries of the world that only have meat once a week or once a month, and we are told that in some countries children grow to manhood and womanhood scarcely tasting meat, simply because the price makes it prohibitive. It is difficult for us in this country to realize any such condition as that, and yet at the present time the market price of grain is so great that the farmer finds it extremely difficult to feed these grains to live stock and produce live stock products at a profit. If this continues, there is only one solution to the problem and that is a reduction of live stock in this country to such a degree that they are largely fed upon roughage and grain wastes or by-products of the country because a farmer will be unable to feed good corn or prime oats or barley to live stock and sell the animal products at a profit.

If this great war had not been thrust upon the world at the present time it would have been years before anything like this would have been brought about. Now it is a question in my mind if the American farmer hasn't got to solve this problem almost immediately. Hogs ought to sell in Chicago today for about twenty cents a pound to warrant a man in feeding them corn at the present price. The wholesale price of butter ought to be forty-eight or fifty cents to warrant the dairyman in feeding his cows corn at the market price and make a profit. The farmer may be willing to do these things for a certain length of time from patriotic motives but the farmer like all other business men, must pay his debts or go out of business and so he will be compelled if things continue as they are, to cut down his live stock so that he only feeds the waste products he raises on his farm to live stock, then there will be such a reduction in animal products that ordinary people can have meat only occasionally, neither can they have butter regularly as they can now.

I am not discussing the question whether this will be best or wise for agriculture, but simply calling attention to the fact that this adjustment may have to be made sooner than the farmers of the United States realize.

COLON C. LILLIE.

ONE MAN OPERATES BOTH TRACTOR AND IMPLEMENT



## More Speed—More Power—More Work

EVERY farmer who sees the new Moline-Universal Model D plowing is astonished at its speed, the splendid quality of work and the ease at which it operates. After seeing the Moline-Universal work, you will realize that the number of plows pulled is less important than the amount of work accomplished.

### Great Capacity for Work

Speed, power and light weight are combined in the new Moline-Universal tractor to a remarkable degree. As a result, under any ordinary plowing conditions, the Moline-Universal pulling 2 plows at 3½ m.p.h. will plow 9 acres in a 10-hour day—equal to a 3-plow tractor traveling 2¼ m.p.h., the usual tractor speed. Thus the Moline-Universal gives you large capacity for heavy work, ample power for all belt work on the average farm, with these distinct advantages over other tractors—light weight; greater economy and ease of operation; ability to do all farm work, including cultivating, and ONE-MAN control of both tractor and implement

from the seat of the implement, where he must sit in order to do good work.

### Does Better Plowing

An advantage of speed plowing is the better quality of the work. With properly shaped moldboards and the Moline-Universal tractor plowing at 3½ m.p.h. the soil is more thoroughly pulverized and compacted than at slower speeds. It is left in such a level and fine condition that furrow marks are hard to distinguish.

### Positive Reliability

And keep this in mind always—the Moline-Universal is built for positive reliability. The powerful 4-cylinder, overhead-valve, vibrationless engine delivers full 9 h.p. at drawbar and 18 h.p. on belt; unusually large bearings lubricated under 35 lbs. pressure; Remy electric starting, lighting and ignition system with governor generator; all moving parts completely enclosed; 15 Hyatt roller bearings; 5 adjustable ball thrust bearings; 7-splined shafts; differential lock; heat treated and steel cut

gears—these give "positive reliability," and make the new Moline-Universal the best tractor money can buy.

### Self Starter and Electric Lights

Self starter relieves the back breaking strain of cranking, makes tractor operation easy for non-robust help. In fact, many women and boys are successfully running Moline-Universal tractors. The self starter is a feature every operator will appreciate. Electric lights increase the working capacity of the Moline-Universal so that you can use the tractor night and day in the busy season. It gives you an emergency power always available to make up for any unavoidable delays.

### Free Tractor Catalog

Your copy of our new tractor catalog which completely describes the Moline-Universal Model D is now ready. A postal will bring it to you, also the name of your nearest dealer. Address Dept. 42.

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"Permanent as the Pyramids"—fire-proof, frost-proof, storm-proof, moisture-proof, acid-proof, decay-proof, vermin-proof. Galvanized reinforcing. Require no paint, no upkeep expense or repairs. First cost is the last cost. Easy to build—and once built, your silo problem is solved forever. Large stocks of tile at our many kilns throughout the country enable us to ship promptly and economically anywhere.

### Play Safe—Send Your Order Today

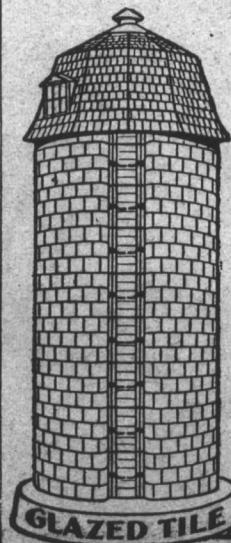
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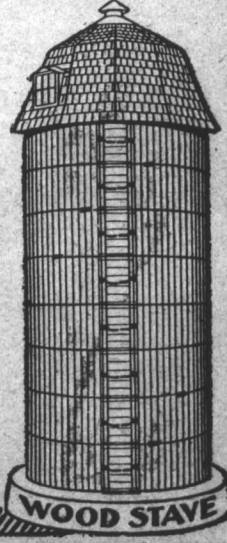
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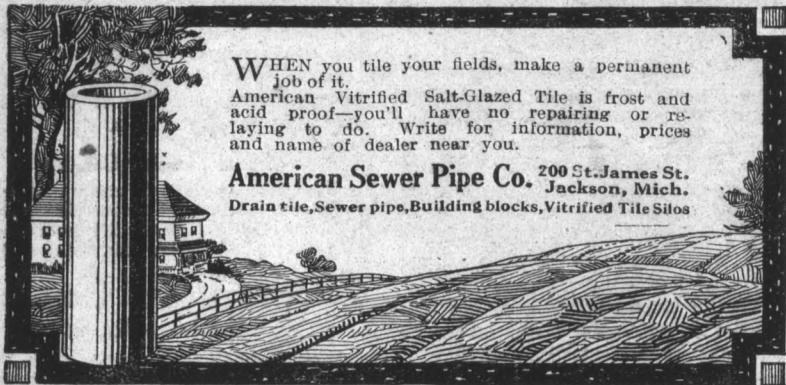
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will clear the machine. Automatic throw-out clutch prevents breakage. Engine is quickly interchangeable for Iron Age Engine Sprayer. We also make three other styles, one of which will surely meet your condition. We make a full line of potato machinery. Send for booklet today.

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## Doubling Garden Crops

By N. A. CLAPP

**D**URING these times when food stuffs are needed to supply the wants of families in cities, villages and country, any method that can be devised to increase the supply should not only be welcomed but adopted.

Some of the garden crops that are planted early in the spring, mature and are gathered before the season is but little, if any, more than one-half gone. There are other crops that do not require the whole season in which to grow and mature, that can be very handily utilized to occupy the same ground the latter part of the season which was occupied by the early crops the first part of the season.

Among the garden crops that are planted very early in the spring and require but a short period of time, are the radishes, lettuce and garden peas. These crops have had their period of growth and usefulness by the first of July. They can be disposed of and the same ground dug up thoroughly and the ground utilized by such crops as will make the most perfect growth in the fall of the year. Cabbage plants set in such ground will make an excellent growth and make perfect heads by the last of October and the first of November.

Early varieties of potatoes can be dug during July and the ground forked over and either set to late cabbage or sown to yellow bagas. If the bagas are sown any time before the twentieth of July, if the ground is rich and the plants are thinned to from eight to twelve inches apart in the rows, they will make a good crop by the tenth of November, the usual time when such crops are gathered. The English turnips can be sown as late as the fifteenth of August and then make a good crop.

The radishes and lettuce are not of

the substantial crops that can be raised in large quantities and laid by for winter use. They are among the short period crops that are soon abandoned, and all that can be secured from the ground on which they grew the same season, doubles the income from such parts of the garden. The peas can be grown in considerable quantities and canned for winter use. No matter how the peas are used the crop is out of the way soon after the first of July and the same ground can be used for late season crops.

There are two advantages that should not be overlooked when two garden crops are raised from a part of the garden the same season. In the first place we are doubling the income from that portion of the garden, which should be considered of prime importance. In the second place, when a valuable late crop is growing on ground formerly occupied by an early crop, it is pretty likely to be hoed and the mass of weeds that come late in the season will be kept in subjection and not allowed to mature seeds which will drop on the ground and give trouble the following years. The early crop rows are generally unsightly portions of the garden late in the season if they are not utilized for late crops.

During these years of scarcity and high prices for essential food stuffs, it is worth the effort to do all that can be done to double the food products of the garden. The garden products help to make a variety of foods for consumption in the family, and relieve, in a considerable degree, the draft on foods made from wheat.

Garden crops, if persistently used, will not only help save other foods, but by their beneficial effects on the consumers help to promote the health, and consequently the happiness of those who wisely use them.

## Handling Farm Manure In Rush Season

(Continued from page 3).

thrown out in a heap, there is bound to be some heat with further decomposition of the solid or woody portions.

Sometimes in the morning we approach the barn and if we had not seen the sight many times before, we would believe the manure to be on fire, with danger of burning up since there seems to be much smoke and gas coming out of the top of the pile. However, the gas that is passing off is the most valuable part of the manure. The fact that the manure heats, of itself, does no particular harm, but the coincidence that the manure in heating drives off the ammonia gas which is dissolved in the moisture of the manure is the fact which makes it dangerous to allow this thing to occur.

And so in any system of manure storage, it is absolutely imperative to have the bottom of the pit tightly closed so that the liquid portion of the manure will be saved and to have the eaves of the storage house so arranged that rain water can be put in from time to time when needed to cool down the decomposing pile of manure and to re-dissolve the ammonia that may have been partially expelled by the heating.

This year when the various fertilizing elements are so costly, it behooves us even more than any other year, to save all that is available in the supply of farm manure on every farm. To do this requires some sort of a storage house. An old shed may be used and the manure dumped into this. With a little cement and time, it will be possible to hollow out the floor of the shed so that the liquid portion of the manure will neither be wasted nor allowed to leech away. Then, too, the roof

of the shed should be arranged with eave spouts so at any time surplus water may be run on the pile of manure. If there is enough cow manure mixed with the horse manure, however, it is not necessary to run in extra amounts of water. Added to this, there is another precaution which should be taken and that is to keep the flies out. The manure pile is the place where flies breed, with all the consequent damage which an army of flies can do, and if there are any windows in this manure shed, they should by all means be screened. The door, however, should be solid and fly-tight. In this way the flies will gather on the screens at the windows, whereas if a screen door is used, flies would gather on the door and as soon as it is opened they flock directly inside.

It is necessary to have some sort of a manure storage plan and this plan should have in mind not only the saving of the greatest amount of the fertilizer value of the manure, but also the bettering of sanitary conditions about the farm. There is no one nuisance that causes so much trouble as the fly and since he and his like may be "nipped in the bud" by screening in their breeding places, or the manure piles, it would seem that any manure shed should profitably conserve the liquid portion of the manure as well as providing some means whereby the escaping ammonia gas caused in heating may be retained and redissolved in water. If in addition to this, this shed is by some means or other kept free from flies, we shall have a manure storage that is directly in line with the spirit of the times—embodying both conservation and sanitation.

When Writing to Advertisers, Please say "I Saw Your Ad. in The Michigan Farmer".



## CONTROLLING THE PEACH TREE BORERS.

The peach tree borer lives most of its life as a worm embedded beneath the bark of the tree, usually just below the surface of the soil. Here it starts as a very small worm, eating away the life of the tree, getting larger and larger until it undergoes a change into a pupa and then a moth, which lays eggs for more worms to carry on their destructive work on the peach trees. The moths lay the eggs on the trunk and branches of the trees during the summer—most of the eggs being laid during July, August and September. The eggs hatch in from ten to fifteen days and the young borers enter the tree. By frost the borers have all entered the trees and some will be very small while others are nearly full grown.

Leonard Haseman, of the University of Missouri College of Agriculture, offers the following suggestions for controlling the insects:

Draw the soil away from the trunk of the tree to a depth of four inches or until the roots are exposed, and search for the tunnels. With a sharp knife follow these tunnels until the worms are found, and then kill them. The presence of a mass of gum at the base of a peach tree usually indicates the presence of borers. This gum is thickened sap which escapes where the tree is injured. There may be a number of borers in a single tree. The worker should get at least all the large ones before leaving the tree.

## SOME SPRAY PROFITS.

An example of the profits from spraying is illustrated by the experience of Charles Tanzberger, of Missouri. Mr. Tanzberger's orchard is seventeen years old and was never sprayed until last year. He offered his orchard of one hundred and thirty apple trees for a spraying demonstration. In 1917 as a result of proper spraying, the one hundred and thirty trees produced \$1,897.55 worth of fruit. The total cost of spray materials, together with the cost of labor, amounted to \$84. Thus, the net profit resulting from spraying was \$1,813.55. The orchard had never been profitable before. For example, the same orchard of one hundred and thirty trees, was set just as heavily with fruit early in the season of 1916 as it was last spring, yet it produced without spraying only enough apples for three barrels of vinegar. Mr. Tanzberger says:

"My apples were divided into first and second grades. Out of my five hundred barrels of Winesap apples, I had about eighty barrels of seconds. The culls, which I kept myself, made three barrels of cider.

"I sold all the apples (five hundred barrels) to one man. He paid me one price all the way through, which was \$3.00 a barrel.

"All that I had to do was to pick the apples. The commission man barreled them and stood the barrels and hauled them away from the place also.

Setting late cabbage after the peas and potatoes and sowing turnips, is an old scheme followed by many, and any who may feel inclined to try it need not hesitate. Other crops which require only a part of the summer to make a crop can be raised by a little effort.

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These are actual increases in yield per acre obtained on big farms in those states for several years by drilling instead of broadcasting. You gain both in yield and in seed saved by using a

## John Deere Van Brunt Fertilizer Grain Drill

Plants all the Ground—No Costly Bare Spots

Coarse, medium size or very small seed can be planted with this drill. The force feed used on Van Brunt drills has a *patented* gate, adjustable to handle any size seed from alfalfa to large bearded oats, peas and beans.

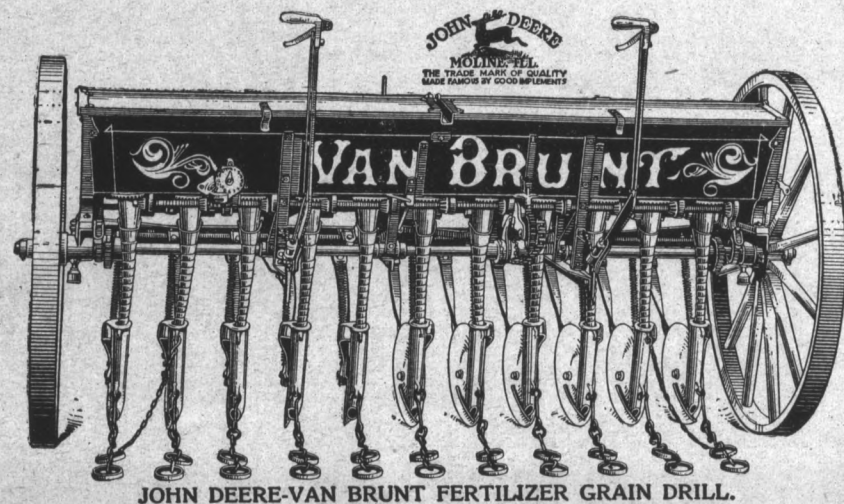
*All the ground is seeded*—no choking up in the seed box. Change in quantity of seed by the feed shifter lever is exactly the same in each and every feed. The force-feed compels the seed to leave the seed box in even, continuous streams, but the seed is not crushed.

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*Disc bearings guaranteed* to last the lifetime of the drill. The furrow openers, the hard-working part of any drill are made of highest quality steel.

*The highly perfected fertilizer feed cups* distribute without clogging or choking, all kinds of commercial fertilizers, in any quantity desired.

*Grass seed attachment* can be furnished. It sows broadcast or in drills, as you desire. Van Brunt Drills are furnished in sizes and with equipment that will meet your requirements.



JOHN DEERE-VAN BRUNT FERTILIZER GRAIN DRILL.

## Free Books

"Better Grain Yields From the Same Fields"—32 pages of valuable information on how to select seed, how to test it, depth to plant, best method of planting, etc. Also, "Better Farm Implements and How to Use Them"—a 156-page text book on farm implements. Worth dollars.

To get these books, just state the implements in which you are interested and ask for package BF213.

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## Original MILLER Bean Harvester

Beware of imitations,  
Buy the genuine.

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Stocks carried at Saginaw, Mich.



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### URGE GLASS CANS FOR MAPLE SYRUP.

Michigan maple syrup, which heretofore has wended its way to breakfast tables of the nation in tin containers, will do its traveling in 1919 in glass bottles if recommendations of members of the Michigan Maple Syrup Makers' Association are heeded by producers. The association, speaking through the forestry department of M. A. C., is asking the producers to order bottles for next year so that tin can be saved for war work.

"If glass bottles are used a serious waste can be eliminated," according to Prof. E. H. Sanford, secretary of the association. "The fact that the bottles will make the syrup visible to the purchaser should also make for better sales."

"The objection that it will be much more difficult to prepare the syrup for shipment in bottles is offset by the fact that the glass containers have a market value in every household. If quart jars are used they can be emptied and made ready for the housewives' canning season. The gallon containers can be made use of in a similar fashion."

### ENDORSES THE RURAL MOTOR EXPRESS.

The United States Food Administration has endorsed the extension of the rural motor express as an aid to food production and distribution. In a letter to the Highways Transport Committee of the Council of National Defense, Mr. Hoover says:

"The development of the rural motor express idea, in my opinion, is in line of progress and should redound to the benefit of the producer, the consumer and the railroads. This means of transportation should facilitate delivery, conserve labor, conserve food stuffs and should effect delivery of food in better condition."

The rural motor express plan which is already in operation in the vicinity of numerous cities is essentially a regular motor truck service enabling the farmers to send farm products to town and get supplies, machinery and repairs without making a personal trip.

### TO ENROLL WOMEN AS FARM WORKERS.

An effort to find employment in the country for Michigan women who are ambitious to become "farmerettes" will be made this season by the federal office of farm labor, located in Lansing.

"We are not making any special appeal to women to enlist for work on the farms, except in fruit orchards," Director A. B. Cook declared, "but if there are women who would nevertheless like to try their skill in agricultural pursuits we will endeavor to place them with willing employers."

Communications to the local farm labor office, which is federal headquarters for Michigan, need only to be addressed to East Lansing.

### A CHANCE TO CONSERVE.

If the 2,300 threshing machines used in Michigan wasted only three or four bushels of grain out of every thousand they threshed, the loss of wheat alone in this state every year would equal a quantity sufficient to furnish a normal supply of bread to a half million people for three months.

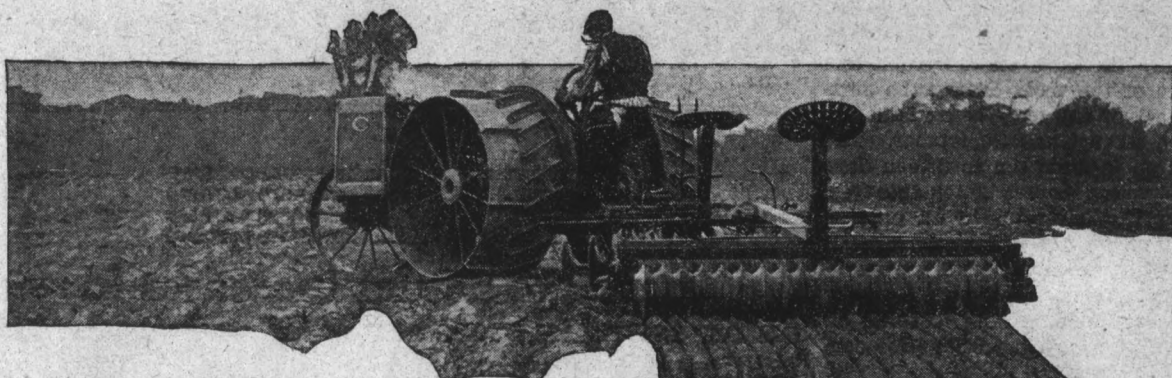
### HIGH PRICES FOR SHEEP.

The demand for breeding ewes in the Chicago market greatly exceeds the supply, and it frequently requires a week to fill a buying order for a single carload. Prices are very high, and some ewe breeding lambs were bought a few days ago at \$18.50 per 100 lbs.

# DUNHAM

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Plow your field, follow at once with the harrow and then the Culti-Packer. You can pull the two together if you have a tractor.

In nine soils out of ten, you will then be ready for seeding without further work. The Culti-Packer crushes all lumps, firms out the air spaces, and stirs the surface soil, leaving a mellow mulched bed for the drill.

Put the Culti-Packer right back of the drill and you will firm the soil around the seed, hasten sprouting and get the most even, sturdy stand of wheat you ever had.

The Culti-Packer has paid for itself on wheat alone for thousands of farmers, and it is just as good on every other crop you raise—corn, oats, alfalfa, beets, potatoes, rice, cotton, sugar cane.

Fifteen minutes work in the field will prove these claims and show you how to get more wheat with less labor.

Phone Your John Deere Dealer Today--  
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### The Culti-Packer

A sturdy simple farm tool. Just two rows of semi-steel wheels, mounted on 1 3/4-inch axle and fitted with dust-proof roller bearings. Wheels quick detachable for straddling corn.

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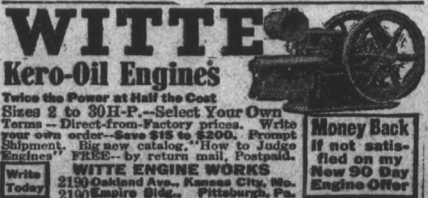
You men and women of his "home guard" should wear this patriotic economy cloth, too. It's fast color and wears like leather.

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Easily put on. No special tools or knowledge necessary.  
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They KNOW that without SO-BOS-SO KILFLY they lose money in Fly Time. Milk falls off. Stock grows worried, restless, thin. They know it pays to use SO-BOS-SO.  
Known and used for over 18 years. A harmless, effective liquid that keeps flies off of all stock. Guaranteed not to taint milk, gum hair or blister skin.  
At all good dealers' in handy sized containers. If you can't get SO-BOS-SO KILFLY send us your dealer's name for our special Trial Offer.  
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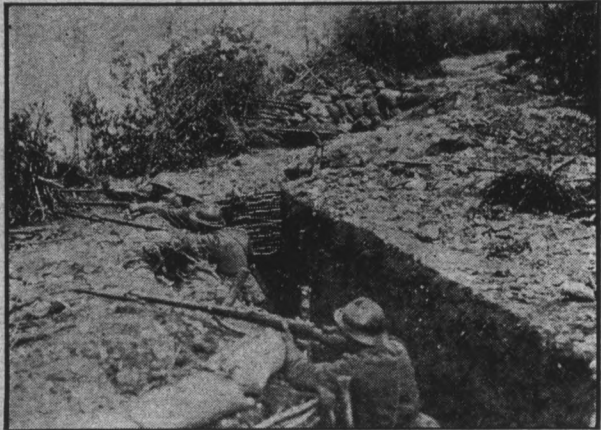
# Magazine Section

LITERATURE  
POETRY  
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INFORMATION

**MICHIGAN FARMER**  
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PUBLISHED WEEKLY  
*JOURNAL*  
ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
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## WORLD EVENTS IN PICTURES



Italians Firing on Enemy Attempting to Cross the Piave River.—(Italian Official Photo).



Lieut. Rickenbacher, U. S. Aviator, Formerly Pershing's Chauffeur.



Italian Camouflaged Battery Awaiting Opening of Austrian Offensive.—(Italian Official Photo).



British Soldiers who Repulsed Attack on Italian Front.—(Br. Official Photo).



Battery Manned by French and British Gunners Resists Enemy.



Children of Royal Family, who are Popular Among Italian People.



Polish Nurses, Members of Polish White Cross Ready to Sail for France; Recruited by Madam Paderewski, wife of Famous Pianist.



"The Spirit of Mercy," Posed for by Vivian A. Brown, Age Five Years.

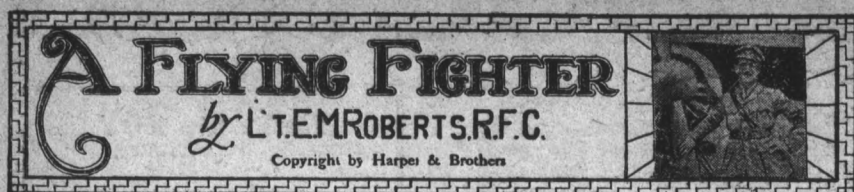


King of Italy Keeping in Close Touch with Army.—(Italian Official Photo).



Giant British Gun and Eight-inch Shells Used at Front.—Brit. Official Photo.





(Continued from last week).

We then sent a message by air to his aerodrome, telling of the fight and burial, and a short time later we received the same sort of message concerning "Pizz," and we all felt better.

But patrol work and artillery fire spotting, with now and then a long reconnaissance trip, were not all of our tasks. We used to take photographs up in the air and found that quite interesting. These things made up our daily routine and it had to be some very exceptional thing in the end which impressed anybody. The exigencies of our calling were such that we grew not only indifferent to danger, but we became also very blasé towards everything. There was a great deal of keen rivalry, even to a fighting point, among the various squadrons, but what hard feeling there was generally vanished when some man died. In that case it was found that he had always been everybody's friend and his memory was held sacred by all.

Routine is likely to give life very commonplace aspects, as we thought, until some daredevil pilot would volplane us to the ground and add a few somersaults or loops just before he landed in the field, just to break the monotony. Some of the pilots had a habit of just missing the tops of our huts in order that the noise of the motor might break our sleep in the small hours of the morning. We might get up and curse the man until the air was blue, and shout vengeful words after him, but that would do no good. The fact is that right down in your heart you loved the same fellow like a brother.

In the air service men will stand on the ground and shudder at sights that they themselves have been responsible for when over the lines of the enemy. Moreover, you always have a feeling for any of the boys who are doing their bit in the danger zone. And after that you get into your bus and go up and do more of it.

Even a pilot oftentimes stands on the ground and shivers to see some of the things another flyer is doing. But he will climb into his own machine and go up and do the same stunts himself.

But there are times when I had reason to wish myself back on the ground even if it was under the most terrific shell fire that I had seen. The man who is wounded in the trenches or out on the open field does not fall very far as a rule, and he has a fighting chance for his life. But the flyer who is hit in the air has a small chance, and it made me think of the old saying, "If you're hit on the ground there you are, but if you're hit in the air where are you?"

However, I had joined the air service for better or for worse and I made up my mind to stick to it. I saw a lot of machines shot down in the course of time. Some of them took fire up in the air. Others crumbled to bits as they hit the ground, and in nearly all cases their crews were killed. Now and then the men in the machine would still live a day or two before they made their last trip west. But in only a few cases did men live long after they had come to earth from any great height in a machine which was out of control.

I used to think this thing over, but the thought never occurred to me that my end would come in this fashion.

I was summoned to appear before the commanding officer one day. He needed a gunner for a pilot who was going to take photographs. I felt less like flying on that day than I had ever done, but I went nevertheless—I went

because I had no choice, of course. The commanding officer of a squadron is to the men of his unit a little god, whose word is law and whom you dare not disobey if you wish to avoid unpleasant consequences.

So when the officer said, "Roberts, you go with Hyatt as gunner," I said: "Yes, sir."

That was all there was to it. I might have thought a lot, but those thoughts will always remain unspoken. For orders must be obeyed to the letter, whether the job is dangerous or not, under penalty of court martial for cowardice, so reads the little book called King's Rules and Regulations.

We got to a good height in very little time. In those days the average photograph was taken at the height of from 6,000 to 7,000 feet.

It happened to be a perfectly clear day in May. We got to the Hun lines and they were waiting for us it seemed. As soon as we stuck our noses over their lines they started to shell us for all they were worth. I had never seen such a shelling of an aeroplane before, and I confess that I was thoroughly frightened—almost frantic. The pilot was intent upon making good photographs, and he had to stay within the 7,000 feet altitude in order to get them.

There being no Hun plane up, I had little to do. I was kneeling in my seat and looking for Huns but not a one came, nor was there any reason why they should in all that "Archie" exhibition. The chances were very good that the Hun anti-aircraft batteries would get us down without some Heinie having to take a risk. We circled and circled over the German lines until Hyatt had taken fifty-six photos, as fine a collection of the Hun first, second and third lines as had ever been made.

When Hyatt had done that he had to prolong the agony by photographing the Hun reserve positions; not that he wanted to, for he was as frightened as I was. And after that we concluded we might just as well fly back home.

Well, when we counted the holes in our planes in the aerodrome we discovered that ninety-six holes, of various sizes, made by high explosive shrapnel had robbed our planes of much of their carrying capacity. A few more and the old bus would have settled down in Hunland no matter how much speed the motor might kick up.

I was interested in the course which some of the shrapnel balls had taken and discovered that many of them had come too close for solid comfort. One of them, for instance, must have missed my ankles by the veriest fraction of an inch. Another one had gone through the plane near the pilot and accounted for a slit nine inches long in Hyatt's leather coat.

I must make another remark about the holes in our planes. They were not small by any means. One of them was large enough for a cat to be thrown through. I guess that a whole shrapnel case must have gone through the plane. Shrapnel holes in the planes and the smaller perforations left by machine gun bullets had ceased to be of any consequence to the boys, however.

When I first entered the air service men still counted such things, and on the aerodromes they used to establish records based on the number of holes in a machine. But that got to be an old joke. The only performance which counted at this time was to come hurtling through the air for several thousand feet, land on the nose of the machine, and then get from under the

wreck with enough life left in you to make patching up worth while. If that could be done from ten to fifteen thousand feet, well and good, and if en route the gasoline tank took fire, good night. Nothing short of that could get a thrill out of the tough lot they had around the aerodromes.

We used to have considerable fun with the captive balloons of the Huns. The purpose of our attacks on them was to set them on fire, for nothing short of that could ever hurt them unless you shot them full of machine gun bullets. These captive balloons went up rather high, so our machines had a fair chance at them, if they could surprise them.

The bombs we used to drop on the captive balloons were of a deadly nature not only in so far that the phosphorus they contained would ignite the gas, but in addition to that they were deadly if dropped on the men in the trenches, as they produced incurable

burns, and the fumes were horrible to breathe, as they contained a sort of gas. Old Randie, one of our pilots, was sent over one day to get a Hun sausage. He went up three times before he finally got it.

This particular sausage had had a great deal of our attention. It never came up twice in the same place, but moved up or down the road a hundred yards before it ascended. Generally, it was from two to three miles behind the lines.

We all wondered what this Hun was up to, and Randie was sent up to find out. With his load of bombs aboard he started up. The Hun watched him come, for to the Hun an Allied flying machine means death in various ways.

This one knew that Randie was after him, so he had his balloon pulled down as soon as Randie came at all near him.

But the Hun seemed very anxious to (Continued on page 13).



#### Wednesday, June 26.

The Italians have opened an offensive against the enemy in the mountain region; London receives news that the Austrians are penned in on the east side of the Piave, the Austrian war office admits reverses along the Piave, but announce the retrograde movement has been carried out in accordance with plans, and without loss of material.

News reaches London that the Russian ex-czar has been slain by the Red guards.

The Kaiser puts an army of 3,000 men, with big guns, at Pote on the eastern coast of the Black Sea.

243,436 drafted men are to leave in the July 1 draft quota. This number includes all of Class 1 with the new 21's, and reclassified registrants; 8,900 of Michigan selects will go to Camp Custer according to this call, for initial training.

The first American army landed in France one year ago today, and Secretary Baker announces that between sixty-five and seventy per cent of the 900,000 American soldiers in France are actually combat troops.

Texas became a bone-dry state at midnight June 25.

#### Thursday, June 27.

President Wilson decides against a military blow in Russia, and will attempt a conversion by capital on a friendly but business basis. For this task a commission with wide powers will be sent. One amplification of the mission's work will be to render agricultural aid by practical business methods.

Secretary Baker will start the drawing for new registrants who have attained their majority during the year ending June 5. The lottery will effect 744,500 young men.

The state starts an inspection of breweries which are now making "near beer."

Italy expects another blow and believes that Austria will now try to link up the broken salients. It is claimed the Austrians lost 180,000 men in the attempted offensive.

There were 573 foe planes bagged in May, and 1,500 tons of bombs dropped by allied airmen in three months.

#### Friday, June 28.

Six hundred thousand Yankee soldiers now in line ready to meet the expected new German offensive on the western front. This force equals one-third of the enemy power for battle, and more American soldiers are reaching France every two months than Germany will be able to recruit in a year.

The United States envoys to Russia will be accompanied by an ally "armed guard," one contingent of which will be made up of Japanese troops. It is expected that the United States will take charge of the new eastern front in Russia.

The non-partisan vote defeated the G. O. P. in Dakota.

The new loan total is fixed at eight billions. Of this amount \$15,000,000 is

to be appropriated to the use of the Allies.

The government "shippers' board" asks sailors' union to arbitrate in the D. & C. strike.

State troopers are stationed at Monroe to watch for violators of the prohibition law at the Ohio line.

Wm. Alden Smith may enter the United States senatorial race.

#### Saturday, June 29.

Allies again block Paris and channel drive; foe is turned back at Ypres by Haig; the French advance on a front of four and a half miles, taking 1,000 prisoners.

Yankee troops now man eight sectors on the western front.

President Wilson consults with the French ambassador, Mr. Jules Jusserand, as to plans for aid for Russia.

Murder of the Russian ex-czar is denied by envoy.

Northern Michigan suffers a serious loss from blazing forests; all available men in Otsego and nearby counties are called to help. The loss is estimated at \$75,000.

Lumber mills of W. H. White & Co., at Boyne City, burns. Loss estimated at about \$300,000.

British munition steamship Atlantic carrying supplies from a United States port has been torpedoed and sunk, the report states there were no lives lost.

France, through the Chamber of Deputies, has declared the Fourth of July would be regarded as a legal holiday.

#### Sunday, June 30.

Italy's blow weakens foe positions all along the front. The Austrians have lost their offensive and are badly crippled all along the Piave.

British yacht fights German torpedo boat, loses ship, but puts up a bloody battle.

#### Monday, July 1.

The Italians attacking Austro-Hungarian lines on the Asiags Plateau, have taken Monte D' Valbella, capturing 800 prisoners and cannon and are holding their positions against repeated counter attacks.

Eugene V. Debs, four times socialist candidate for the presidency of the United States, has been arrested upon an espionage charge.

Coal allotment to Michigan is considerably less than one-half of the domestic requirements of the state.

#### Tuesday, July 2.

Italians take 2,020 Austrian prisoners in a new drive in the mountains north of the Venetian plains, gaining several heights where the enemy were strongly fortified.

United States navy program is to be speeded up and work is to be begun at once on the construction of forty-eight new war ships.

The first United States army under General Leggett is now fighting on the front at Cantigny or on the Marne. The army is composed of six divisions or about 220,000 men.

A resumption of the German offensive is momentarily expected.



## A FLYING FIGHTER.

(Continued from page 12).

continue his observations and went up again. Randie, who had returned, started for him once more. In that manner they played hide and seek for about two hours.

Finally Randie climbed up and found a hiding place behind a cloud. The other thought that his tormentor was gone, but discovered shortly that he was mistaken. When the balloon was up about half way, Randie took a dive from his hiding place and made straight for it, and then pulled the plugs to release the bombs. The two Huns in the captive balloon saw it coming, but there was nothing that they could do. Randie was upon them before they knew it, and as soon as the bombs hit they both jumped. It is not the prettiest sight in the world to see two men jump out of a balloon at four thousand feet from the ground.

The parachute of one of the men opened after a fall of five hundred feet or so. That stopped his rapid progress through the air and he descended safely enough. But the parachute of the other Hun never opened at all and he looked like a weighted rat as he sailed earthward. A speck of dust showed where he hit. He was only a Hun but he was game, and old Randie afterwards told me that he felt sorry for him. And Randie knew; he was an old timer, and game to the core.

Randie made the supreme sacrifice a short time later when he was hit by a high explosive shell while flying at about one thousand feet.

Randie was an Englishman—an English public schoolboy, well brought up. There is something in the training those boys get in one of those schools which they never forget. They are gentlemen and they show this quality. An Englishman who has been through Eton, Oxford or Harrow can be spotted as soon as you start talking to him, and he is generally as game as they make them. I have met several in my travels and they nearly all pan out alike.

And Randie was no exception to the rule. He was a gentleman and a sport. He did not believe in hard work but he did believe in efficiency. He read a lot, and once in a while you would see Randie drop his book and call for his bus. The mechanics, who liked him as much as we did and who would do anything for him, would get his bus out. Then Randie would put on his helmet and fly out to the line just to tease the Huns, as he called it. He would fly behind the Hun lines and of course the "Archies" would start working on him, and for every shell that "Archie" exploded Randie would give him a loop.

Randie would do that for a time and then take a dive at the Hun lines, empty out two or three drums of ammunition and fly back home. Then he would get out his book and start to read again as if nothing had happened.

## CHAPTER XIII

## Daredevils.

IN the days when flying was largely defence and observation, and not on such a large scale as it is now, the pilots in various squadrons used to try and beat each other doing tricks or stunts with aeroplanes. One man would go up and do a series of loops, another did tail slides and stalls, as we term a manoeuvre in which the machine is brought to a dead stop after reaching the apex of an upward curve. Another would do side slides and nose dives. And soon everyone could do everyone's else's stunts. Flying schools taught pupils that a spinning nose dive was fatal and no one had ever gotten out of one alive.

In 1916 some daredevil pilot flying a new type of machine, while flying along would roll his machine completely over sideways. Then some other pilot fig-

(Continued on page 15).



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# The Girl and the Calf

By ROSALIND WILSON

WHEN I first heard of the Calf Club, I thought it would be fine to raise a calf and have it all my own. When I spoke to my father about it, he was also interested, seeing in it the beginning of a herd of blooded stock. So the two of us attended the first meeting of the Calf Club at the Farmers' & Merchants' State Bank at Carson City, and I signed up for a thoroughbred Holstein



Rosalind and Her Champion Holstein calf, my father agreeing to back my note.

When the shipment of calves for the club came, my father went to town with me and helped me pick out a good one and bring it home. The first few days I kept her tied to the trees near the house, feeding her skim-milk hay and plenty of oats. Then in about two months I turned her into our alfalfa field, where she could eat her fill of tender alfalfa shoots, though I continued the allowance of milk and oats.

I knew roots were good for growing calves, so I planted some beets and carrots. My father plowed and fitted the ground and I took care of them during the summer.

I kept the calf in the alfalfa field until late in November and then put her in the barn with the other stock. I at once began feeding her carrots and alfalfa hay and as the time came nearer for the calf show, I began feeding beets which I knew were more fattening than carrots and would put her in good condition for the show.

Soon after I got my calf, I discovered that she was very lousy. I asked my father what I should do about it and he advised that I give her an application of Zenoleum and offered to help me apply it. So we made a solution of the proper strength and I held the calf while he put on the "louse killer." All went well until Bossie decided she did not like to be doctored and began to swing her head and switch her tail, with the result that I got spattered all over and even got Zenoleum in my eyes, but I hung on until father finished the job. He thought it a great joke to see me standing there in an old ragged dress with my eyes shut and hanging onto the calf for dear life. I had to repeat it in August and again in February. The last time, however, we tried a new remedy. Someone told me that ashes would kill lice, so I put some on her back. But one day while I was at school and my folks were away from home it rained, and, of course, the calf happened to be out. The ashes were so thick on her back that they stuck fast and the combination of ashes and water raised big blisters, which it took me some time to heal up.

The calf was kind of a family pet and would come up to any of us when we called her and sometimes would

follow us around when we didn't want her. She even furnished amusement for the family. For instance, one morning very early my mother was looking out of our kitchen window and saw a black and white calf down the road. Thinking it was mine she started down the road after it, but the calf was in a hurry and she lost sight of it before going far. She inquired of several people whom she met, if they had seen a stray Holstein calf, and she even went to the neighbors in her search but could find no trace of our stray Bossie. She finally gave it up and came home just in time for breakfast, only to find the calf peacefully nibbling the grass at the end of a rope. Mother had been chasing a calf belonging to one of the neighbors and, of course, we had a good laugh at her expense.

I have kept a careful record of the cost of feeding the calf; that is, I would have a certain ration that I would feed her and then compute at. As a matter of fact, after finding how the end of the month how many pounds or bushels of feed she had eaten; then I would get my father to help me set a fair price and in this way I kept my records from month to month. Much it cost to feed the calf and taking it over with my father, I have come to the conclusion that it costs no more to feed pure-bred cattle than

it does grades, and you can always sell them at a better price.

I have thoroughly enjoyed raising my calf, and although I am not sure that I can continue in the Calf Club during the coming year, I certainly feel that I have been well repaid for my time. I have learned a lot about the feeding of stock and about the importance of raising blooded stock, and although I have done most of the actual work, I know I would not have been able to do nearly as well, if it had not been for the advice of my father, Mr. Stebbins, the organizer of our club, and Mr. Edwards, of the Michigan Agricultural College, who took such an interest in our work.

## OUR FEATHERED POLICEMEN.

The birds are our feathered policemen that help protect our crops from bugs and worms. A mother bird with a nest full of young birds needs two to three hundred bugs and worms a day to feed them. Plenty of birds around makes a hard drive on our enemies, the insects. Cats are great bird catchers and especially stray cats, but even the puss that enjoys a good home and food loves to hunt birds. The birds should be given all protection possible.—Extension Division N. Dak. Agricultural College.

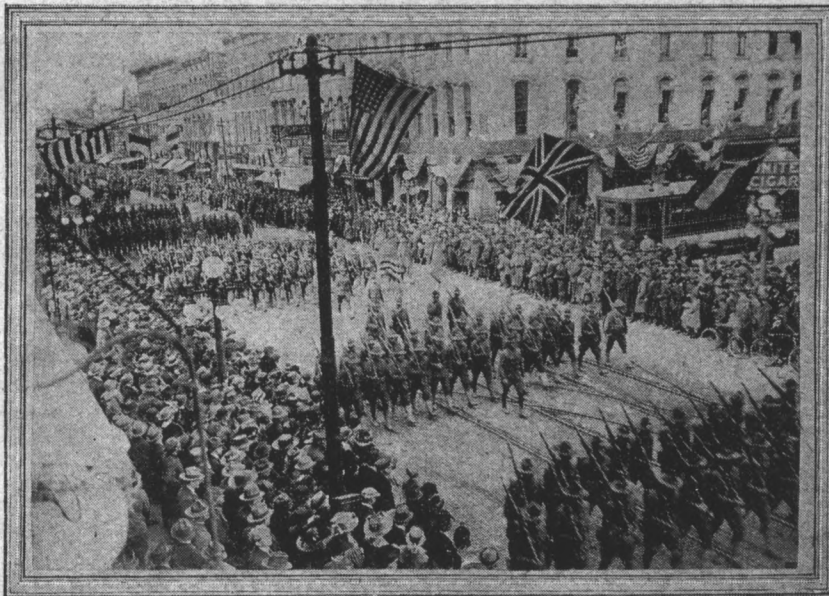
Some men are like bumblebees—they keep in the center of the scene and fuss around all the time, and produce nothing useful.

## From the Furrow to the Trench

By J. H. BROWN

HERE are some of the boys who read the Michigan Farmer. The scene is in Battle Creek in the center of the business section on Main street. Among the hundreds of soldiers marching are a lot of boys who recently left their farm homes in various parts of Michigan. They have been in training for some time at Camp Custer and by the time this picture appears in this paper nearly ev-

Look closely and fondly on this picture, you farmer fathers and mothers, brothers and sisters, wives and sweethearts. Some of you Michigan Farmer readers have boys in line marching on that street. And remember, we took this picture especially for this paper because it was to be the last time these boys were to parade outside of Camp Custer before going over the ocean to fight for their country.



## Under the Flags of the Allies

every one of them may be in France fighting the kaiser and his horde.

We have made the acquaintance of many of these boys who tell us the folks at home take the Michigan Farmer. On numerous occasions during the past seven months these soldiers from the camp have come down town and marched on our streets, somewhat as you see them doing in this picture. The first few times they appeared they did not present quite so trim a military appearance but they have now become some of the very best soldiers on earth and can fight like the dickens, as the Huns are already finding out.

In the first, second and third double ranks of soldiers shown in the center and to the right of the street are a number of farmer boys we got acquainted with. Several of these boys told us they had read this paper for several years and wished they might get the copy that contained this special picture. And it is possible that more than one farmer may be able to send a copy on to the boy over there. This picture is a timely one to appear at this time. Here's hoping that every boy may come back again and march in triumph in this same street after a glorious victory has been won for keeps.

## "By the Way"

IT WAS HE.

Young Man at the Door.—"Is—is—Miss Smith at home?"

Stern Father.—"Yes, but she's engaged."

Meek Young Man.—"Yes, I know it. I'm what she's engaged to."

## NOVEL PATTERN.



An elderly lady entered a store and asked to be shown some tablecloths. A salesman brought a pile and showed them to her, but she said she had seen those elsewhere—nothing suited her.

"Haven't you something new?" she asked.

The clerk then brought another pile and showed them to her.

"These are the newest patterns," he said. "You will notice that the edge runs right around the border and the center is in the middle."

## YOU BET.

Every married man can name one woman who has a fine husband.

## NO EXPERIENCE.

A Kindergarten teacher was telling the children in her department about sparrows; concerning their ways and habits. Among other things she said: "The sparrows eat up the worms. Now children, which would you rather have, worms or sparrows?"

"I've never had sparrows," piped up a tiny boy near the front.

The solemn truth isn't half as entertaining as a cheerful lie.

It's a lot better for the whole of us to be eating American oats, or rice, or corn or barley, or Irish-American per-tatoes than to have the Kaiser feeding us German crow at the point of a sixteen-inch gun," says Mrs. O'Flaherty.

## BUY AT HOME.

In discussing how a lack of cooperation causes waste in getting the product from the producer to the consumer, Dr. Henry Jackson Waters, formerly president of the Kansas State Agricultural College, recited the following in his address to the graduating class of the Colorado Agricultural College:

How the Mississippi Farmer Lives. He gets up with the alarm of a Connecticut clock, fastens his Chicago suspenders to his Detroit overalls, washes his face with Cincinnati soap in a Pennsylvania wash-pail. He sits down to a Grand Rapids table and eats Indiana hominy, fried in St. Joseph lard on a St. Louis stove.

When breakfast is over he puts a Kansas City bridle on a Tennessee mule and plows a Mississippi farm covered by an Ohio mortgage. When bedtime comes he reads a chapter printed in a Chicago prayer-book written in Jerusalem, crawls under a pair of blankets made in New Jersey, to be kept awake by the howl of a Mississippi dog, the only home-raised product on the farm.



## A FLYING FIGHTER.

(Continued from page 13).

ed how to get out of a spinning nose dive without injuring himself or the machine. Then the roll was applied while the machine was upside down at the top of a loop.

Soon the scout schools were teaching their pupils to do all such stunts, and they were applied to gain time or to win advantage over an adversary while engaged in combat, or to dodge anti-aircraft shells. In this manner the art of flying was developed by leaps and bounds.

It was surprising to see the number of evolutions a machine could be put through by a pilot who could do stunts properly. It was a common occurrence too see the machines come back from the lines and patrol work doing all kinds of funny stunts. They would cut all sorts of queer figures like a litter of playful kittens. There were a number of other stunts in which the pilots took pride, such as flying a few feet from the ground behind the German lines, or skipping just over the tops of the parapets of the Hun front lines, using their machine guns as they went. These manoeuvres were very dangerous, but a flying man in his prime never thinks of danger—if he did he would quit flying.

In the early part of 1916 I used to fly as observer for a daredevil pilot best known as K. K.'s one ambition was to touch the wheels of his under carriage on the ground somewhere behind the Hun lines.

Generally when a man does things that are forbidden something happens. Fate seems to punish one for the things that are foolhardy. And if fate had punished K on this special occasion I might not be here to tell the tale. But fortunately fate waited until our return to the aerodrome.

We were up on an early morning patrol, having started at dawn, and there was no action behind the German lines, as was usually the case at that hour in the morning. The sun was just starting to show itself over the horizon and with it came the promise of a fine day, which meant lots of work.

I was busy looking for a battery of German guns which had been reported active the night before, when all at once the Hun aircraft batteries opened fire on us. The explosion of the shells came so thick and heavy that our machine was tossed around by the concussion as if it were a cigarette paper. K shut off his power, and I kept watch to find the batteries that were doing the shooting. I found one on the way down but I soon lost all eagerness to put it out of action, for K made no attempt at getting back to our lines.

I looked over to make sure that he was not wounded, and, as the engine still turned, I wondered what was happening.

We went down behind the German lines until we were just over the tree tops. K then opened the throttle and the engine responded all right, but he closed it again, and I can't describe the strange sensation I had. I swallowed my heart, and made up my mind that I was to be a prisoner for the duration of the war.

That thought was not pleasant, especially after hearing the hair-raising tales which were told of the way our prisoners were being treated by the Germans. I shouted to K that the engine was all right, but he merely looked at me. I put a drum of ammunition on my Lewis gun, for I had made up my mind to kill him if he were a spy, and then I would make the attempt to fly the machine back myself.

(Continued next week).

A woman may insist on having the last word in an argument, but even after you've granted her that you've got to be mighty careful or she'll start another argument.

## Assured Quality Engines

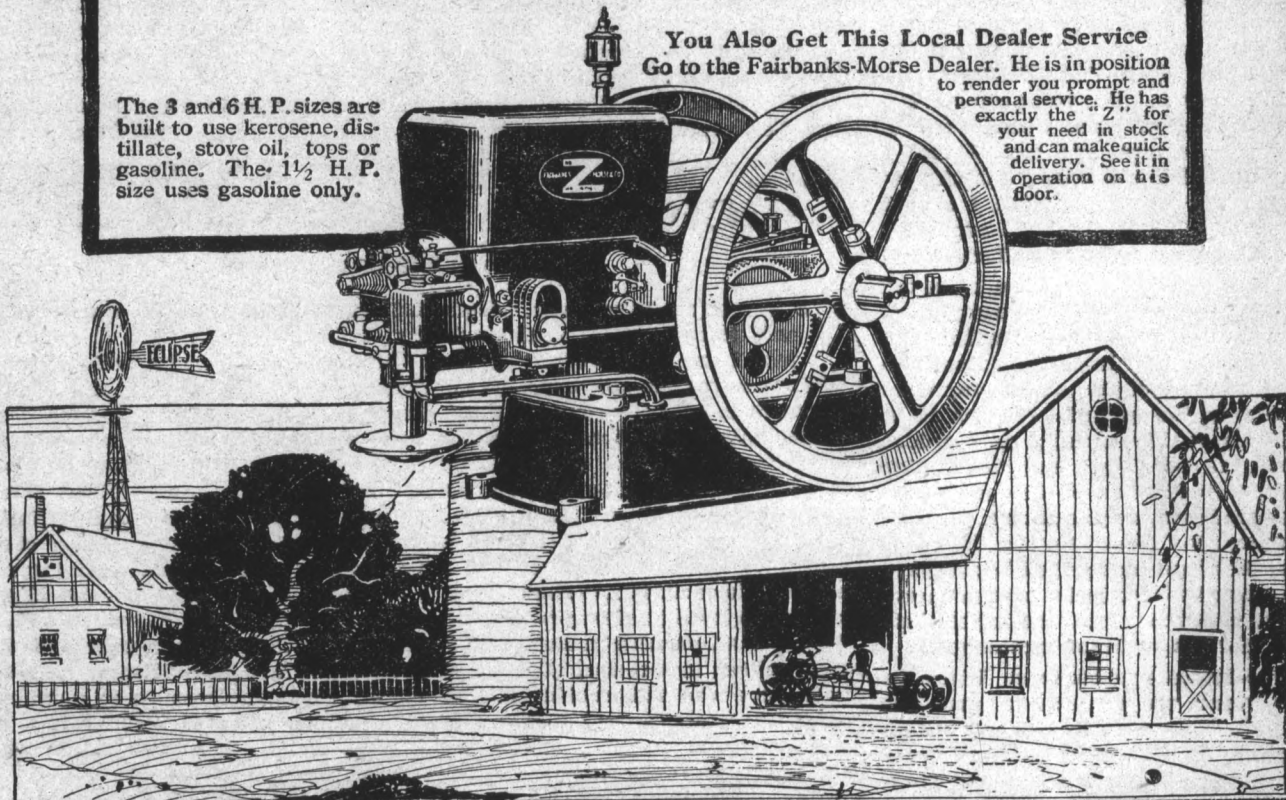
**G**ENERATIONS know that the nameplate "Fairbanks-Morse" on any product assures quality.

This is the famous "Z" engine — all sizes with more than rated power — that over 150,000 farmers have backed with \$10,000,000—to do their work best. No farm engine ever before has made such a record.

Cuts fuel costs in two — the 3 and 6 H. P. engines giving more than rated power on kerosene at half gasoline war-time prices.

The 3 and 6 H. P. sizes are built to use kerosene, distillate, stove oil, tops or gasoline. The 1½ H. P. size uses gasoline only.

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I give you real deep brass burners with short chimneys that put the hot flame right up under the cooking vessel. Broad top, crystal glass oil tank, oven lined with asbestos. You cannot compare Boeck's Blue Flame with usual oil stoves. A free trial proves it. Send it back if I am wrong. Write today for low factory price and new catalog. Address Boeck Stove Co., Dept. D, Jackson, Mich.



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"Making Oil Stoves  
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TO PAY**

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Please Mention The Michigan Farmer When Writing to Advertisers





# Woman and Her Needs

## At Home and Elsewhere



### Having the "Time of Your Life"

NEW York is a wonderful city, but I should not care to live here all the time," writes a woman whose husband's war activities have taken her from a small Michigan village to the wonder city of America. "Just think, only a few months ago I was chafing at having to spend my life in a dull little burg like N—. Now I would give all I possess if we were safely back there and this dreadful war was over. I was having the time of my life in those old days, and didn't know it. The tears come every time I think of home with its safety and peacefulness, and realize that I may never know it again. I think now if the war would only end I should never complain again, but I suppose I should. I'm very human after all."

The intensely human element in the writer reveals itself in the one phrase, "I was having the time of my life, and didn't know it." Isn't it the most natural thing about us humans, from the cradle to the grave? We see it in children readily enough, their ardent desire to be "big," and their utter lack of realization of the good time they are having as youngsters. Haven't we reminded them time and time over that they "are seeing their best days?" Yet their keenest desire is to get away from childhood into the mysterious and glorious realm of grownupness.

The future ever beckons. When we are grown up we plan to have our good time after we've attained certain objects. When we get a certain salary or can live in a given street or know the best people in our town or perhaps write a book, then we'll be satisfied and enjoy life. But this very prosaic drab today is too ordinary to have a good time in. Isn't that the usual human attitude? We're always going to have "the time of our lives" but never do, just because we do not make up our minds to have that good time today.

Today, that's the only time you're sure of. Why not make it the time of your life? It would be very easy, for having a good time depends entirely on your state of mind and not at all on the thing you are doing. Haven't you seen some women who were in their glory when scrubbing the kitchen floor or getting a tremendous washing on the line before any of the neighbors could, while others were unhappy and irritable when at picnics or on excursions or at parties, supposedly having a good time? The difference was entirely in the mental attitude. One woman was doing the thing she enjoyed, while the other wouldn't enjoy anything because she was completely out of tune.

The United States Bureau of Education is sending out literature on training little children. In one of the articles is the admonition, written by a mother, "Love what you have to do," with the further sage advice to mothers to "retire into themselves several times a day, no matter how tired they feel, and repeat these words, 'I love what I have to do.'" I know at least one mother who would have to live in a chronic state of retirement, the care of small children is so entirely foreign to her. But the advice is none the less

sound. If we can make ourselves love what we have to do life is much easier and we can have our good time daily—and know it. Of course, it is no easy matter to make yourself love the thing you just naturally despise, but at least you can refuse to harbor the thought that you hate it. You can jolly yourself at first with the idea that it isn't so bad after all, and in time even the ugliest thing you have to do will come to look good to you.

Have the time of your life today by doing the thing nearest and liking to do it. Tell yourself that it's your part

in making the world safe for democracy, even if the thing is only washing your own dishes. If you do them yourself you are leaving some other woman free to do the work of a man who has gone to fight for you. And while you are having your good time, know it. Don't wait for war or some other disaster to come along and open your eyes to what you've been enjoying. Get the most out of each moment, whether you're in the kitchen or out for a good time. Then, and then only, will you really enjoy living.

DEBORAH.

### Victorious Victory Bread

By An Ex-Baker

AS I have conversed with friends and acquaintances on this subject, I am forced to the conclusion there is considerable defeat in being unable to produce palatable, digestible, victory or war bread. It is not conserving food if we use up good flours and our bread is not edible; as in some cases of which I have heard. Perhaps there never was a time when so many recipes were given, but a mere cold formula is not sufficient to guarantee a good finished product.

There is an element in skill that is never written in a recipe. I heard of a man once who had trouble with his pump; after exhausting his own skill he called in the aid of an expert who, upon arriving, examined the pump with one blow of the hammer the difficulty was ended. When the bill came

difference in the character and quality of the gluten.

Gluten is the element which gives toughness to dough. It is the tough gray mass found after the flour has been washed. It is what makes wet flour sticky. It is this tenacious elastic quality which makes wheat flour superior to all others in bread making. Barley contains almost as much gluten, and oatmeal a considerable larger percentage, than wheat, but the elastic quality is lacking. Corn and rice have a much smaller percentage of gluten and are also lacking in this quality. If this is borne in mind when using them in bread making it will eliminate the difficulty which has caused most of the trouble.

When whole-wheat flour is used alone the chief trouble is caused by

The following table shows the comparative chemical composition of wheat and other bread-making materials and their caloric value:

	Pro.	Car.	Water.	Fat.	Ash.	Fiber.	Fuel Value.
Oatmeal .....	16.1	67.5	7.3	7.2	1.9	.9	1860
Rice .....	8.6	68.0	8.5	6.1	3.8	16.1	1680
Wheat entire .....	13.8	71.9	11.4	1.9	1.0	.9	1675
Wheat patent .....	11.7	74.5	12.3	1.1	.4	.1	1650
Corn .....	7.1	78.4	7.1	1.3	.6	.9	1645
Barley .....	10.5	72.8	11.9	2.2	2.6	6.5	1640
Rye .....	6.8	78.7	12.9	.9	.7	.4	1630

in it called for twenty-five dollars and fifty cents. When the owner of the pump went to pay the bill he said he did not object to paying it, but to satisfy his curiosity he would like to know what the fifty cents was for. The man answered: "The fifty cents was for hitting the pump with the hammer, and the twenty-five dollars was for knowing how." Skill is not only knowing what to do, but how to do it. An expert can make good bread out of almost any kind of flour.

The suggestion has been made that the former recipes be used as a base from which to work and then adapt them to the war flours. This, I believe, is a good suggestion. When we were using white flour alone every new lot that we received had to be tried out before we knew definitely how it should be handled. Sometimes the flour was very weak and the dough had to be made exceptionally stiff, while at other times it was very strong and the dough had to be made very soft. The difference required in the handling was caused chiefly by the

presence of the large amount of bran, which is about twenty-six per cent. The bran has no elastic qualities, consequently is not inflated by the gas, which is generated by the yeast, but it does become inflated with water. This has to be met with plenty of yeast in order to hold it up, a short period for fermentation, very soft dough and an oven not too hot. Thus far the bakers have used only twenty-five per cent of substitutes, with this amount there is not much difficulty, but when we are obliged to buy one pound of substitutes for every pound of white flour, a larger percentage must be used in bread in order to make use of all of them.

While it is not absolutely essential, yet in order to get the best results, the cornmeal and oatmeal should be scalded. This breaks up the starch and enables it to become more thoroughly united with the wheat flour. The proprietor of one of the finest bakeries on the south side of the city of Chicago, recently told me that when he put the oatmeal into a bowl and poured scalding water over it the pre-

vious evening he always had the best oatmeal bread.

When scalded flour is used the doughs must be set quite stiff as much water is absorbed during this process, and during the fermenting period it will continue to slacken. In the case of barley it is not necessary to scald. The period of fermentation should be short as it rises quickly and soon becomes exhausted. On account of the much higher price of rice flour, it is less popular but can be used in much the same manner as corn and oatmeal. This must be cooked or scalded before using.

One of the most important things in connection with being successful with all these different kinds of bread is the baking off, and the size of the loaves. Pans used for baking one-pound loaves of white bread will require two pounds of war bread in order to fill the pans sufficiently to give the dough support. When thirty-three to forty per cent of war flour is used it is difficult to bake it thoroughly. This amount will require one hour or more.

If the oven is as hot as when baking white bread, it will burn on the top before the center is done, consequently the oven should be at a moderate heat. With loaves of this size soggy is one of the most difficult things to avoid. This certainly must be avoided as there is nothing in the form of food that is more destructive to good digestion and good health. Pans much smaller in size should be used. Loaves weighing from one pound to one and a half gives much finer results and can be baked through without difficulty.

When these ideas followed out war bread can be made with success, can be digested, and can be eaten with considerable relish.

#### CLEAN THE BABY'S TEETH.

Good sight is perhaps the most important thing in life, yet more than one-fifth of the men rejected for army service were rejected because of defective sight and one-half as many more were rejected because of poor teeth. Mothers are being urged during this national baby year to give more attention to the care of the eyes and teeth of their children.

The child's teeth should be cleaned as soon as it has any. Wrap a bit of sterilized muslin around the finger, dip in boracic acid solution, and swab the mouth and teeth each morning. As the child grows older, teach him to brush his own teeth at least twice daily. At least once a year, if possible, have a dentist look his teeth over and fill any cavities. Many parents cannot afford this, but free clinics have been established in many places.

Do not let the baby lie in strong sunlight or stare at the lamp. As the children grow up, see that they study and read with the light coming over the shoulder. After an illness have them refrain from reading or close work until they are thoroughly strong. See that your schoolhouses are properly lighted.

Helpful suggestions for the care of both eyes and teeth may be secured by writing the Chief of the Children's Bureau, United States Department of Labor, Washington, D. C., for pamphlets, "Prenatal Care," and "Infant Care."



## Food

### LITTLE CUBES OF SUGAR.

Little Cubes of Sugar  
Little grains of wheat,  
Save them with the bacon  
And other kinds of meat.

Ill-fed fighters weaken  
Ill-fed nations yield.  
It's up to us to keep our allies  
Strong to take the field.

Every dinner table  
Wherever people eat,  
Will help decide the verdict  
Victory or defeat.

### COMBINATION MUFFINS.

The following recipes have been thoroughly tested by specially trained specialists and housekeepers:

#### Barley Flour and Oat Muffins.

1 cup milk or water,  
1 tablespoon fat,  
2 tablespoons syrup,  
2 eggs,  
4 level teaspoons baking powder,  
1 teaspoon salt,  
1½ cups barley flour,  
¾ cup ground rolled oats.

#### Buckwheat and Oat Muffins.

Same as above, using one cup buckwheat and three-fourths cup of rolled oats.

#### Buckwheat and Corn Muffins.

Same as above, using one cup buckwheat and one cup corn flour.

#### Barley and Corn Muffins.

Same as above, using two and one-third cups barley flour and one-half cup corn flour.

#### Oatmeal and Corn Muffins.

Same as above, using three-fourths cup ground rolled oats, and one cup of corn flour.

#### Buckwheat and Barley Muffins.

Same as above, using one-third cup of buckwheat and two and one-third cups barley flour.

### CONTRIBUTED RECIPES.

Household Editor.—Being interested in the recipes for using substitutes, I am sending some which I find very good.

#### Molasses Cookies.

¾ cup shortening,  
2 eggs,  
1 cup molasses,  
1 cup hot water,  
2 teaspoons soda dissolved,  
1 teaspoon salt,  
4½ cups barley flour,  
1 teaspoon cinnamon,  
1 teaspoon ginger,

Drop from spoon on greased tin and bake in hot oven.

#### Oatmeal Cookies.

2 cups sour cream,  
1½ cups sugar,  
2 eggs,  
2 teaspoons soda dissolved,  
1 teaspoon salt,  
1 teaspoon cinnamon,  
1 teaspoon vanilla,  
3 cups oatmeal,  
2 cups barley flour.

Drop from spoon and bake in hot oven. This recipe will make about fifty cookies.

#### Corn Bread.

1 cup molasses,  
3 cups sour milk,  
1 egg,  
2 teaspoons soda,  
1 teaspoon salt,  
3 cups cornmeal,  
2½ cups barley flour.

This will make two good loaves. Bake in moderate oven until the bread shrinks from sides of tins.

Money and time spent to beautify the home is the best investment one can possibly make. The department at Washington, the M. A. C., or the University of Michigan will gladly furnish any information along these lines.

### MICHIGAN FARMER PATTERNS.

Any of the patterns illustrated may be secured by sending order to Pattern Department, Michigan Farmer, Detroit, enclosing the amount set opposite the patterns wanted.



No. 2457—Ladies' Apron. Cut in four sizes, small 32-34; medium 36-38; large 40-42, and extra large 44-46 inches bust measure. Size medium requires 5½ yards of 36-inch material. Price 10 cents.

No. 2104—A Charming Lounging Robe. Cut in four sizes, small, medium, large and extra large. Size medium requires 6¼ yards of 44-inch material. Price 10 cents.



No. 2455—Girls' Dress. Cut in four sizes, 8, 10, 12 and 14 years. Size 12 requires 2½ yards of 27-inch material for the blouse, and 2¾ yards for the skirt. Price 10 cents.

No. 2479—Girls' Dress. Cut in five sizes, 6, 8, 10, 12 and 14 years. Size 12 requires 3¾ yards of 44-inch material. Price 10 cents.



No. 2473—Dress for Misses and Small Women. Cut in three sizes, 16, 18 and 20 years. Size 18 will require 5¾ yards of 36-inch material. The skirt measures two yards at the foot. Price 10 cents.

No. 2480—Ladies' Dress. Cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 requires six yards of 36-inch material. The skirt measures a little more than two yards at the foot. Price 10 cents.



No. 2137—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. It requires 3¾ yards of 36-inch material for an eight-year size. Price 10 cents.

No. 2450—Sun Bonnets for Ladies and Girls. Pattern including both styles is cut in one size—medium for ladies, and girls. It requires for No. 1, 1½ yards; for No. 2, 1¾ yards of 32-inch material. Price 10 cents.

## The Mystery of Rubber

Few people realize that of all the raw materials in general use, the one that is least understood by science is one that is most common—rubber.

Rubber still baffles the skill of the chemist.

When rubber is vulcanized, no one knows what actually takes place. No one knows why continued pressure on a sheet of rubber has the same deteriorating effect as heat. There are theories galore, but no positive accepted truths. Rubber makers still have worlds to conquer.

This is why it is possible for there to be such an amazing condition as exists today in the manufacture of inner tubes.

By the control of a secret process, the Empire Rubber & Tire Company of Trenton, N. J., have been able to make a tube which instead of having to be replaced every year or so, ordinarily lasts as long as the average car itself.

What usually junks an inner tube is premature old age.

After the ordinary tube has been in service about so long, it gets brittle and "checky" and finally won't hold

air. But the Empire process gives to the tube longer life than crude rubber itself usually possesses.

For twelve years this secret process has been used in making Empire Red Tubes. In all that time, there has never been an off year, nor a change in the process, because no improvement has been necessary.

Many of the first tubes made by the Empire process are still in service—punctured and patched up but yet in the running.

This record of ten years has proved that in the vast majority of cases an

Empire Red Tube will last as long as the average car itself.

The only mystery about Empire Red Tubes is how they are made.

Everyone knows the superlative service they render.

They have changed the status of the inner tube from that of an accessory that wears out and goes to the junk-heap to that of a part of the permanent equipment of a car.

Use Empire Red Tubes and cut your tube expense in half.



Empire Red Tubes

Last as long as the average car itself

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With a  
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Tire Pressure Gauge  
and save your tires.

Tires that are maintained under the air pressure prescribed for them by the tire makers last twice as long as tires whose inflation is guessed at.

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200 Standard quart baskets (wood) postpaid, \$1.60.  
200 Wax Lined Paper baskets postpaid, \$1.40.  
Above prices apply to points within 150 miles of Lansing.  
Special prices on baskets and crates in larger quantities.

**M. H. HUNT & SON,**  
Box 255, Lansing, Mich.

**DOGS**

Belgian Hares, Flemish Giants, white rabbits, guinea pigs, pigeons, ferrets, swine, dogs and puppies of all breeds; young stock specialty. Stamp for circulars. Chas. Ridgely, Canton, Ohio

**Scotch Collie Pups For Sale.** Pure bred stock, prices reasonable.  
O. E. Hawley, R. 3, Ludington, Mich.

## Don't Say "A Pound of Tea"—Say "SALADA" TEA

then you'll get the real deliciousness of pure, fresh, fragrant leaves blended to perfection. At your grocer. Sealed packets only.



# Our Boys and Girls

## At Work and play

### College Awards State Championships

Profit from one acre of corn \$133.03.  
Profit from one acre of beans \$158.40.  
Profit from a small garden \$113.00.  
Profit from farm flock of hens \$276.55.

HOW do these strike you, Mr. Farmer, as examples of efficiency in food production? No, they are not imaginary figures—they are a summary of real reports from real boys and girls who have been awarded the crop and garden championships of Michigan. The selection of the winners was made by the Boys' and Girls' Club Department of the college from among the 30,000 young people who, during 1917, were members of boys' and girls' clubs in every part of the state.

When Michigan undertook to do its bit in 1917 towards helping keep the boys in khaki well supplied with food, the Boys' and Girls' Club Department of the M. A. C. called on the young people of the state to enlist. These young people, between the ages of ten and eighteen years, were formed into gardening clubs, poultry clubs, corn-growing clubs, bean-growing clubs, and a number of other producing organizations.

The most efficient producers from among all these, and there were in the neighborhood of 30,000, have been selected as the all-state champions.

The coveted ribbons for corn growing were awarded to Harold Ray Coffman, seventeen years of age, of St.



Harold Coffman, the Best Corn Grower.

Johns, in Calhoun county. Glenn Whidby, sixteen, of Delton, won second place. The championship in bean producing was won by Glenn Aldrich, thirteen, of Big Rapids, and first place among the gardeners was won by Frederic Kibbee, sixteen, of Coldwater. A girl, Miss Ruth Collier, sixteen, of Ceresco, was best among the members of the poultry clubs, and Miss Bertha Collier, fifteen, of Battle Creek, was selected for first place among the members of the garment making clubs.

And here let it be said that it was ability, and not luck, which enabled the champions to win as they did.

Take the case of Harold Coffman, the boy who won the corn prize. He harvested eighty-three bushels of shell-

ed corn off an acre of land. From this he realized a net profit of \$133.03, because much of his corn was of such good quality that he was able to dispose of most of it at seed corn prices.

Harold's account of the methods he pursued to achieve these results might well be followed by many of his elders within the state.

"I tested my corn by the individual ear method," he said, "and then I plowed the field early in the spring



Ruth Collier, the Girl who Won with Poultry.

and allowed the stock to run on it until a week before I planted the corn. This firmed the soil so that there were no air spaces in it. Then I planted my corn and it came up in about two weeks. I kept the ground well cultivated until the tassels began to appear.

"My corn was caught by the frost on October 6, but it was nearly ripe by this time. I went through and selected the seed corn and began harvesting on October 15 and finished on October 30.

"The best method of curing the seed corn, I found, was to hang the ears without touching, in an upstairs room, with the windows wide open.

"If I had to raise my acre of corn over again I could cut the cost of production and could also dry more seed corn. I believe that if every boy on a farm was given a chance to take part



Bertha Collier, an Expert at Garment Making.

in club work and have something of his own, there would be fewer boys leaving the farm to go to the city."

Glenn Whidby, of Delton, the boy who won second place among the corn clubs, did almost as well as his St. Johns' rival. Glenn harvested 88.7 bushels, but he was not able to make quite as much profit. His net returns from his acre were \$98.95.

Glenn Aldrich, of Big Rapids, the boy who made out better with his beans than any of the hundreds of others who took up bean growing, harvested a crop of twelve bushels from a plot of ground about nine-tenths of an acre in extent. He was able to sell his crop for seed at \$15 a bushel.

Glenn fooled anthracnose and blight, the two old foes of the bean crop in Michigan, by scrupulously selecting his seed.

"When I sold my beans in 1916 I selected the seed I planted in 1917," his report says. "I also hand-picked them because I thought I would get better results. I removed all the diseased, bruised and small beans from the seed I was going to plant.

"The way I overcome diseases is to select large, healthy stocks before threshing and have these threshed separate for seed, and pick out the diseased beans if it is necessary."

Made Poultry Pay.

Miss Ruth Collier, of Ceresco, was most successful among the boys and girls who undertook to help with poul-



The Boy who knows Beans, Glenn Aldrich, of Big Rapids.

try. During the year she raised 246 chickens with a total net profit to herself of \$276.55. Her total income for the year was \$393.58. In addition to the state prize, Ruth also won two county prizes.

A Coldwater boy, Frederic Kibbee, started out with a plot of ground three-quarters of an acre in area, and from this he secured garden crops which he was able to sell for \$190. His expenses for the summer were \$77, making his profit \$113.

The prize for garment making was awarded to Miss Bertha Collier, of Bat-

tle Creek, who during the year made articles valued at over \$40.

All the young people will hold their honors until 1919, when the winners among this year's club members will be announced.



Glen Whidby, of Delton, a Close Second with Corn.

#### LEADERS OF JUNIOR CLUBS TO CONVENE.

The thousand leaders of the Boys' and Girls' Clubs of Michigan will meet at the Michigan Agricultural College at East Lansing from July 9 to 13 for a five days' conference. The conference, which will be in the form of a training school for club workers, will consider plans for the further enlistment of the younger generation of Michigan's citizens in the work of food production. E. C. Lindemann, state leader of Boys' and Girls' Clubs, and Miss Anna B. Cowles, leader of the Girls' Clubs, will direct the deliberations.

#### CLUB NEWS.

Fifty thousand Michigan boys and girls whose homes are in eighty different towns and cities, are plying their hoes and raising crops this summer to help whip the Hohenzollerns.

"Eighty Michigan cities are carrying on organized work for children," but there are probably many more cities where gardening work is being done. The eighty municipalities mentioned are simply those in which the work is organized under the Boys' and Girls' Club Department of the M. A. C., and the United States Department of Agriculture.

There are also seventy-four state, district, county, township and city supervisors at work on a paid basis, while one thousand volunteer workers have also enlisted.

In addition to these gardening clubs there are approximately fifty corn clubs, seventy-five potato clubs, ten calf clubs, thirty-five pig clubs, seventy-five poultry clubs, ten sugar beet clubs, thirty bean clubs, ten sheep clubs and one hundred and fifty canning clubs.



## Letters from Our Readers

### KIND READER:—

We would like a word from you regarding any of the important issues that confront Michigan farmers. Whether you think as we do or not, we would be glad to know your opinion. In writing make your letters brief—short ones are more interesting.

Sincerely yours,

THE EDITORS.

### Thinks Big Farmer Favored

AS I am an old subscriber to the Michigan Farmer and value it highly, all of its contents, I also subscribe to and receive six other farm magazines, to which I am writing this same request, as it is a question which is of interest to the general farming public. So I feel that you will not disappoint me when I ask you to discuss it through your columns, and I shall watch closely for it.

MR. BLANK,  
Paw Paw, Mich.:

Dear Sir:—The executive committee of this bank has found it necessary to refuse your application for a loan, owing to the fact that there is not enough land in this tract to be called a farm.

H. K. JENNINGS, Sec'y.  
Federal Land Bank of St. Paul.

1. How much land is required to constitute a farm?

2. Does the federal land bank law as enacted, designate how much land shall constitute a farm, subject to a federal loan?

3. Does the same law arbitrarily grant to the executive committee of any federal land bank the right to say how much land shall constitute a farm?

4. If this law does grant such powers to any committee, then it must be one more law enacted for the benefit of the big fellow. Am I right?

The farm in question contains seventeen acres and is operated as a general farming proposition. It has buildings worth \$1,000. The owner sought \$500 for the purpose of paying off an incumbrance of \$500, also to complete started improvements.

This property was favorably appraised by local committee, also the bank's representative. The Michigan Trust Co., Grand Rapids; the Ancient Order of Gleaners, also the cashier of the local bank affirmed this loan. Surely the security was ample. Personal equation must be right. Then why should the federal bank refuse unless they wish to go on record as helping the big fellows?

V. C. SHERROD.

### NORTHERN MICHIGAN.

At this time of unprecedented agitation in regard to food production and food conservation it would seem that the present is an opportune time to exploit the advantages of settling the large tracts of cut-over land in the northern part of Michigan.

There are three factors at work trying to settle northern Michigan. There are the large lumber companies who hold the bulk of it and don't pay enough taxes on it so but that they would, as soon, or rather hold it until it is worth more but, of course, that won't be until someone else has done some real work.

Then there are real estate agents. Some of these might be classed as land sharks. They feel that their responsibility ends when they have secured a payment down that will make it an equally good deal for them whether the buyer makes good or not.

Then there are the development bureaus. These are made up partly of the two classes just mentioned, together with some sincere people who would really like to see some results.

Now it has occurred to me that there are two plans that might work out in this region. One would be a sort of colonization under the supervision of the state or some other responsible agent that would give prospective settlers confidence and then devise means to help them over the hard places by going at it in a systematic way, selecting a suitable location and advertising so people would be acquainted with their plans. Settlers would be found and by settling in colonies most of the hardships could be eliminated. In some cases even, one team and set of tools might do for two families. Lime and fertilizer might be bought in carlots, educational and social problems would take care of themselves, good roads and all their attending advantages could be had, such as rural free delivery, etc. Also telephones and even railroad branches, and presto, this wilderness of brush would blossom into a happy and prosperous settlement that would soon take care of itself and grow till northern Michigan would instead of being almost a disgrace to our fair state, become a rich and beautiful section.

How about the frost, someone asks. Well, it has been proven that settlement in extensive tracts tends to lessen the danger of frost and experts could determine what crops would be best suited to these localities and help solve the problems, but it would not accomplish anything to get the colony started, then forget. The other plan would be for men of means to graze large numbers of young cattle on the vast areas of waste land to be furnished in southern counties where the grain is easier to get, thus saving large numbers of veal calves to grow into beef which might help on the food question and be a good thing for the state besides.

HENRY DALE.

### DOING THEIR BIT (?)

Not long ago while traveling one of the main roads to the county seat my eye was greeted by a huge sign board, featuring the automobile industry.

Now I am not saying a thing against the automobile for they are all right in their place, but look at the amount of lumber used in a sign 10x30 feet. How many little chicken coops would it build? It would house a binder if used for a lean-to shed. Three or four of them would build a hen coop.

This sign board set me to looking around, and on a seven mile road there were sign boards enough to build a tool shed large enough to hold all the tools on an eighty-acre farm, and to my mind it would have been put to better use if it were housing tools instead of defacing our public highways.

Such waste of lumber helps to increase the price and the man who builds on his farm has to pay increased prices for his lumber. And again, the manufacturer charges enough more for his products to pay for the lumber used.—I. H. W.

### AGREES WITH M. N. S.

I would like to state that the recent letter by M. N. S. on "How Far Should the Farmer Go?" is in full accord with my way of thinking.—W. H., Reading, Michigan.



## Corn Harvest Help

WHEN you are wondering where on earth you will get help to cut or husk your corn this fall, remember this:

An International Harvester corn binder, with one or two men to handle the job, will cut six to eight acres a day, bind the corn into neat, easily handled bundles, and load them on a wagon to be hauled to ensilage cutter or husker and shredder.

Or, if you must leave the stalks in the field, a corn picker will take off all the ears, husk them, and load them direct into a wagon, also at the rate of five to seven acres a day.

If you use a binder, you get all the crop. If you use a picker, you get all the ears. The same help that planted and cultivated your corn can harvest it, at the right time, and at the lowest possible expense.

Deering, McCormick, Milwaukee, or Osborne Corn Binders  
Deering or McCormick Corn Pickers

furnish the best kind of corn harvest help. There may be enough of them to go around this fall, but if you want to be sure of having your machine in time, place your order with the local dealer, or write to us for full information, just as soon as you can.

International Harvester Company of America

CHICAGO (Incorporated) U S A  
Champion Deering McCormick Milwaukee Osborne

## An Organization for Michigan Farmers

More than \$1,000,000.00 of business written the first year. This proves the demand for our Company.

More than \$120,000.00 of first real estate mortgages on deposit with the state treasurer which proves our responsibility.

Your liability can be protected by our reliability

This is no time to take long chances. In these critical times "safety first" should be the watchword.

Cooperate with us and insure your livestock against death from accident and disease and thus save more than \$3,000,000.00 annually to the farmers of Michigan and to society.

Consult our local agent in your vicinity.

MICHIGAN LIVE STOCK INSURANCE COMPANY

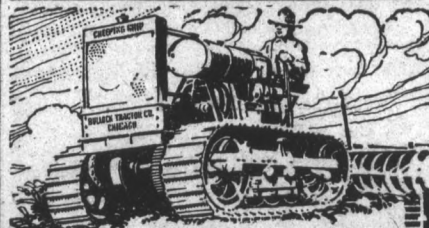
Colon C. Lillie, Pres.  
319 Widdicomb Bldg., Grand Rapids, Mich.

Harmon J. Wells, Sec.-Treas.  
Graebner Bldg., Saginaw, W. S., Mich.

### WHITING-ADAMS BRUSHES

Nearly every dealer in every city in the United States who sells brushes, carries in stock and sells

WHITING-ADAMS BRUSHES Excellence of quality and favorable prices guarantee good demand and sure sale. Dealers never have any dead stock, slow selling WHITING-ADAMS BRUSHES. Send for Illustrated Literature. Dept. A  
JOHN L. WHITING-J. J. ADAMS CO., Boston, U. S. A. Brush Manufacturers for Over One Hundred Years  
Whiting-Adams Brushes Awarded Gold Medal and Official Blue Ribbon, the Highest Award at Panama-Pacific Exposition, 1916



IN the Delta lands of Louisiana and Mississippi, in the Everglades of Florida and in the muck lands of the Central and Eastern states—



is now reclaiming thousands of acres. This sturdy ally of the farmer recognizes no obstacles in the form of unfavorable soil conditions. Like its prototype, the British Battle Tank, it will travel anywhere with a sureness and resoluteness that makes its owner confident of an early crop and an abundant yield. Let us tell you how this tractor will meet your labor problem and increase your profit.

A three-bottom tractor—15 h. p. on drawbar. Write for catalog today.  
BULLOCK TRACTOR COMPANY  
1818 Diversey Parkway, Chicago, U. S. A.

### BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us Ten Days before date of publication.

We Offer a Few Special Bargains  
In S. C. White Leghorn cockerels, Rambouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding.  
Flanders Farm, Orchard Lake, Mich.

### CATTLE.

#### WOODCOTE ANGUS

TROJAN-ERICAS & BLACKBIRDS (BLACKCAPS) only. The most fashionable strains of the breed. G. eat care given to matings and pedigrees. Every animal BRED IN THE PURPLE. Breeders and feeders of many INTERNATIONAL WINNERS.  
WOODCOTE STOCK FARM Ionia, Mich.

Cloverly Angus Good quality bulls of serviceable age and younger. Inspection invited.  
Geo. Hathaway and Son, Ovid, Mich.

For Sale—Three Aberdeen Angus Bulls ready for service. prices reasonable. LANG BROS., Davison, Michigan

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. B. breeding, herd tuberculosis tested.  
T. V. HICKS, Battle Creek, Mich.

Additional Stock Ads. on Page 23



## Ten Reasons Why Michigan Should Send TRUMAN H. NEWBERRY to the United States Senate



- First**—Because of his marked ability. As a business man, as a member of Roosevelt's Cabinet and as a Commander in the Navy he has shown himself capable and efficient.
- Second**—Because of his broad experience in national affairs. As Secretary of the Navy he came into close touch with Congress and legislative action, knows how laws are made and is thoroughly familiar with legislative processes.
- Third**—Because he is a worker, "a man who does things."
- Fourth**—Because of his splendid record—Able seaman on the "Yantic" in the Naval Reserves—Lieutenant on the "Yosemite" in the Spanish-American war—Secretary of the Navy and now a Commander, he has always "made good."
- Fifth**—Because he is a Michigan man. Michigan born and bred and a part of its business and industrial life, he is in close touch with the affairs of our great state. He knows Michigan conditions and needs.
- Sixth**—Because of his integrity and high character. Truman H. Newberry stands always for a "square deal."
- Seventh**—Because he is genial, approachable and sympathetic. Much of his time is taken up with doing things to help, personally, the boys in the Navy and he delights to be of service to them.
- Eighth**—Because of his good judgment and balance. He is dependable and reliable.
- Ninth**—Because of his 100% Americanism. Not only in the service himself, but his two sons as well, he is doing all he can at his post of duty to help to win the war. He is the "Win-the-War" candidate.
- Tenth**—Because of his knowledge of the war, he is the best man we have in Michigan to help solve the problems arising and to arise out of this, the greatest conflict in history.

**Ability—Experience—Industry—A Splendid Record—Integrity—Home Ties—Helpfulness—Good Judgment—Knowledge of War Conditions and Problems—all these are found in Truman H. Newberry.**

**HE IS THE BEST QUALIFIED MAN IN MICHIGAN FOR UNITED STATES SENATOR.**

Published by Newberry Senatorial Committee  
A. A. Templeton, General Chairman  
Paul H. King, Executive Chairman

(Advertisement)

### POULTRY

#### Barron English 240 Egg Strain.

White Leghorns heavy winter layers. Large size and very strong and hardy. Bred to shell out eggs and do IT. Best days laying in winter 500 pullets 400 eggs on Jan. 24th. Can common Leghorn do as well. Tested and trapped ten years. Order NOW breeding stock at our special summer prices. 3,000 choice pullets \$1.50 each, 1000 selected yearling hens at \$1.25 each egg record in pullet year of 200 eggs and over and 1000 selected breeding cks. from 265 to 272 egg dams at \$1.25 each order now your cks. for Sept. delivery. Write us your want NOW and send for catalogue.  
DEVRIES LEGHORN FARMS & HATCHERY  
Box 222 A, Zeeland, Mich.

#### BREEDING COCKERELS

Bred-to-lay S. C. White Leghorn and Barred Rocks. Would advise ordering early. Price reasonable. Write us your wants. Sunnybrook Poultry Farms, Hillsdale, Mich.

#### BABY CHICKS

\$5.50 per 50; \$10 per 100. S. C. White and Brown Leghorns. Bred for egg production. Safe arrival guaranteed. Express or parcel post. Catalogue free. Wolverine Hatchery, Box 202, Zeeland, Mich.

**Barred Rocks**—EGGS FROM STRAIN with records to 290 eggs a year: \$2 per 15. Delivered by parcel post, prepaid. Circular free. FRED ASTLING, Constantine, Mich.

**BUFF** Leghorns—All stock and eggs at reduced prices for the remainder of the year. Buy now for next year. Dr. William Smith, Petersburg, Mich.

Chicks from our Bred-to-Lay White Leghorns. Fertile and Young strains \$10 per 100; from our Barred Rocks, Thompson strain, \$15 per 100.  
RUSSELL POULTRY RANCH, Petersburg, Mich.



#### Ferris White Leghorns

A real heavy laying strain, trapped 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free.  
GEORGE D. FERRIS, 924 Union, Grand Rapids, Mich.

#### IMPROVE YOUR POULTRY

My Bred-to-lay Young's strain S. C. White Leghorns are great money-makers. 15,000 strong, husky chicks for July delivery. Price reduced to \$9.50 a 100; and \$5 for 50, sent promptly by mail. Safe arrival and entire satisfaction guaranteed. Order direct. Free catalog.  
W. VAN APPELDORN, R. 7, Holland, Mich.



### BABY CHIX

Hatched for  
**5 Cents Each**

Do you know that  
the chicks hatched by

your hens cost you 22 cents each?

They do. Let us prove it to you.

We will hatch your eggs at 5c per chick hatched, and for less if you get a poor hatch.

We furnish container for eggs to be sent us and boxes for your chicks. Both sent parcel post.

**Our Capacity—Two-thirds of a Million or  
40 Tons of Eggs Every Three Weeks**

We also sell purebred Barred Rock, White Rock, White Leghorn, Brown Leghorn, Buff Leghorn, White Wyandotte, Rhode Island Red, Black Minorca and Ancona chicks. Lowest Prices. Safe delivery and satisfaction guaranteed. Send for catalog.

**THE SMITH STANDARD CO.,**  
1967 W. 74th Street, Cleveland, Ohio

### HOMESTEAD FARMS

There is still time to raise strong, hearty chickens, if you will send your order now. Orders can be filled in from a week to ten days. Order pure bred free range stock: Barred Rocks; R. C. and S. C. Rhode Island Reds; White Wyandottes; S. C. Black Minorcas; S. C. White and Brown Leghorns; S. C. Anconas. Also eggs for hatching from these breeds.

Will you please send for circular and price list.  
**Pullets and Hens**

We have a few S. C. White Leghorn and S. C. Black Minorcas one year old pullets, now laying, that will give eggs thru this summer and next winter and that will make fine breeding stock for next spring. Send for prices in six, twelve, or twenty-five. Black Minorcas Cockerels to mate with the hens.

**HOMESTEAD FARMS, Bloomingdale, Mich.**

**Fowlers Buff Rocks** Booking orders now at a \$3 for 15; \$4 for 30; \$5.50 for 50; \$8.00 for 100.  
B. B. FOWLER, Hartford, Mich.

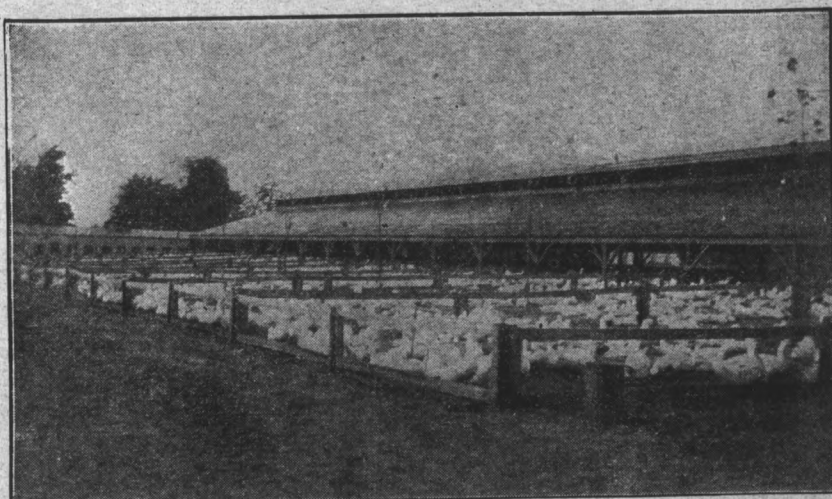
Additional Poultry Ads on Page 23

## Rabbit Breeding and Feeding

By G. A. BALDEN

**E**ACH breeder thinks his method bread occasionally, boiled vegetables is the correct one, hence we find mixed with cornmeal, barley meal and many methods used in breeding. bran, also alfalfa meal. We have a variety of good wholesome foods that if properly fed will bring results and The most important thing to consider in breeding rabbits is nature, the nearer we can follow nature the greater will be our success. If you have only does and no good buck, find the best stud buck possible and pay the service fee. It will be money well spent. The next important point is the healthy condition of the stock. If a buck or doe shows signs of being sickly or unhealthy, refuse to breed them, for it will take many breedings to breed out of the stock the sick, diseased blood which has been bred into it at an unguarded moment.

There is one very important point short time, say about twenty or thirty that must be observed with every minutes. breed of rabbits, and that is to breed Feed regularly, and give plenty of



A Commercial Poultry Plant Run by One of the Large Packing Houses to Supply its Demand for Ducks and Geese.

them when their coats are in perfect condition. Failure to observe this point will result in rough coated youngsters and many times Angora coated will make their appearance.

Do not breed your stock too young, they should be seven months old at least and twelve months for Flemish Giants is even better. This is for bucks as well as does. As a rule, rabbits over three years old will produce inferior stock.

The number of litters in a year is another interesting subject, and depends largely upon the object of the breeding. If for the shows, about two litters is right, and for general purpose as many as five litters, but good care is necessary if this many are allowed.

Remember, the most important point in breeding stock is to have it in a perfectly healthy condition, as any disease or deformity will be bred into the youngsters, and never breed bucks or does with coats showing moults. Do away with old stock as fast as possible, for it is of little value for breeding after three years of age. The correct method is to breed the finest stock from the best strains, free from moults and disease, that it be young and in the pink of condition—such breeding is sure to bring results.

#### Feeding.

A variety of feed is of great importance. Naturally the rabbit will eat almost anything herbaceous, but when domesticated, vegetables must be given sparingly, never wet, as that will cause "pot belly" in the strongest rabbit. Oats are considered the most nourishing of all the grains, barley is good, but heating. Most of the root vegetables are good, especially carrots, which are really a necessity, as they act as liver medicine and keep the rabbits in good health. So with oats, barley, carrots, turnips, beets of all kinds, green alfalfa or clover, vetches, parsley, kale, clean sweet hay, a piece of

fresh water. Keep your hutches clean, disinfect, and you will be well repaid for all your trouble.

#### HOW TO PICK THE FARM LAYER.

(Continued from page 3).

measure quality by the flexibility and fineness of the egg sack. A hen with large capacity, but having a thick, fat, flabby egg sack, or an inflated egg sack, will not produce nearly so large a number of eggs that a hen of equal capacity having an egg sack that is thin, mellow and contractable as shown in illustration. Therefore, we say the greater the capacity combined with contractability of the egg sack, the more eggs we can expect.

Capacity determines the length of cycle—quality determines the rhythm when applied in conjunction with capacity. Both are necessary characteristics of a heavy layer. They indicate the possibilities of the individual mechanism within the hen. The actual efficiency in egg production will then rest with the person operating the machinery.

#### FACTS ABOUT RABBIT MEAT.

Suggestions by the Food Administration that hare and rabbit are suitable substitutes for the meats needed for export have added to the general interest in these little animals. Rabbits and hares vary considerably in quality of meat.

Of those raised primarily for meat, such as the Belgian, New Zealand, Flemish, and similar varieties, the young animals are most prized. The meat is of good flavor, practically all lean and is prepared in much the same manner as chicken. In Europe rabbits and hares are staple foods and are raised in well developed rabbitries. The production of rabbit meat is most practical on a small scale for home or local consumption.



## Veterinary.

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

**Warts on Teats—Thin Cow.**—Could you tell me of a remedy for warts on a cow's teats? She has never had them until after dropping her second calf, which was in January, 1918. Would be glad also, to know how to make her gain in flesh. She is past three years old, has a good appetite and good feed, but she does not pick up in flesh—looks sort of bony. C. W. DeB., Bedford, Mich.—The cause of warts is none too well understood; however, a wart very often follows an abrasion or irritation of the skin. Warts on the teats of cows are often very troublesome, yet they may be greatly benefited or entirely removed by smearing them thickly after each milking, with pure olive oil. However, if they persist it is well to cut them off with a sharp pair of scissors and touch the sore with a stick of lunar caustic. It is also good practice to continue applying the oil, and wherever the wart persists in growing, touch it occasionally with the caustic. If you will give this cow ½ oz. doses of Fowler's solution of arsenic, it will act as a tonic, besides, it will greatly assist in removing, and prevent the growth of warts. Kindly understand that drugs will not put flesh on stock—this must be done by furnishing the animal with sufficient nutritious food.

**Heifer Gives Bloody Milk.**—We have a four-year-old heifer that came fresh last winter, since then she has thrived and milked well up to ten days ago. Since then she has been giving bloody milk from one hind quarter. Last fall one of my cows had same kind of udder trouble and failed to get well. C. F., Metamora, Mich.—Doubtless your cow bruises her udder or perhaps one of the other cows hook her. Dissolve ¼ lb. acetate of lead, ¼ lb. sulphate of zinc in one gallon of cold water, add one pint tincture arnica and wet the bruised part of udder three times a day. In a case of this kind it is necessary to ascertain cause and remove it.

**Warts.**—I have a heifer two years old that is troubled with warts under her lower lip; I have applied caustic potash and castor oil to them, but they don't disappear very fast. There is not, in fact, many of them, only a small patch under her lower lip; fortunately they have not as yet made their way inside the mouth, but I am afraid this will be the case if they are not completely eradicated soon. Could you inform me of some remedy that would effectively and permanently remove this trouble? F. V. T., Menominee, Mich.—Apply a saturated solution of salicylic acid in alcohol two or three times a week. Give her 2 drs. of Fowler's solution at a dose in feed or drinking water twice daily.

**Forage Poisoning.**—I have three spring pigs that did well until two weeks ago. Since then they held their head to one side, act as if blind, stagger and reel when they walk. Toward evening they seem to move about fairly well. What is wrong with them? D. S., Inkster, Mich.—Doubtless your pigs have eaten infected food of some kind. Change their feed, give each pig 10 grs. of bicarbonate soda and 2 grs. of potassium bromide at a dose in feed or water three times a day. Keep them in a dry place and feed them less corn and more green feed. If their bowels are constive, give castor oil.

**Cow Gives Bloody Milk.**—I have a cow that just freshened and she gives bloody milk from one quarter. Before she went dry some blood came from this quarter and there was a small hard obstruction in teat situated midway between teat end and udder. Can she be cured? M. McC., Rives Junction, Mich.—Apply one part iodine and ten parts fresh lard directly over the bunched in teat three times a week. She should be milked cautiously. An obstruction of this kind is best removed surgically, however, this is work that should be done by a competent Vet., or else the operation is unsuccessful.

**Calf Has Bloody Scours.**—We have a calf two months old that is suffering from bloody scours; this is the second case we have had in our dairy lately and I would like to know if the disease is contagious. Their food supply consists of skim-milk and grass. G. J., New Lothrop, Mich.—Add a small teaspoonful of subnitrate of bismuth and a teaspoonful of paregoric to each feed of milk. This medicine should be given three times a day. Perhaps this ailment is contagious, therefore I would suggest that you clean and disinfect your calf pen in order to destroy the infection.

### CATTLE

## Wildwood Farms

Breeders of Best Strains of  
**Aberdeen Angus Cattle**  
and **Duroc Jersey Hogs**

Several young bull calves on hand, three of which are of serviceable age, out of Black Monarch III, three times Grand Champion, Michigan State Fair. Also several AI Brood sows. Will be glad to correspond with you by letter regarding stock. Write

SIDNEY SMITH, Supt.

Wildwood Farms, Orion, Michigan  
W. E. SCRIPPS, Proprietor.

## Registered Guernseys

Two choice heifer calves, \$300. One bull calf with above \$75; this bull calf is no relation to heifer calves. J. M. WILLIAMS, North Adams, Mich.

**Guernseys** 45 Registered head, all tb. tested. Nora's May King, son of Imp. May Rose King, heads our herd, 19 of his half sisters sold averaging \$150 each. His bull calves are booked ahead at reasonable prices. Avondale Stock Farm, Wayne, Mich.

**For Sale** Registered Guernsey bull calves May Rose breeding. JOHN EBELS, R. 2, Holland, Mich.

**Guernseys** For sale, animals of both sexes from A.R. cows. Prices reasonable. Geo. N. Crawford, Holton, Mich.

**For Sale** Guernseys: 15 high grade cows and heifers. Reg. May Rose bull 4 mo. old and reg. cows, tuberculin tested. GILMORE BROS., Camden, Mich.

**GUERNSEYS**—REGISTERED BULL CALVES Containing blood of world champions. HICKS' GUERNSEY FARM, Saginaw, W.S. Mich.

**FOR SALE** Registered Guernsey bull and heifer calves. C. B. UNDERHILL, Wixom, Mich.

## "Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request.

McPherson Farms Co., Howell, Mich.

## CLUNY STOCK FARM

**100--REGISTERED HOLSTEINS--100** When you need a herd sire remember that we have one of the best herds in Michigan, kept under strict sanitary conditions. Every individual over 6 mos. old regularly tuberculin tested. We have size, quality, and production records backed by the best strains of breeding.

Write us your wants.

R. BRUCE McPHERSON, Howell, Mich.

## HOLSTEIN BULL

A strictly high class 29 lb. Holstein bull, Daisycrest King Princess, 22347, born January 27, 1917, is offered for sale. Sire, King Zerna Alcartra Pontiac, grand sire, King Segis Pontiac Alcartra, the \$50,000 bull; Dam, Princess Pauline Rufine 2nd. This yearling promises to be one of the finest quality bulls in the state. If you are interested, will you please write for description and photograph? Also other & youngest bulls. Brood cows and heifers and calves from a herd of 50 high class Holsteins. We will send you photo and descriptions which will present these animals accurately. If you want Holsteins, will you please write us? Every animal fully guaranteed.

Bloomington Farms, Bloomington, Mich.

Jack Bill  
**Winn--Wood Herd**  
Registered Holsteins  
Sire in Service  
Flint Maplecrest Boy

Who is bred for real production his sire Maplecrest Korndyke being one of the best in the world. He or his dam are brother or sister to six cows with records above 1,200 lbs. of butter in one year and ten more above 1,000 lbs. in a year. Flint Maplecrest Boy's Dam is Gluck Vassar Bell 30.57 lbs. of butter in 7 days, 121 lbs. in 30 days. Butter fat test 5.27. If there is a reason why Flint Maplecrest Boy is not one of Michigan's greatest young sires. None of his females are for sale until after we test them. But we have 10 of his bull calves from 2 to 9 months old, with A. K. O. dams which we now offer for sale at prices any dairy farmer can afford to pay. Just tell us the kind of a bull you want.

JOHN H. WINN, Inc.

Lock Box 249, Roscommon, Mich.

## I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.

L. E. CONNELL, Fayette, Ohio

**OK Leaf Farm.** Herd sire Lenawee Pontiac Calcutty King of or Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter \$2.51—315 days milk 23782.3, butter 926.775. E. H. GEARHART & SON, R. 4, Marcellus, Mich.

**Parham's** Pedigree Stock Farm offers Reg. Holstein cattle, Chester White Swine, extra bargains in calves and fall pigs. Bulls half price. R. B. PARHAM, Bronson, Mich.

**A Good Note** accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write. GEO. D. OLARKE, Vassar, Mich.

**3** Holstein bulls 8 mos. old, all had A. R. O. dams and 30 lb. sire, sold at farmers' prices. LONG BEACH FARM, Augusta, Mich.

## A Few Fine Bulls For Sale

Bigelows Holstein Farms, Breedsville, Mich.

**\$50** Liberty Bond gets 1 mo. old grandson of Pontiac Maid 301-5 lb. Other granddam sister to grand sire of 42 lb. 4 yr. Herd free tuber. Apr. adv. for females. Terms. M. L. McLaulin, Redford, Mich.

## The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of Pontiac Korndyke, Hengerveld DeKol, Pontiac Dutchland, or Admiral Walker Pieterd.

Do you want a Pontiac in your herd?

Pontiac State Hospital, Pontiac, Mich.

## The Traverse Herd

Great Values In Bulls

from A. R. O. Cows with records up to 30 lbs. Let us know your wants. We will send extended pedigrees and prices.

TRAVERSE CITY STATE HOSPITAL, Traverse City, Michigan.

## Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 732, 913 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Aggie Korndyke, with six daughters above 1000 pounds of butter in one year.

Peaceland Stock Farm, Three Rivers, Mich.

C. L. Brody, Owner Port Huron, Mich.

Charles Peters, Herdsman

**2,756 Lbs. Milk MORE**

**Per Cow Per Year**

is what the daughters of a

**Pure Bred HOLSTEIN BULL**

yielded over the amount of their scrub dams. You too can make more money with a pure bred Holstein Bull. Let us show you.

Booklets free.

The Holstein-Friesian Association of America, Box 164, Brattleboro, Vt.

**Dispersion Sale**

of a car load of reg. Holstein cows and heifers of 30 lb. breeding or will sell in lots of one or more.

V. E. COVERT, Leslie, Mich.

**HOLSTEINS** of quality. Bull calves from dams with records high as 31 lbs. in 7 days. Also collie puppies.

E. A. HARDY, Rochester, Mich.

**Holstein** calves, 25 heifers, & 2 bulls 15-16 lbs pure, 5 weeks old, beautifully marked, \$25 each, crated for shipment anywhere. Buy only the best.

EDGEWOOD FARMS, Whitewater, Wis.

**Holsteins:** Bull calf born Oct. 6. A nice individual well grown in good condition. His seven nearest dam average butter 7 days 23.35 lbs. milk 533 lbs. Dams record 18 lbs at 2 ½ yrs. W. B. Reader, Howell, Mich.

## HEREFORDS

6 bull calves for sale, Perfection

Fairfax and Prince Donald breeding.

ALLEN BROS.,

PAW PAW, MICH.

**Herefords** Bob Fairfax 494027 at head of herd. 14 bulls for sale

all ages either polled or horned. EARL O. McCARTY, Sec'y Mich. H. B. Ass'n. Bad Axe, Mich.

**2 Bulls**

**Ready for Service**

Sired by butter bred bulls and out of high testing dams.

**The Producing Kind**

With Jersey type and capacity. Prices reasonable. Also a few bred gilts (Durocs) and boars.

**Brookwater Farm,**

Herbert W. Mumford, Owner,

J. Bruce Henderson, Mgr.

Ann Arbor, Mich.

R. 7,

**REGISTER OF MERIT JERSEYS**

**Maple Lane R. of M. Jersey Herd.** For sale one

four-year-old cow, also bull calves and heifer calves sired by a grandson of the Pogue 99th of Hood Farm.

IRVIN FOX, R. 3, Allegan, Mich.

**FOR SALE** several Jersey Bulls and a

**NOTTEN FARM,** Grass Lake, Mich.

**THE Wildwood Jersey Farm** offers for sale choice

bull calves for fall service from R. of M. daughters of Majesty's Wonder by Majesty's Oxford Fox. Herd tuberculin tested. When looking for a sire to head your herd, get a Majesty. Alvin Baldwin, Capac, Mich.

**For Sale Jersey Bull**

Goldie's Foxhall No. 161955. Dropped March 22, 1917. Solid color, black tongue & switch. A fine individual large of his age, will sell cheap. Also a young cow & several bred heifers, all of solid color.

NEWMAN'S STOCK FARM, B. I. Marlette, Mich.

**For Sale Registered Jersey Cattle**

of both sex. Smith & Parker, R. 4, Howell, Mich.

**JERSEY** bull and bull calves for sale from R. of M. O. B. WEHNER, R. 6, Allegan, Mich.

**Lillie Farmstead Jersey Cattle.** Several heifers bred

to freshen next fall. Also a few heifer and bull calves of choice breeding. Colon O. Lillie, Coopersville, Mich.

**Jerseys for sale** Ready for service bulls

St. Lambert, Raleigh, Majesty, breeding. WATERMAN & WATERMAN

Meadowland Farm, Ann Arbor, Mich.

**For Sale** A fine, dark, solid color Jersey bull

15 mos. old. Double grandson of Royal Majesty and out of R. of M. cow.

G. & O. DEAKE, Ypsilanti, Mich.

**Shorthorns**—Scotch and Scotch Topped animals of both sex for sale. Prices reasonable. GEO. D. DOSTER, Doster, Mich.

## BIDWELL SHORTHORNS

For Beef and Milk.

Registered bulls, cows and heifers—Good Scotch and Scotch-Topped for sale. In prime condition. Modern

sanitary equipment. Farm 10 minutes from N. Y. O. depot, 1 hour from Toledo, Ohio. Automobile meets all trains. Write

**BIDWELL STOCK FARM,**

Box B, Tecumseh, Mich.

## Richland Farms

Shorthorns

IMP. Lorne in Service. Grand Champion Shorthorn Bull of Mich. Wooler for sale a choice collection of young bulls by some of the leading sires of the breed. You cannot afford not to own one of these bulls at the prices we are asking for them. We invite correspondence and inspection.

O. H. PRESCOTT & SONS,

Farms at Prescott, Mich. Office at Tawas, City, Mich.

**Francisco Farm Shorthorns**

We maintain one of Michigan's good herds of Scotch and Scotch Topped cattle. They are well bred, properly handled and price reasonable. Come and see; we like to show them.

F. P. POPE, Mt. Pleasant, Mich.

**Shorthorns.** Three scotch bulls ready for

W. B. McQUILLAN, R. 7, Howell, Mich.

**SON of Harthorth Welfare** heads our herd of milk-

Sing Shorthorns comprising Chiffley of Or by best young bulls ready for sale and service, write us

Liddel Bros., R. 2, Clinton, Mich., Macon Phone.

**Dairybred Shorthorns** of best Bates Strains, young

J. B. HUMMEL, stock of both sexes for sale. Mason, Mich.

**SHORTHORNS**

Cows, heifers & young bulls for sale at farmers' prices; herd catalog mailed free. Horrieton Farms, Hart, Mich.

**Shorthorn Cattle of both Sex for Sale**

W. W. KNAPP, Howell, Michigan.

**For Sale** Shorthorns of Quality Scotch and

Scotch Topped descendants of Archers Hope, Avondale, Maxwilton Sulton and White Hall Sulton by the Oscola Co. Shorthorn Breeders Ass.

JOHN SCHMIDT, Sec. Reed City, Mich.

**Grand Traverse Shorthorn Asso.** Reg. stock for

M. E. DUCKLES, Sec., Traverse City, Mich.

**Roan Bull Calf For Sale,** 8 months

J. E. Tanswell, Mason, Mich.

**HOGS**

**Registered** Berkshire gilts and sows for fall farrow-

ing, 3 boars and spring pigs, either sex.

CHASE STOCK FARM, R. 1, Mariette, Mich.

**Duroc Jerseys & Hampshires**

We offer a number of fine young spring boar and

sow pigs both Duroc Jerseys and Hampshires, from particularly well bred stock.

Write to us for description and prices. Each animal is guaranteed.

Bloomington Farms, Bloomington, Mich.

**Durocs.** Choice spring pigs out of selected sows and

sired by our best herd boars. They are of the big type, strong bones, smooth and of excellent quality and

include some of the most popular blood lines such as Orion Cherry King, Top Col. Defender, Brookwater etc.

Prices reasonable. The Jennings Farms, Bailey, Mich.

**50 Duroc Sows and Gilts**

for fall farrowing, bred to Orion's Fancy King 8357

the biggest pig of his age ever shown at International. 1 mile N. E. of town. Visitors welcome 7

days in week. Newton Barnhart, St. Johns, Mich.

**DUROC JERSEYS**

M. D. HEYDENBERG, Wayland, Mich.

**Duroc** fall boars sired by Orimson Orlie T. Satisfaction and Brookwater Principal, priced right. Bred

sows all sold. M. O. TAYLOR, Milan, Mich.

**Choice Duroc Jersey Gilts For Sale.**

CAREY U. EDMONDS, Hastings, Mich.

**DUROCS** service boars, bred sows,

fall pigs. Express paid. J. H. BANGHART, E. Lansing, Mich.

**Duroc** Jerseys for sale. Service boars & spring pigs

also Shorthorn bulls, calves, milking strain.

CHAS. BRAY, Okemos, Mich.

**Duroc** Jersey's—Fall boars of the large heavy boned

type. Gilts bred to Junior Champion boar for June farrow, also spring pigs pairs not akin.

F. J. DRODT, R. 1, Monroe, Mich.

**Chester Whites,** can furnish a few pairs or

trios not akin from strictly big type mature stock at reasonable prices. F. W. Alexander, Vassar, Mich.

**Spring Pigs** for sale. Pairs and trios not akin.

J. D. CRANE & SON, Plainwell, Mich.

**Raise Chester Whites**

**Like This**

the original big producers

I HAVE started thousands of breeders on the road to

success. I can help you. I want to place one hog from

my great herd in every community where I am not already represented by these fine early developers—ready for market at six

months old. Write for my plan—More Money from Hogs.

G. S. BENJAMIN, R. F. D. 10, Fortland, Michigan

**Crandell's Big Type O. I. C's**

Champion herd everywhere shown in 1917. Herd

headed by five champion boars. Our sows won

Senior, Junior and Grand Champion prizes at Illinois, Missouri, Ohio and Michigan 1917.

Special prices on all spring pigs. Get our catalog it is free.

Crandell's Prize Hogs, Cass City, Mich.

**BRED GILTS and SERVICEABLE BO**



# LATEST MARKET REPORTS

## FIRST EDITION.

The markets in this edition were revised and corrected on Tuesday afternoon, July 2.

### WHEAT.

As yet the Food Administration has not fixed the new price on wheat, except for some parts of the country where the new crop is moving. Local dealers expect orders to make the change in prices here in a short time. There is very little old wheat to market but the new crop is now beginning to move, Kansas City receiving fifty-seven cars on Monday, most of this being of the 1918 crop. The quality is reported excellent. The United States Senate by a large majority refused to recede from its former demand for a minimum of \$2.50 for 1918 wheat. While the crop in the northern states may be just a little late, it is developing finely, and the general impression is that the yield will be fully up to the early estimates, and probably will exceed them. A hopeful sign in the present situation is the increase of 222,000 bushels in the United States visible supply for the past week. One year ago the local market quoted wheat at \$2.50 per bushel for No. 2 red. Present quotations here for cash wheat are:

No. 2 red wheat.....	\$2.17
No. 2 white.....	2.15
No. 2 mixed.....	2.15

### CORN.

Corn prices are going up. Market is firm and the grain is rapidly growing scarcer. The United States visible supply shows a decrease of 685,000 bushels for the week. Buyers are out for high-class corn to export, but there is not much of this kind offered. There are a good many students who believe world conditions warrant the continuation of high corn prices. Our new crop is developing very satisfactorily. Recent rains have relieved the situation over a large area where the lack of moisture was beginning to be felt. Farm work is too crowded at present to permit farmers to market this grain, while the government has ordered that elevator men load wheat and oats ahead of corn. One year ago the price for No. 2 corn on the local market was \$1.76 per bushel. Following are the latest cash prices at Detroit:

No. 3 corn.....	\$1.60
No. 3 yellow.....	1.70
No. 4 yellow.....	1.60
No. 5 yellow.....	1.40
No. 6 yellow.....	1.30

At Chicago corn values are about the same as a week ago, with quotations as follows: No. 3 yellow \$1.66@1.70; No. 4 do \$1.60@1.62; July corn \$1.47½.

### OATS.

Higher prices are now being paid for oats than obtained last week. The demand on the Detroit market is good, while offerings are small. The Chicago market has shown a little weakness at the last sessions, due probably to improved weather conditions. In some parts of the country the growing crop has suffered permanently through the lack of moisture, although recent rains will help out many fields that otherwise would have yielded poorly. Oats are being taken for export. One year ago standard oats were quoted on this market at 73c per bushel. Present prices for cash grain here are:

Standard .....	82
No. 3 white.....	81½
No. 4 white.....	80½

### RYE.

Rye prices have suffered another decline and cash No. 2 is quoted on the local inactive market at \$1.75 per bu. At Chicago the same grade is \$1.74@1.75 per bushel.

### BARLEY

There is not a great deal of trading in this grain. At Chicago they are paying \$1@1.25 per bushel. The new crop is developing finely, and Michigan farmers have a record-breaking acreage to harvest this year.

### BEANS.

The week has witnessed an additional decline in bean values. The demand is very slow, while farmers over the state still have a supply of this crop to market. Despite the disappointment in the prices being received for beans a liberal acreage has been planted, and

the new plants are looking unusually promising. At Detroit beans are quoted at \$9.50 per cwt. The price reported at Greenville is \$7.50 for the hand-picked.

Chicago trade is as follows:  
Michigan pea beans..\$10.00@11.50  
Red kidneys ..... 11.50@12.00  
Brown Swedish ..... 8.50@ 9.00

### HAY.

While prices are steady with last week the demand for hay has shown considerable improvement due to the shortage in yield from lack of moisture. Local prices are:

No. 1 timothy ...	\$17.50@18.00
Standard .....	16.50@17.00
Light mixed ....	16.50@17.00
No. 2 timothy....	15.50@16.00

Pittsburgh.—Demand for hay of the better grades has become very brisk while receipts are extremely light. No market here for poor stock. Quotations are higher as follows:

No. 1 timothy.....	\$23.00@23.50
No. 1 light mixed...	20.00@21.00
No. 1 clover mixed..	19.00@20.00
No. 1 clover .....	18.00@19.00

### POTATOES.

Only fourteen cars of old potatoes were moved on Monday and not a single car originating in Michigan was reported. The market for old stock is practically over. Detroit price for the round whites in bulk is \$2.33 per cwt. At Buffalo the same grade, sacked, is bringing \$1.90@2.10. Practically all the other markets are out of old stock. The acreage planted in Michigan is generally estimated as a normal one, and recent rains have put the crop in excellent condition.

### BUTTER.

The butter markets show but little change from last week. The tendency is toward a firmer trade. Offerings are large but the current demand is absorbing an unusually large proportion of these daily receipts. There was less criticism the past week regarding quality, the general run now being of a high order. The Food Administration has announced regulations for the control of butter dealers, who are now allowed a definite margin for the service they render in the handling of butter. A copy of these regulations will appear in the next issue of the Michigan Farmer. Detroit prices for fresh creamery butter are 42c for the firsts and 43c for extras. At Chicago the price ranges from 37@43c, with the market steady. In New York the trade is a little easier, with creameries ranging from 42½@45½c, and the packing stock at 33c. Western cream-

ery extra brings 45c on the Philadelphia market.

### CHEESE.

In spite of the large receipts of cheese, prices keep working toward a higher level. Offerings are taken care of readily, all the important markets reporting an unusually broad demand and firm to higher prices. At Detroit flats are quoted at 22¼@24¼ for new and 25½c for old; daisies are quoted at 23¼@24¼c. A firm trade prevails at Chicago, with Young Americas now quoted at 24½@24¾c; daisies, double 23@23½c; do single 23¼@23½c per pound. Fresh specials sell in New York at 24¼c and average run at 23¾c, while whole milk cheese brings 23@24¼c in Philadelphia.

### EGGS.

A very good demand exists for eggs and with a reduction in the receipts from country points and in deliveries at a majority of the large markets, the prices are looking upward. Current receipts from Michigan are quoted at 33½c at Detroit, while firsts in new cases bring 37½c. The Chicago price for firsts is 34@35½c, ordinary firsts 32@34c, at mark cases included 31@34½c. These prices are higher than those reported last week. The New York trade rules firm with western stock ranging from 36@53c.

### WOOL

It seems that Michigan dealers are generally offering 65c for the best wool. Some farmers have sold at 67c while others are holding for 70c, believing that government fixed prices for the scoured product warrants such a quotation for good staple. See Editorial Comment on second page of this issue.

### DETROIT CITY MARKET

There is considerable trading in the municipal markets these days. Prices are holding up well. We note the following prices: Radishes \$1 per bu; lettuce 15@20c for common; 75c for head; string beans \$2.25; peas \$2.25; eggs 50c; hay \$19@23 per ton.

### GRAND RAPIDS

Eggs are scarce this week, with the dealers paying 38 cents while the retail trade is getting up to 44 cents from consumers. Potatoes, both old and new, are higher, old ones bringing \$1.25@1.50 per bushel. It is the last of the old potato deal. Fruit continues scarce and high, sour cherries ranging from \$1.50@1.75 per half bushel; gooseberries \$1.25@1.50; currants at \$1.75; red raspberries \$3.50@3.75 per crate. Grain prices are as follows:

## Our Special Live Stock Service

### Reports for Tuesday, July 2nd

#### DETROIT

##### Cattle.

Market dull at last week's closing prices.

Best heavy str (dry-fed)...	\$14.50@15.75
Best handy wt bu str...	11.50@12.50
Mixed steers and heifers	9.00@ 9.75
Handy light butchers ....	8.00@ 8.75
Light butchers .....	7.50@ 8.25
Best cows .....	8.50@ 9.50
Butcher cows .....	7.50@ 8.25
Cutters .....	7.25@ 7.50
Canners .....	6.00@ 7.00
Best heavy bulls .....	8.00@ 9.00
Bologna bulls .....	7.50@ 8.00
Stock bulls .....	7.50@ 8.25
Feeders .....	10.00@12.00
Stockers .....	7.50@10.00
Milkers and springers....	\$60@ 125

##### Veal Calves.

Market steady.	
Best .....	\$17.00@17.50
Others .....	10.00@15.00

##### Hogs.

Market 10@15c lower than Monday.	
Pigs .....	17.00
Mixed hogs .....	16.65@16.85

##### Sheep and Lambs.

Market dull.	
Best lambs .....	\$18.00@18.50
Fair lambs .....	16.00@17.00
Light to common lambs ..	10.00@14.00
Yearlings .....	10.00@14.00
Fair to good sheep.....	9.50@11.00
Culls and common .....	5.00@ 8.00

#### BUFFALO.

Today's hog market is 15@25c lower than on Monday, with pigs selling at \$17.75 and other grades at \$17.60 per cwt. Lambs rule steady. Calves sold up to \$18, while cattle are dull

#### CHICAGO.

##### Cattle.

Estimated receipts today are 17,000 head. Steers above \$17 are steady. Others, including butcher cattle, stockers and feeders unevenly 10@25c lower. Veal calves steady. Good choice prime steers \$16.50@18; common and medium butchers \$11.75@16.50; heifers \$8@14.50; cows \$7.85@14; bologna bulls \$8.50@12.75; yesterday's average.

##### Hogs.

Today's estimated receipts 45,000. Market slow and 10@25c lower than yesterday's average. Tops \$17; bulk of sales \$16.40@16.90; heavy \$16.55@16.80; mixed and light \$16.70@17; packers' hogs \$15.95@16.30; medium and mixed \$16.30@16.55; light bacon hogs \$16.60@17; pigs, good to choice \$16.70@16.75; roughs \$15.60@15.90.

##### Sheep and Lambs.

Today's estimated receipts 10,000. Market on sheep and range lambs is steady. Some native lambs 25c higher. Top lambs \$18.75@19; fair lambs at \$18.40@18.75; sheep \$10@11.75.

Wheat \$2.07; oats 86c; corn \$1.70; rye \$1.50; barley \$1.50; beans \$8@8.25 per cwt.

### LIVE STOCK AT BUFFALO FOR MONDAY.

#### Cattle.

Receipts 120 cars; good grades are strong, others steady. Prime heavy steers \$17.50@18; best shipping steers \$16.50@17.50; plain and coarse \$12@13; native yearlings \$14.50@15.50; best handy steers \$13@14; fair to good kinds \$11@12; handy steers and heifers mixed \$10@11; western heifers \$11@12; best fat cows \$10@11.50; butcher cows \$8.25@9; cutters \$7@7.75; canners \$5.50@6.50; grazing cows \$7@7.50; fancy bulls \$11@11.50; butcher bulls \$9@10; best feeding str \$9.50@10.50; medium feeders \$9@9.50; stockers \$8.50@9.50; light common \$7@8; milkers and springers \$75@150.

#### Calves.

Receipts were 1,500. Market is steady. Prices ranged from \$7@18.50.

#### Hogs.

Receipts 40 cars; market is strong; heavy \$17.40@17.60; yorkers \$17.85@18; pigs \$18.

#### Sheep and Lambs.

Receipts five cars; market steady; top lambs \$18@18.50; yearlings \$15@16; wethers \$12.50@13; ewes \$11.50@12.

### THE SITUATION IN CHICAGO ON MONDAY.

#### Cattle.

##### Receipts.

Total today .....	19,000
Total last week.....	44,340
Total previous week....	83,688
Total week year ago....	53,845

Following last week's average advance of \$1 per 100 lbs. in the greater part of the cattle offered, resulting from the materially reduced receipts, today's market shows little further change for fat beefs, with the top at \$18 again. But grassy light steers are in a weak position, while the butcher stock is at least 15c lower on an average.

#### Hogs.

Today's receipts .....	44,000
Receipts last week.....	119,717
Receipts previous wk....	164,186
Total week year ago....	122,078

Greatly lowered supplies for a week past account for the stiff advance in prices, and had the eastern shipping demand been larger, the rise would have been greater. Today's prices are a little higher, with common rough heavy packers to prime selected hogs weighing 184 to 226 lbs. at \$15.80@17.15, after a lower opening. Feeding pigs bring \$16.60@16.95. Hogs marketed last week averaged 237 lbs. A week ago hogs brought \$15.25@16.45.

#### Lambs.

Receipts today .....	15,000
Receipts last week.....	78,292
Total previous week....	69,488
Receipts week year ago...	75,839

Spring lambs declined 50@60c last week under larger receipts, with the late top for rangers at \$18.75, but today there was a sale of 4000 head at \$19, there being only a small supply.

### GREAT INSTITUTION TURNS TO WOMEN FOR AID.

Like many thousands of institutions throughout the world which have been forced to appeal to womankind for assistance, since the manpower has turned its entire attention to the elimination of the Hohenzollerns, the success of the 1918 Michigan State Fair will be dependent, more than ever before, upon the support of the gentler sex.

Innumerable exhibits which in former years have been displayed by men now in the forces of Uncle Sam, are being prepared and will be entered this fall by their wives and sisters. Women entrees are filling the ranke in many of the competitions that in previous years have been patronized exclusively by the men. G. W. Dickinson, Secretary-Manager of the Michigan State Fair, is anticipating the scarcity of unoccupied men who in past years have acted as guides, judges, pages, attendants, ticket sellers, gate tenders, ushers and many other positions during the ten days of the fair, and at the 1918 Exposition in Detroit August 30-September 8, hundreds of young women will be found acting in these capacities.



## 7371 New Members The CITIZENS' MUTUAL AUTOMOBILE INSURANCE CO., of Howell continues to grow rapidly.

7371 new members added since January first and the growth now continues at the rate of 500 new members per week. The company has now written over 35,000 policies since its organization.

The first six months of 1918, two hundred eighty claims were paid with a total of \$40,684.93.

The success of the company is due largely to the fact that it started before the war and had the pick of the automobile owners in the small cities and country districts of the state. The Company has paid its losses promptly, has a fire-proof building and equipment so that the members receive good service.

The officers, agents, adjusters and attorneys have had the experience which fits them to deal with each case according to its merits.

## Railroad Stocks Yielding 7% to 10%

Many high-grade railroad stocks, whose dividends are guaranteed by the Government, are now selling at prices showing a net income return of 7% to 10%, and a list of these stocks is given in a timely article on the railroads appearing in our fortnightly publication.

### Securities Suggestions

Numbers nine and ten of this publication, which currently discusses leading developments in the financial world, also contain comprehensive and interesting articles on the following subjects:

A New Era Dawning for Railroads  
Position of Standard Oil Pipe Lines  
The Willys-Overland Company  
Equipment Companies in War and Peace  
Investment Position of American Woolen  
The Part Payment Plan

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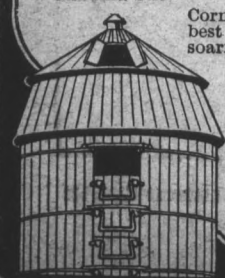
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## Unadilla Silos Ready to Ship!

You can be sure of your new silo before the corn harvest, if you order a Unadilla. The Unadilla factory is the largest in the East; centrally located to facilitate shipping; amply stocked with the best materials in Spruce, White Pine and Oregon Fir, to be rapidly made up into trustworthy Unadilla Silos of any size.

### Before Prices Advance

again this season, and they certainly must be advanced before Fall, protect your milk and meat profits with a Unadilla Silo.



Corn Silage is the best defence against soaring grain prices.

Learn more about the wonderful Unadilla. Our big 1918 Catalog is free—but investigate at once.  
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SILO CO.**  
Box M.  
Unadilla, N. Y.

### THE FLANDERS DISPERSION SALE.

At the Flanders Farm Dispersion Sale held at Orchard Lake, Mich., on June 26, twenty daughters of the Flanders' herd sire, King of the Pontiacs Segis, sold for an average price of \$437.50. When we take into consideration the fact that nearly all of these young heifers were under two years of age it affords convincing proof that there is good money in the breeding black and white cattle of approved quality and family lines. The females in the sale sold for following prices:

Johanna De Kol Hartog of Sparta to John Hehl, Detroit, \$600.

Creamelle Taurus Gerben to John Hehl, Detroit, \$325.

Adriaantje Korndyke to R. S. Park, St. Clair, \$380.

Gerben of Taurus Creamelle to E. W. McNitt, Grand Rapids, \$550.

Phyllis De Kol Johanna to R. F. Johnson, Decatur, Ill., \$1,225.

Lizette Pieterje Netherland 5th to R. F. Johnson, Decatur, Ill., \$1,410.

Superba Rag Apple Luzette to E. M. Weaver, Burr Oak, Mich., \$2,050.

Moonlight Pieterje Rosewood to John Hehl, Detroit, \$530.

Flanders Ogden Hazel Posh to John Diselord, Washington, Mich., \$285.

Flanders Pietje Alcartra to John Schlaff, Mt. Clemens, Mich., \$550.

Fairmont Pietje Alcartra to Hardy & Bayne, Rochester, Mich., \$1,225.

Fairmont Mercedes Alcartra to F. K. Sanfestey, Mt. Clemens, Mich., \$560.

Fairmont Tehee Alcartra to John Schlaff, Mt. Clemens, Mich., \$500.

Fairmont Alcartra Tehee to John Schlaff, Mt. Clemens, Mich., \$700.

Flanders Pontiac Segis Tehee to John Schlaff, Mt. Clemens, Mich., \$425.

Flanders Pontiac Segis Alcartra to John Schlaff, Mt. Clemens, Mich., \$500.

Flanders Pontiac Segis Gerben to Robt. R. Pointer, Dearborn, Mich., \$500.

Flanders Pontiac Segis Aaggie to John McClure, Royal Oak, Mich., \$450.

Flanders Pontiac Segis Janet to R. F. Johnson, Decatur, Ill., \$320.

Flanders Pontiac Segis Princess to Robert R. Pointer, Dearborn, Mich., \$800.

Flanders Pontiac Segis Pauline to North Carolina State Hospital, Morgantown, N. C., \$500.

Flanders Pontiac Segis Hengerveld to John McClure, Royal Oak, Mich., \$300.

Flanders Pontiac Segis Korndyke, North Carolina State Hospital, \$360.

Flanders Mercedes Alcartra to John McClure, Royal Oak, Mich., \$300.

Flanders Pontiac Segis Stella to Alfonso Vanderbranden, Rochester, Mich., \$330.

Flanders Pontiac Segis Marion to M. L. McLaulin, Redford, Mich., \$760.

Flanders Pontiac Segis De Haan to John McClure, Royal Oak, Mich., \$610.

Flanders Pontiac Segis Viola to R. F. Johnson, Decatur, Ill., \$300.

Flanders King Pontiac Mollie to R. R. Pointer, Dearborn, Mich., \$350.

Flanders Pontiac Segis Minnie to R. F. Johnson, Decatur, Ill., \$325.

Flanders Pontiac Segis Hazel to N. C. State Hospital, Morgantown, N. C., \$295.

Flanders Pontiac Segis De Kol to John McClure, Royal Oak, Mich., \$375.

Flanders Ogden Walker to J. B. Jones, Romeo, Mich., \$240.

Flanders Burke Lyons to E. A. Hardy, Rochester, Mich., \$350.

Flanders Colantha Pietje to Robt. R. Pointer, Dearborn, Mich., \$500.

Flanders Johanna Clothilde Rue to North Carolina State Hospital, \$430.

### LIVE STOCK NEWS.

#### Hogs Are Heavy.

The hogs arriving in the Chicago market have been averaging 236 lbs. in weight, being four pounds heavier than a week earlier, and comparing with 223 pounds a year ago. They are much heavier than ETAOINHRDLU much weightier than in other recent years, but five years ago the hogs arriving on the market averaged 249 pounds.

#### Exports of Hog Products Liberal.

A remarkable increase in the exports of cured hog products recently goes far in explaining the boom in the provision market. During the second week of June exports from the Atlantic seaboard included 32,219,000 pounds of bacon and 8,042,000 pounds of lard, these comparing with exports for the corresponding time a year ago of 8,480,000 pounds of bacon and 1,696,000 pounds of lard. During a single day recently there was an advance of \$1 a barrel in pork for July delivery, while September pork has sold recently more than \$4 higher than a year ago.

ponding time a year ago of 8,480,000 pounds of bacon and 1,696,000 pounds of lard. During a single day recently there was an advance of \$1 a barrel in pork for July delivery, while September pork has sold recently more than \$4 higher than a year ago.

### DOINGS IN MICHIGAN COUNTIES.

The few growers who stuck to worm-wood are reaping their reward now. Offers have been received of \$4 per pound for the oil, and twenty-five pounds per acre is a fair yield. Worm-wood is grown on uplands and in hills set close together.

#### Branch County.

A much larger seeding of alfalfa than usual is reported this spring. The county agent is spending four or five days each week in field work throughout the county but aims to be at the office in Coldwater all day Saturday unless something urgent interferes.

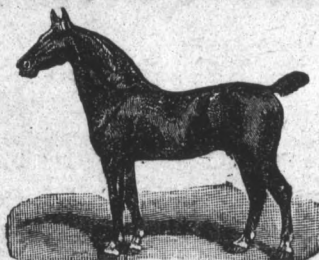
#### Oscoda County.

The time set for the county fair at Evart is October 1-4.

Flanders Pontiac Segis Burke the young heifer donated to the Red Cross at the Flanders Farm Dispersion Sale of Holstein cattle at Orchard Lake, Mich., June 26, sold to E. Leroy Pelletier, of Detroit, for \$525. Michigan cattle sales have contributed liberally to this worthy cause during the 1918 season.

### Warranted to Give Satisfaction

## Gombault's Caustic Balsam



### Has Imitators But No Competitors

#### A Safe, Speedy, Positive Remedy for

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

As a Human Liniment and Antiseptic for external use it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by parcel post, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Cleveland, O.

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We make a specialty of White Henery Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henery Whites—We remit same day shipments arrive. Ship Often—Ship by Express

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## EGGS:

We are paying good premiums for eggs not over four or five days old, direct shipments from the farm. Ship to us or write for particulars.

AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.



Eggs, Etc.—Small consignments from producers in your territory bring very attractive prices NOW. Prompt returns always. Refer to Dun or Bradstreet. Ship us your next case. ZENTH BUTTER & EGG CO., 170 Duane St., New York, N. Y.

**HAY** Ship To The Old Reliable House  
Daniel McCaffrey's Sons,  
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## FRUIT

We want your entire crop. Write for rubber stamp. The E. L. Richmond Co., Detroit

### HORSES

Percherons, Holsteins, Angus, Shropshires, Durocs  
DORR D. BUELL, Elmira, Michigan.

Percheron Stallions and mares of reasonable prices; inspection invited.  
F. L. KING & SON, Charlotte, Mich.

FOR SALE Two Percheron stallions; two Percheron mares; also reg. Shorthorn bull 9 months old.  
E. J. ALDRICH, Tekonsha, Mich.

Registered Percherons  
J. HICKS & SONS, R. 2, Williamston, Mich.

Shetland Ponies, Fox Hounds, Young Coon Hounds, and Belgian Hares.  
W. E. LEOCK, Holmesville, Ohio.

### POULTRY

FOR SALE—S. O. White Leghorn Chix \$12 per 100; hens \$1.25. Ferris 200 to 250 egg strain.  
Herbert Hammond, Williamston, Mich.

### Laybitt S. C. W. Leghorns

large, great layers, pure white offered for short time only choice 2 year old hens \$1.00 each, yearling hens \$1.25 each. 8 weeks-old pullets \$1.00 each.  
EVERFRESH EGG FARM, Ionia, Mich.

Mammoth Pekin Ducks from best stock in America. Eggs \$1.50 per 11. Rose Comb Brown Leghorns from Madison Square and Mich. & Ohio Fair winners. Eggs \$1.50 per 15. Mrs. Claudia Betts, Hillsdale, Mich.

Pine Crest White Orpingtons, hens and pullets \$3.00 each, eggs special price \$5 per 15, utility \$12 per 100.  
MRS. WILLIS ROUGH, Royal Oak, Mich.

RHODE ISLAND REDS and Plymouth Rocks Males R 5 to 12 lbs. according to age \$3 to \$8; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.50; 100, \$8; Mammoth Bronze Tom Turkeys 8 to 33 lbs. according to age \$6 to \$25, 10 eggs \$4. J. Morris & J. Barsan, Vassar, Mich.

R. I. REDS, both combs. Chicks & eggs. Most popular strain in Michigan. Write for catalog.  
INTERLAKES FARM, Box 39, Lawrence, Mich.

SILVER Spangled Hamburg eggs \$7 per hundred; \$1.75 per setting balance of season. White Holland Turkey eggs \$4 per 12.  
RIVERVIEW FARM, Vassar, Mich.

SILVER Golden & White Wyandottes. Four Golden Cockerels \$2.50 each. Eggs 15, \$2.50; 30, \$5 by P. Post prepaid. O. W. Browning, R. 2, Portland, Mich.

S. C. Brown Leghorns Excellent layers. Eggs 50 each prepaid. Yearling hens \$1.25. Cockerels \$1.  
FLOYD ROBERTSON, R. 1, Lexington, Indiana

White Wyandotte eggs for hatching also baby-chick out of choice stock; send for a 1918 circular.  
DAVID RAY, 709 Norris St., Ypsilanti, Michigan.

### HOGS

O. I. C.'s all sold except some fall gilts. Order O. J. THOMPSON, Rockford, Mich.

O. I. C.'s Big type serviceable boars. Spring farrowed boar pigs. Bred gilts to farrow July and Aug.  
G. P. ANDREWS, Dansville, Mich.

O. I. C.'s Large type, spring pigs bred from State Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C. Spring Pigs, big heavy boned fellows 150 lbs. and bred gilts. F. C. Burgess, R. 3, Mason, Mich.

### BIG TYPE POLAND CHINAS

Bred Gilts and Spring Pigs. One extra well bred Holstein Bull calf.

#### HILLCREST FARM, KALAMAZOO, MICH.

### FOR SALE

Smooth Jumbo a grandson of Peter Mouw's old boar Smooth Jumbo a 600 lb. yearling. A top notcher fit to head any herd. Also some nice bred gilts at \$50. If you get one you will have to hurry.  
J. C. BUTLER, Portland, Michigan.

Nothing for sale at present. Spring pigs are coming fine.  
O. E. GARNANT, Eaton Rapids, Mich.

### Large Type P. C.

Bred gilts and boars all sold nothing to offer at present.  
W. E. LIVINGSTON, Parma, Mich.

LEONARD'S Bred sows all sold, fall pigs, orders booked for spring pigs at weaning time. Shipped C.O.D.  
E. R. LEONARD, St. Louis, Mich.

P. C. Sows for Sale. Bred for April farrow. Prices reasonable.  
A. A. WOOD & SON, Saline, Mich.

L. S. P. C. all sold out, except the largest farrow. H. O. SWARTZ, Shoolcraft, Mich.

Large type P. C. Some choice Sept. gilts ready to bred for Aug. and Sept. farrow.  
Wm. J. CLARKE, R. 7, Mason, Mich.

Big type P. C. Big boned fellows from Iowa's greatest breeders, special prices on spring boars and choice bred gilts.  
E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland Chinas. Spring pigs for sale. Healthy and growthy. From large litters. Prices right.  
L. W. Barnes and Son, Byron, Mich.

LARGE TYPE P. C. Just 5 choice summer gilts bred for July and August farrow. Come and see them.  
W. J. HAGELSHAW, Augusta, Mich.

Poland China Swine of all ages for sale.  
R. W. MILLS, Saline, Mich.

Hampshire Pigs only for sale now, a bargain. in boar pigs.  
JOHN W. SNYDER, R. 4, St. Johns, Mich.

### SHEEP

### KOPE-KON FARMS.

Coldwater, Mich.

### Hampshires & Shropshires.

It's a wise man who orders his ram for August delivery now.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS' "The Shepherds of the East." I sell and ship everywhere and pay express charges. Write for club offer and price list. Oxford, Shropshire and Fokled-Delaines.  
PARSONS, GrandLedge, Mich. R 9

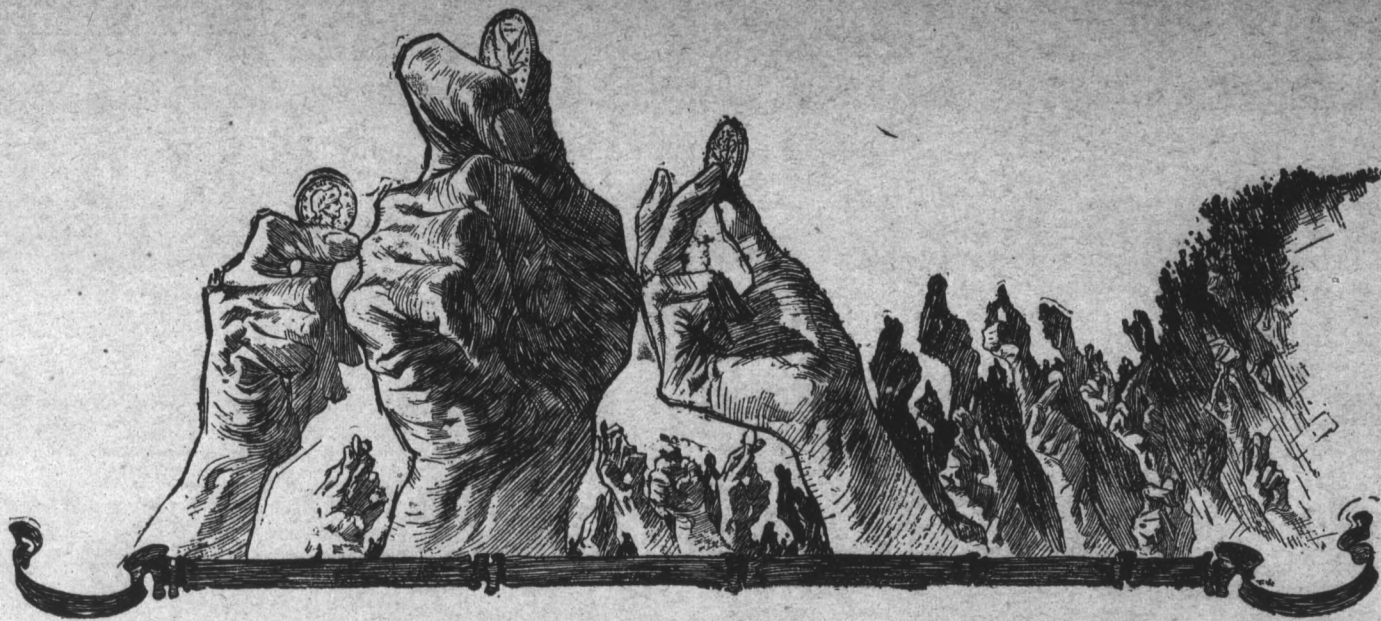
Ingleside Farm offers 80 recorded Shropshires 40 Rams mostly yearlings, 40 ewes from 1 to 7 years old. Citizens phone.  
HERBERT E. POWELL, Ionia, Mich.

About July 1 we will offer for sale choice Shropshire Rams.  
ARMSTRONG BROS., R. 2, Fowlerville, Mich.

Some Good Breeding Ewes and registered RAMS for sale.  
Barnard Sheep Ranch, R. 5, Clare, Mich.

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The Stamps will be sold during May, 1918, at \$4.16 each, and the price will increase one cent a month during 1918.

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