

MICHIGAN FARMER

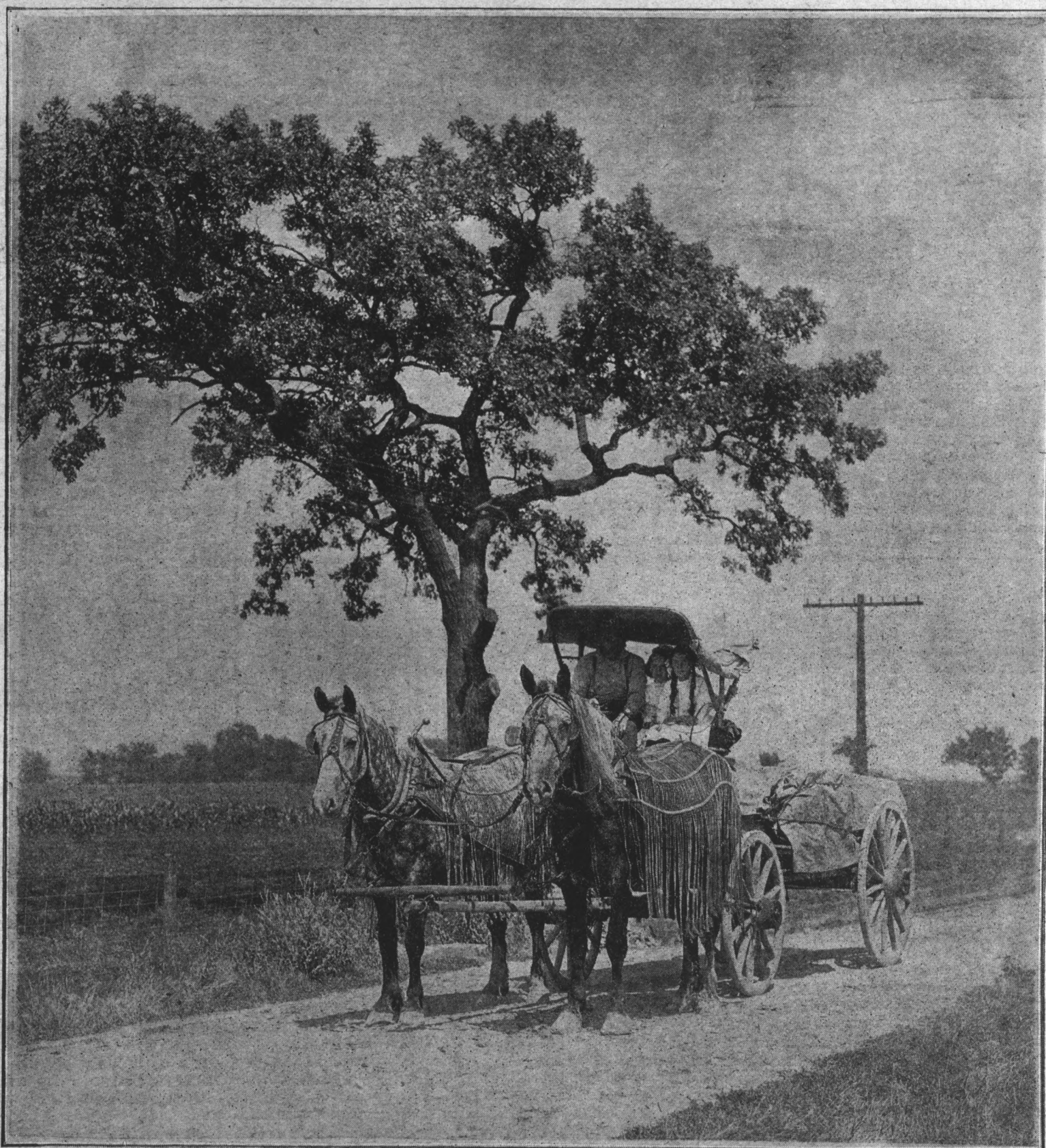
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CURRENT COMMENT.

In the operation of the selective service and deferred classifications, the law there is bound to be some difficulties in the interpretations of the general rules laid down by the government in the administration of the law by the various local and district draft boards. This fact was the cause of inequalities in the classification of registrants under the first draft law. These inequalities were, in some measure at least, corrected by a revision of classifications in many districts so that the interest of the law and the rules under which it was administered have been, perhaps, as well carried out as is possible where its administration is dependent upon the judgment of many men acting in the same capacity. It is a fair presumption that the classification of the registrants under the new draft law will be still more equitable, since the draft boards have gained in experience, just as the selections in successive drafts were more equitable than those made in the first call, before general classification had been attempted.

There are, however, many cases in which justice seems to have miscarried, particularly in the matter of deferred classification on agricultural grounds. In very many of these cases the fault has been that of the registrant in filling out of his questionnaire. Classification under the new registration will of necessity be rushed in order to make available the more than two million men needed to put our army on the five million basis for the early winning of the war. It is thus important that registrants under the new law exercise the greatest care in filling out questionnaires when deferred classification is claimed on agricultural grounds.

The rules governing deferred classification are intended for the protection of essential industries, rather than the persons engaged in them, hence the necessity of furnishing all detailed in-

formation required by the rules where claim for deferred classification is made.

The Public and the Live Stock Industry

A serious condition now confronts the live stock and dairy interests in America. Our supply of meats and dairy products is dwindling. Educational campaigns and patriotic appeals have failed to relieve the situation. The theory of speeding up the farmer through appealing to his patriotism and shame—any way to make him produce meat and milk—has proved disastrous. In all business circles there is a growing realization of the fact that the farmer is as intelligent about his business as is any other kind of business man.

Many of the agricultural leaders today consist of young men who have given from two to four years' study to the farming business from every angle. These farmers understand the live stock business and somewhere near what it will pay. They realize that the business is a gamble, in which the cards are stacked against them, and that unless they are given a square deal they can reduce their herds and flocks to a basis where they are sure of a living, whether other people are or not.

It is the public, not the farmer, that is facing a grave meat and milk situation. It has exploited the farmer so long that the game is about played out. The farmer is in no position to dictate the prices of meat and milk, neither can he afford to conduct a losing business any longer. The only way he can meet present prices and conditions is by quietly changing his plans and producing other more remunerative products for market. In the meantime the public will find its supply of meat and dairy products lighter and lighter.

It is a disgrace to American efficiency methods that since the war began producers of meat and milk have

These things are not pleasant to say, but it is only patriotic and fair that the public should be warned of the mistake it has made in its attitude toward the producers of meat and dairy products.

Conditions have become so acute in the live stock and dairying industries that heroic measures must be applied to avert a serious collapse in our plans of food production. A deep sense of obligation lies heavily on the public, and it can be met only by immediate work to avert a panic. Breeding stock and immature animals, especially cattle and swine, are being thrown on the markets at the present time. It is a condition unexpected and unavoidable. If we ever needed good pastures and bumper crops of hay, forage and corn, for the benefit of the farmer, and the cause of democracy which rests its foundation on the farm, it was in this year of 1918. The season in many localities has been against us. Drouth has ruined a large portion of the crops in many localities and farmers are sending their live stock to market.

In order to secure aid in the present emergency and influence government action to avert a more serious disaster the Federal Meat Producers' Association met at Chicago, August 19, to devise means of cooperating in every possible way with the government and live stock interests in averting further depletion of herds and flocks and also in carrying out war policies in the future. A report and some of the recommendations made at this meeting will be found on page 174 of this issue.

The Farmer Not a Profiteer.

In commenting upon the effort which has been put forth by the farmers of the larger wheat-growing states to secure an increase above present fixed prices for the wheat crop, a state daily paper recently sought to explain the administration's attitude in maintaining the price of wheat as at present fixed. The

against the government as representing the best interests of all classes where individual interests cannot be perfectly harmonized. Reference to the farmers of America as "profiteers" even by suggestion displays at its best at least a lamentable ignorance of the actual situation on the part of the writer. Regardless of the question of profit, the farmers of America responded to the appeal for increased wheat production so splendidly as to give us a bumper crop of wheat, even under unfavorable conditions prevailing in many sections of the country.

Regardless of the question of profit, the farmers of America will do their best, not only in wheat production but in general food production next year and every year until the war is won. But no man who assumes to criticize the farmers of the country for asking an increase in the fixed price of wheat should forget that, regardless of patriotic effort in its final analysis, the production of wheat and the production of all food stuffs becomes an economic question which must finally be settled upon economic principles. If the farmers of the country are unable to produce wheat at the present price, then wheat production must decline. The presenting of economic facts with regard to the cost of wheat production is not in any sense an evidence of profiteering.

It is a matter for national regret that the farmers of the country are not better organized for the collection and presentation of economic data in all lines of crop production. This need is now a pressing one, and will continue to be a vital and economic need of the country as well as of the farmers themselves during the reconstruction period following the war. A National Chamber of Agriculture built on the county farm bureau as a local unit with representation through state organizations would supply this need. Michigan farmers may well take the initiative in the formation of such an organization.

Next to the State Fair West Michigan Fair.

in importance as an agricultural exposition is the West Michigan Fair, which will be held at Grand Rapids on September 16 to 20 inclusive. Liberal cash premiums aggregating \$25,000 are hung up for exhibits in the various departments of the fair.

For the first time in its history, fruit exchanges will be permitted to enter their displays, which should add interest to the usually fine horticultural show made at this fair. A special tractor display has been staged whereby it is proposed to show various types of tractors in action for the benefit of fair patrons. Every Michigan farmer who can arrange to do so will find it to his advantage to attend this fair during the four days from September 16 to 20.

Meet us at the State Fair.

Many reasons have been given in our columns why every farmer who can possibly do so should attend the State Fair with his family. One reason not previously mentioned is the fact that the Railroad Administration has made a special rate of one and a half fare for the round trip, in addition to the concession of returning all exhibits except horses and automobiles free of charge.

Representatives of the Michigan Farmer will be on the fair grounds each day during the fair, and will be glad to meet any and all Michigan Farmer readers. Be sure and call at the Michigan Farmer building near the cattle exhibit barns or at the Michigan Farmer booth in the Dairy building while on the fair grounds. While there tell us how we can serve you better in the future than we have in the past.

Watch for Registration Day!

BEFORE this issues reaches the reader the new man-power draft bill now pending in congress will doubtless have become a law. Under this act the President of the United States will soon announce, by proclamation, a Registration Day to be held as early in September as possible.

Who Must Register:—All men from eighteen to twenty years of age, inclusive, and all men from thirty-two to forty-five years of age, inclusive, should watch closely for the President's proclamation, definitely designating who must register.

Where You Will Register:—Able-bodied, resident registrants will register in the customary voting precincts in the jurisdiction of the Local Selection Service, or at other points to be designated. The sick will be registered by persons deputized for the purpose. Non-residents may register by mail through the county or city clerk of the place where they are stopping.

The Penalty for failure to register is one year imprisonment and no man can exonerate himself by the payment of a fine.

WATCH FOR REGISTRATION DAY!

had to face alternating extremes of prices, while grain growers have been assured of handsome profits. If the live stock feeder and dairyman cannot be provided with sufficient financial inducement to insure him against the risks which he assumes, then our farming will change its aspects at many points, and all hands will be losers, the farmers least of all.

Undoubtedly the price of wheat should have been fixed. It was an altogether rational thing to do. But it should not have been done at the expense of other essential branches of food production. Will the added wheat production atone for the neglect of corn and oats and the ripping up of pastures which are supporting fine herds and flocks? Man shall not live by bread alone. With the bread must go butter and meat.

situation was described as a circle which must be cut at some point. Higher wheat meant higher food stuffs, and this in turn meant higher wages and again higher wheat, etc. The attitude of the administration was represented to be either irrevocably in favor of maintaining present fixed prices, or removing all restrictions and forcing prices still lower through the use of the government's power in the purchase of wheat for the army and for the Allies. The caption under which this alleged information was published indicated that "profiteering" is the weak link in the chain.

It is regrettable that under present conditions the public press should either purposely or thoughtlessly voice sentiments the logical effect of which would be to array any class of our citizens against any other class, or

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A Practical Journal for the Rural Family

QUALITY
RELIABILITY
SERVICE

NUMBER NINE

The Past, Present and Future of Rosen Rye--By F. H. WILLIAMS of Allegan

An Able Discussion of the Rye Proposition on Michigan Farms

RUSSIA raises riots, rebellions and revolutions. She also raises oats, barley and rye. The riots, rebellions and revolutions are effectually destroying her future as a nation.

Prior to the outbreak of the great war, Russia raised one-fifth of the annual world production of three billions eight hundred millions of bushels of wheat, one-third of the four billions of bushels of oats, one-third of the one and a half billions of bushels of barley and over one-half of the total world's production of eighteen hundred millions of bushels of rye. Germany at once blocked the transportation of these immense crops. Then by the skillful use of her propaganda, by her intrigues and misrepresentations, she has practically obtained for her own use the cereal products of this vast empire.

With over one-half of the world's supply cut off, there is abundant reason for the rise in value and price of rye. From an average price of 40.9 cents per bushel in 1896, it has gradually come up the scale a few cents a year, until in 1915, it had reached 83.4 cents. In 1916, the average price went to \$1.22. In 1917 it touched the two-fifty mark and now is selling on the market at \$1.75. The owner of good rich soil has always sneered at the rye farmer. The couplet of which we have heard so much:

"Tis' enough to make you cry,
Rye, Rye, until you die"

has been sung out in derision many a time as the crop has been seen growing on the lighter soils. The good Lord must have intended this light land for some good purpose as he made so much of it. If rye is to prove the redemption of light lands, a cash crop for the poor farmer, and a new supply of flour for bread, it will surely be a great help to a class of people who need it. Before the day of substitutes was known in the United States, when wheat was plentiful, rye was used principally as a base of liquors. I have



Prof. Spragg, Our Plant Breeder, at his Desk Figuring Out Plant Problems.

known of conscientious farmers who voted against local option, or prohibition, for the reason that the distillers had told them that there would be no market for their rye product, if the manufacture of whiskey should be cut off, and that it would not bring even the fifty or seventy-five cents per bushel, the going price for so many years.

I am the unfortunate owner of a sand farm, with strong emphasis on the sand. We have always grown rye on this farm. We had about the average yield in our good state of Michigan, which is 14.9 bushels per acre. With a price of seventy-five cents, or less, it is clearly evident there was no chance for conviction for profiteering. I was induced by Mr. Cook, then agricultural agent for our county of Allegan, to sow one bushel of Rosen Rye in the summer of 1915. This bushel produced on about one and one-half acres of land, forty-two bushels, much of which I sold for \$2.50 per bushel for seed. In my wild dreams of success, I thought the sand farmer's millennium was in sight. I know now that it is

not. There are reasons which might be given but for fear that they may discredit my judgment in holding onto a sand farm, I will not explain.

Rosen Rye is a new variety for Michigan. It owes its development to the patience and genius of Professor Frank A. Spragg, the plant breeder of Michigan Agricultural College. The public is somewhat acquainted with his work in the development of Red Rock wheat; but, in my opinion, he has done a greater work in the development of rye.

J. A. Rosen, a Russian, came to the Michigan Agricultural College as a student and graduated in 1908. He at once took up the work in this country as agricultural agent for his government. He imported some of the Russian rye and sent a few kernels to Prof. Spragg. The progeny of these kernels, in honor of this progressive Russian student was called Rosen Rye. I am going to let the professor tell the story in part as he told it to me.

"We planted this seed, an individual

kernel in a place, by our centgener method in the fall of 1909 and the next year made individual plant selections. This we did, not realizing at first the fact that rye is open fertile. Since then we have made several selections. Selections from rye you see are very much like selections from corn. You make progress slowly.

"Rosen Rye is a stiff strawed, large headed variety which when pure, ordinarily has four full rows of grain on over ninety-nine per cent of its heads. Developing and maintaining a pure strain of rye is one of the most difficult problems of a plant breeder, for rye, unlike most cereals, such as wheat, oats and barley, cross fertilizes, resembling corn in this characteristic. The Danish people grow their pure seed on an island off the mainland. If we expect to keep our Rosen Rye pure, we should grow it a quarter of a mile from common rye.

"This variety immediately began to show its outstanding superiority, and after proving its ability to double the yields obtainable with any other variety, it was distributed in a number of counties and where kept pure is continuing to maintain the record established on the experiment station plats.

"In 1912 a bushel of Rosen Rye was sent to Mr. Carlton Horton, of Albion. This was sown on one acre and produced thirty-five bushels of rye of such quality that not only that crop but those of the following years have been used entirely for seed. We estimate that in Michigan there was harvested in 1917, fifteen thousand acres of Rosen Rye and that there will be harvested this year 250,000 acres of Rosen or 'close' Rosen.

"Unfortunately, due to ordinary threshing practices and the growing of common rye in adjoining fields, only about five per cent of this acreage is ninety-nine per cent pure. The other ninety-five per cent has been more or less crossed, and though it is increasing yields five to ten bushels per acre

(Continued on next page).



Inspecting Grain from Samples Sent to M. A. C. from Inspected Fields.



Prof. J. W. Nicolson Inspecting a Field of Rosen Rye.

and should be used in preference to common rye, yet it cannot be considered as equivalent to pure Rosen Rye.

"The farmer who grows common rye knows that fifteen bushels per acre is all he can expect in an average year, with twenty bushels as an exceptionally good yield. Yet the farmers who have had experience with pure Rosen Rye will agree that twenty bushels is a small yield for the variety, and forty to forty-five bushels per acre yields are not uncommon."

Naturally I was puzzled to know what Prof. Spragg meant by the centgener method, and he replied as follows: "You see, in dealing with wheat, oats or barley, we have a self-fertilized crop. This means that nature is segregating heredities and the common commercial variety after a few generations becomes a mixture of a lot of very different, perhaps, but stable strains. The problem, then, is simply the isolation of these strains and the testing of them against one another in order to determine which one is the most profitable."

"When you come to an open fertilized crop like rye and corn, the problem is very different. It is more like the breeding of some breed of live stock. The inheritances are complex. The line of improvement passes, not through any individual, but usually through several. It is not practicable in the case of rye to even self-fertilize plants because if you attempt it, you will find that the wind will whip off the head and make a failure of the

Past, Present and Future of Rosen Rye

(Continued from page 171).

whole proposition. It seems much better to make what we call a mass selection and then select again and again, each time following the generation having the most desirable heads in order to increase the proportion of these heads or plants of the strain that is being improved. For this reason it is impossible to state the description of any particular individual plant that has been the progenitor of the Rosen Rye. I think you will understand. The problem is one of upbreeding and not of isolation."

"Centgener is a word that was coined by the people of Minnesota Station in the early nineties. The part 'cent' refers to one hundred; the 'gener' to the generation. A 'centgener' is a progeny, an offspring of an individual where there is supposed to be one hundred individuals in a progeny. This was intended to be adhered to very closely by the Minnesota people in the early days. However, centgener as commonly employed by the experiment stations over the country is merely a progeny, the offspring of an individual. This centgener is planted so the individual kernels of the progeny produce individual plants. If we find differences among the progeny of this one mother, then we say that the plant has been heterogynous in regard to certain characteristics. If the plants are all alike, then we say that the mother

plant is homogenous and the offspring would be like her, pure."

"If we are dealing with heterogynous population, we must plant a large number of centgeners next year and save those that come from the homogenous parents. At times it is necessary to pass through a third or fourth generation in order to get a strain involving all of the characteristics that are desired in a pure or homozygous condition. Thus you see the centgener method of developing an individual strain is a screen through the meshes of which only desirable strains eventually pass."

An examination of the illustrations with this article shows the length of the head of this grain. When the heads are perfect, the grain shells out at the business end of a threshing machine in a way that makes the grain carriers hustle. Yields of twenty-five bushels to the acre are very common. The Michigan Agricultural College in 1917, on field No. 8, raised forty-two bushels per acre on a ten-acre tract. A number of growers in Berrien county have reported fifty bushels. The highest yield reported is that of Chas. Warren, of Three Oaks, Mich., who on a field of thirty-five acres produced fifty-two bushels per acre.

The college is aware of the difficulty and the necessity of keeping the seeds pure. Last year Prof. Spragg inspect-

ed a field of Rosen Rye on my farm. He refused to give me a certificate because some of the heads showed that they had been contaminated with pollen from ordinary rye. While a portion of my field yielded at the rate of thirty-nine bushels, it would not pass the rigid requirements of inspection.

The Michigan Crop Improvement Association is an organization of farmers under the direction of the college authorities maintained for the express purpose of keeping the seeds pure. The following rules represent the minimum requirements for inspected seed, but the reputation and permanence of this organization depend largely on the interest and integrity of its members, no standards higher than these should be maintained.

1. Pedigreed seed must be stock descended from an individual plant whose value has been demonstrated and approved by the Michigan Agricultural College.

2. The grower of pedigreed seed for distribution through the association must renew his seed stock at least once in five years from college plats (unless his seed is pronounced by an accredited member of the inspection force of the Michigan Crop Improvement Association, as being suitable for continued use).

3. Improved seed for distribution through a number of years of selection.

4. Printed list of names will be made of members of the association (Continued on page 180).

Suggestions for Our Busy Farmers

DESTROYING QUACK GRASS.

GETTING rid of quack grass by clean cultivating is an old story to Wisconsin farmers, but getting rid of it without losing a crop is somewhat uncommon.

Jens Uhrenholdt, of Sawyer county, accomplished it so successfully in 1917 that not one of the farmers who visited his field recently could find a blade of the grass.

After the hay was off last year, the field was plowed. Instead of plowing deep, which would leave enough soil on the roots that they might grow again, the plow was set shallow. This cut the roots close to the surface and exposed them to the hot sun of late summer. The field was plowed with a tractor three times, harrowed several times—in fact, worked thoroughly all the rest of the fall.

"In the spring," says R. F. Murray, assistant state leader of county agents, "the ground was again worked well and the field was planted to potatoes. When the potatoes were inspected by a group of Sawyer county farmers, not one sign of quack grass was found, although the owner made no claim to completely destroying the pest."

IMPROVING BRIDGE FLOORS.

I WAS down in a part of the country recently where a little creek winds its way through the farms, where the roads were numerous and there were many small bridges. One feature I noted particularly about the bridge was that the floors were smooth and the wooden planks did not rattle as they so often do after a new floor has been in service for a few months. Loose floor boards are annoying and the looser they become the more dangerous they are to traffic, especially horses.

Each of the bridges I saw had two fourteen or sixteen inch planks bolted to the floor, so that they provided a smooth track across the floor for all vehicles, having been spaced far enough apart so that the wheels ran over them in the center. As few ve-

hicles ever meet on these small bridges there is little difficulty to the plan, and it helps wonderfully in preserving all the bridgework.

The incessant rattling or vibrating of a bridge tends to weaken its whole

structure. When our car slid over these planks it was like riding on a pavement and the bridges did not rattle out their complaint of loose floor boards.

A single wide two-inch plank is bet-

ter than two planks laid side by side. Where two narrower planks are used they are likely to spread some time and catch a wheel between them. The ends may be bevelled to make a smooth approach. If the planks are bolted to the floor in several places they will be secure.

MARKING SMALL FARM TOOLS.

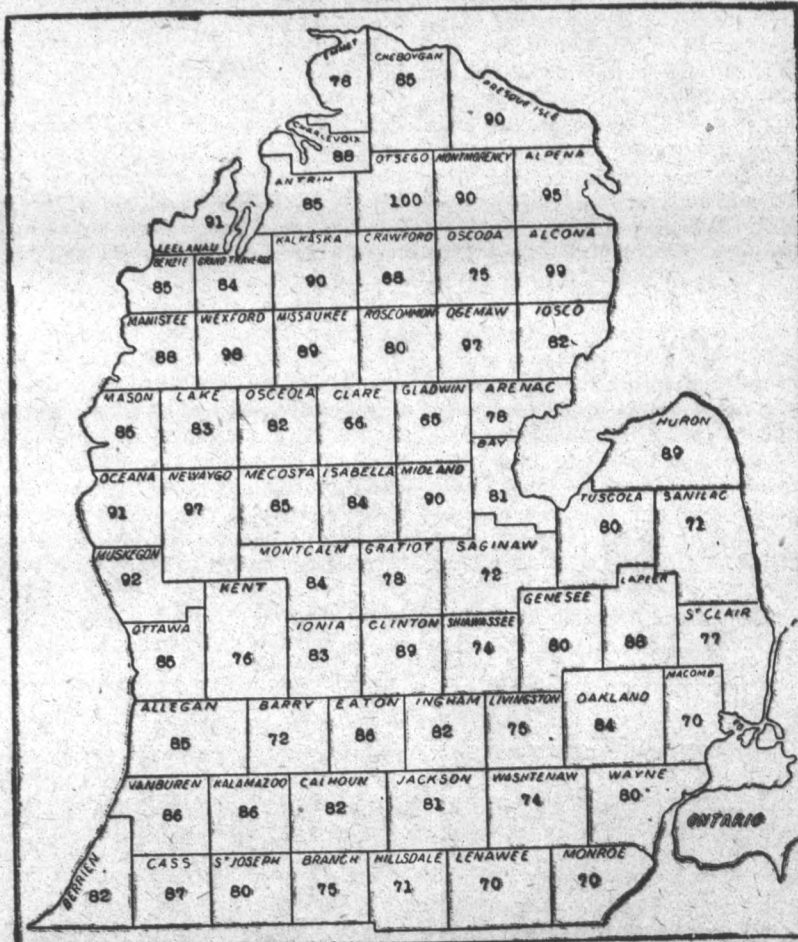
I N a well equipped farm shop small tools are certain to be displaced. Some plan of marking tools in order to make them conspicuous is needed. Some plans we have used may help to show what I mean. Such tools as hammers, hatchets, chisels, etc., which are used outside of the shop a great deal are identified by painting them a bright red color. This color is easily distinguishable in the grass, making a tool painted with it conspicuous where it would be hardly seen if it were the natural steel.

The paint will also preserve the steel against rust and wood against decay. A moderately thick implement paint is the best for this purpose. A small pint can will usually cover the tools, but it is well to clean off all rust before using it.

Sometimes neighbors borrow tools and neglect to bring them back, finally forgetting to whom they belong. If the tools have some identification marks on them they are much surer to come home. A good plan is to take a sharp steel punch and by repeated tapping on a smooth surface the initials may be cut into the tool in a short time on a whole kit of tools. A single tap of a hammer on the punch will make a dot deep enough to resist the wearing away of service and rust. It is seldom advisable to cut the name or initials in the wood of handles because of the rough surface it leaves for the hands.

I recall one tool that turned up after being gone for five years, the man finding it recognized the initials and returned it. The return of that one tool paid for the time in marking a whole kit. There is also a plan for initialing tools with acid, but the above plans will be found very serviceable.—J. L.

Our Prospective Potato Crop



This Map Shows the Condition of the Potato Crop in the Different Counties of Lower Michigan.

WHILE the present outlook for Michigan's potato crop promises less than our farmers harvested a year ago, the estimated production is nearly two and a half million bushels greater than the average yield for the five years from 1912-1916. The figures are: For 1918, 32,453,000 bushels; for 1917, 35,910,000 bushels, and the average for the five years of 30,140,000 bushels. Practically all of the big potato growing counties show a high condition for this crop.

Expanding This Year's Feed Supply

IT is not enough for us to know how to make good silage. Our business is to get out and do it. Mind and muscle cannot be divorced when every able-bodied man must "work or fight" and when every bit of food must be saved. Silo-filling season is no time for slackers.

It always pays to be ready before beginning the harvest of the corn crop for silage. Concrete and tile silos require but little attention before filling actually begins. Cleaning the bottom of the tubs and putting the doors in place is about all one can do before a crew arrives at the farm. Stave silos, however, require a general overhauling. The bottom should be tight, the hoops tightened and put in their proper places and the doors numbered so that there will be no delay in fitting them in their places while the work of filling is in progress.

Tune up the Machinery.

Have the corn binder fixed up so that it will go through the full season's work without delay or breakage. A few hours spent in tuning it up and adjusting the parts so that each one does its work perfectly will save a vast amount of time later on after the crew is at work on the farm. Clean and oil the bearings, put in new bolts and parts if needed, set it so that it makes bundles of the right size and ties a strong knot, adjust the draft so that the horses will work to their best advantage. If there is anything more provoking to a man than to have some mechanical imbecile tinkering with a corn-binder, when the crew is waiting for bundles to haul to the cutting-machine, it is to hitch on to a neighbor's binder, only to find it in worse shape than is his own. Thoughtful attention to these little details of getting the equipment ready before the cutting actually begins will save dollars in delay and breakage. The corn-binder is a delicately adjusted tool and one that performs good work only when every part does its work perfectly.

The same line of reasoning applies to having the silage-cutter in shape to do efficient work. Set the machine so that the conductor pipe will be as nearly upright as possible. It has taken years for some farmers to learn that the blower-pipe must be nearly vertical if it prevents the cut corn from hitting the sides and the force of the air causing it to clog the pipe and delay the work of the crew while it is taken down and cleaned. Keep the knives sharp and always have two sets, so that if a knife breaks or the set becomes dulled one man can grind them without shutting down the machine. Grinding the sets of knives is a mighty particular job, and one that should be done by one who understands the business. A lot of perfectly good machines have been condemned simply because some neighborhood know-all has butted in on the job of grinding the knives and got them so uneven that they hit-and-miss while revolving. This results in uneven cut lengths of corn and a loss of power that should not be tolerated.

Have a Powerful Engine.

The tendency of the times is away

Circumventing the Present Shortage of Hay in Michigan---By LESTER J. MEREDITH

from the larger cutting outfit, and possibly the most economical method for the average farmer, is to join in with four or five neighbors in the purchase of a cutter, and in exchanging work at filling time. This saves a lot of expensive team work and is the only practical solution of the labor problem. If a good threshing engine can be hired by the day it will rarely pay a silo-ringer to buy an engine. Silo-filling, even with a small cutter, requires an abundance of power, and it will pay to have an engine of sufficient horsepower to facilitate the work. Whether changing work or hiring a full crew, it costs from \$8 to \$12 an hour to keep the business moving, and this means that a shortage of power is an added expense that no farmer can afford to stand. A lot of good information may be had by getting in touch with manu-

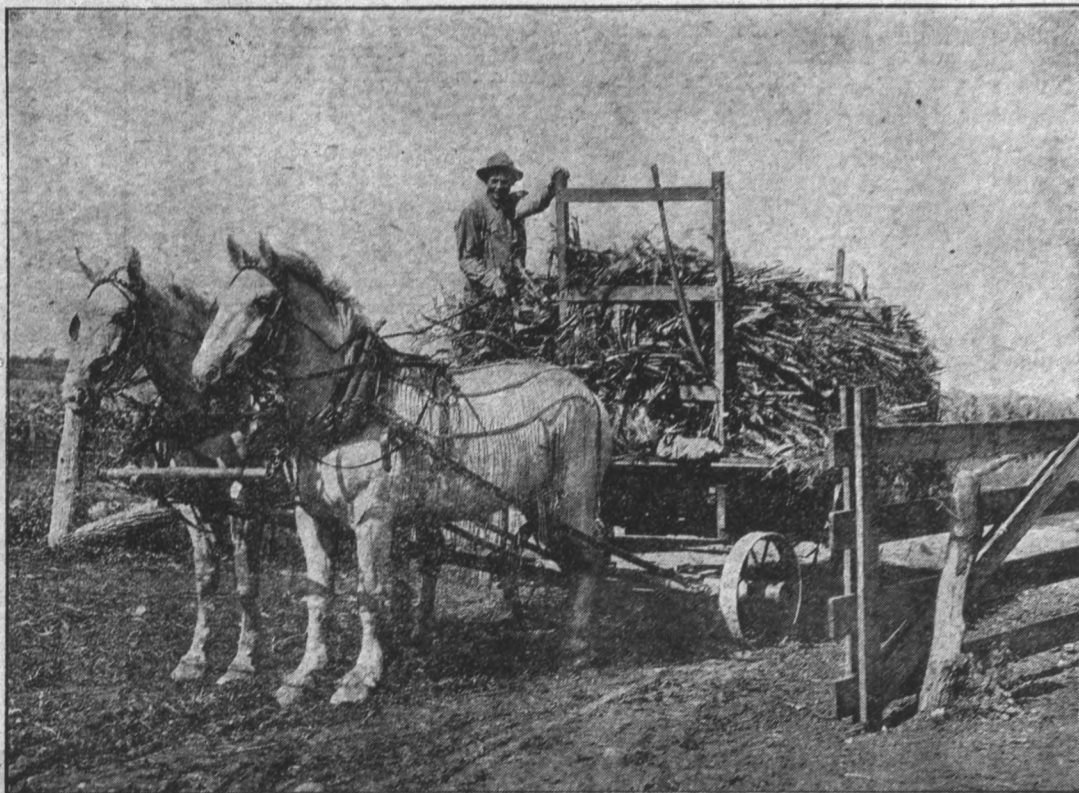
insures against loss of time in case something goes wrong while the cutting is under way. Have the cutter adjusted so that the stalks will be cut in pieces less than one-half inch in length. The finer it is cut the more firmly it will pack in the silo and the less waste there will be in feeding. Stock will not eat round lengths of tough stalks that have not been crushed during the process of cutting for silage.

Once the wheels of the cutter are started turning the work should be rushed. A good cutting machine will take the bundles as fast as two men can place them on the table—faster than the same two men can keep the pace. In most sections silo-filling is a neighborhood job. There is no danger of too many silos to one engine and cutter so long as added help can save

tributor so that the heavy stalks and ears will be evenly mixed with the leaves about the edges. It is well to have a boy helping him in the silo to keep the edges tramped evenly. This is the great secret of packing corn in the silo. After the silo is two-thirds full another hand can be used to good advantage in tramping the edges so that there will be little loss when the silo is opened for feeding. The many tons of cut corn on the top of the silo will prove more effective in pressing the bottom two-thirds than ten men and boys tramping over the surface while the silo is being filled. The fundamental problem in packing cut corn in the silo is to keep the leaves and heavy parts of the plant thoroughly mixed and distributed over the surface; then the even pressure of the entire mass will result in the contents settling evenly, instead of the center remaining high and leaving an opening at the edges through which the air can spoil the silage about the walls.

The Time to Cut Corn for Silage.

Opinions vary widely as to the proper time to begin cutting corn for silage. Some tell us to begin cutting when the corn is glazed; others say when it is well-matured. These terms are too elastic, for glazed and well-matured seldom mean the same to two men. A little careful study of the nutritive value of the corn plant as it nears maturity is much better than any specific directions. The denting of the corn under normal growing conditions marks the ideal time for cutting the silage. At this time much of the feeding value is still in the stalk. After the corn begins to dent the work of the plant is mainly that of filling the kernels with the starches in the juices of the plant. Silage uses the whole plant, hence the best time to cut the corn is not when the most food is stored in the plant alone, or in the ear alone, but when the total of the food stored



Low Wagons Conserve the Strength of the Men Hauling Bundles

facturers of these machines and asking them for advice concerning the size and capacity of outfit needed to meet conditions on your farm, or in your neighborhood. They will be glad to furnish you with this data; then you will be prepared to make a more

time. Rapid filling gives just as good silage, and if the silos are refilled there is no loss of capacity. Always plan to have the silage distributed evenly over the surface of the silo as it comes from the cutter and keep the edges well tread to prevent the air

ed in the two is greatest, yet before the ripening process has turned the starches in the harder parts of the stalks into indigestible crude fiber. Soon after denting of the kernel takes place the development of crude fiber in the stalks results in a loss of palatability and succulence that more than counterbalances any gain in amount of nutrition in the ear.

Conditions Not Always the Same.

Most of the unfavorable results that have been reported from the use of silage have been attributable largely to acidity or inferiority of the materials put into the silo. Troubles are sure to ensue if the corn is siloed unwilted when too green, too dry or several days after being frosted. It should be of good quality as regards both stalks and ears when cut into silage. Cut too early it makes far less nutritious feed, and there is more likelihood of its spoiling or developing rank acidity. Where it is necessary to silo corn before it reaches the best stage for this purpose the practice of successful siloists is to allow the corn to wilt before running in through the cutter.

A fairly good grade of silage can be made of corn cut before any grain has formed in the ear. In such cases it

(Continued on page 195).

A Place for Each Man and Each Man In His Place

DIRECTING the crew so that each man fits in his place to the best advantage is a matter of importance at silo-filling time. On many farms young boys will necessarily be employed, and it is wrong to allow strong, husky men to take the light jobs and compel boys to do the heavy work. Four strong men to pitch bundles in the field, four teams and drivers to haul corn, one man and three horses cutting with a binder, two hands in the silo and an engineer make a good crew. Fewer hands mean too hard work or a loss of time and money through hiring the outfit for more hours than is necessary when a full crew is employed.

intelligent decision, both in regard to from getting under. The old idea that a number of men and boys tramping

Plans should be made to have one about in the silo results in better packing is not founded on sound principles. Of course, it is necessary to This gives the work a good start and have a reliable man handling the dis-

News of the Agricultural World

CANNING FACTORIES NEED HELP.

CANNING factories throughout the state of Maryland are face to face with a serious labor shortage. Volunteers have been called for and the women and children are being recruited to do this work. The rule that the industries must secure their workers through the Federal Employment Agencies has been relaxed as far as canneries are concerned. The fertilizer factories also feel the help stringency and the Department of Labor is handling the situation in hopes of securing enough help to tide them over the busy season so that enough fertilizer will be on hand for the fall crops of wheat.

PRESERVING EGGS.

IN order to keep fresh poultry and eggs moving from the producers to the consumer in as direct a line as possible, the Food Administration has issued orders against resales between the following classes of dealers; original packers and shippers, commission merchants and wholesalers, jobbers and suppliers of hotels and institutions and retailers.

Backward movements of poultry and eggs will not be allowed under the orders. For the present, sales between wholesalers in different cities will be permitted when necessary to supply the reasonable requirements of the buyer's business.

CULL YOUR FLOCKS.

TO encourage the production of better poultry, specialists of the United States Department of Agriculture are now conducting a campaign urging all poultry growers to cull their flocks at this season and keep only the best laying hens for next year. In this work they are urging poultry departments of agricultural fairs, county agents, and poultry breeders to take a greater interest in poultry shows and poultry displays at fairs. In the present emergency, to use to the fullest extent the power of popular exhibitions of poultry to create new interest, it is more important to have small shows wherever an exhibit can be brought together than to have what poultrymen are accustomed to call quality shows.

SELL BY WEIGHT.

THE New York State Association of Retail Grocers protested strongly against the practice of farmers selling produce by measure while the grocery trade must sell by weight. It was pointed out that while frequently potatoes are measured out at the rate of twelve or thirteen pounds to the peck, the grocer must sell them at the rate of fifteen pounds to the peck, pocketing the loss. It was argued that the state law be changed, making it illegal for farmers to sell by measure. It was also demanded that a law be passed prohibiting the sale of uncolored oleomargarine.

\$30,000 FOR APPLE CROP.

CLARK ALLIS, of Medina, N. Y., reports that he has closed a deal for his entire crop of apples for \$30,000. It is estimated that his orchards will produce 10,000 barrels. He harvests and places the apples in storage. He also sells about 1,000 bushels of Bartlett pears at \$2.00 per bushel, the baskets being paid for by the buyer.

The growers in this district are rapidly contracting their apples, and are receiving from \$2.50 to \$3.00 a barrel

as a rule, free running. Some have their cider apples taken out and some growers throw in an equalized number of barrels per hundred to make up for

the ciders, and to save the trouble of sorting.

Practically no two lots of apples are sold on like terms. Each sale has its

own terms in individual cases. The quality of the fruit as it runs is very good. Winter apples are short practically all over the country except in western New York.

"The crop," Mr. Allis says, "in Illinois will not be nearly as large as last year on account of the heavy dropping and the dry weather. There seems to be the element of gamble or chance in this year's situation for the buyers. It looks some as though they may be reckoning on the end of the war approaching and therefore are exporting their apples to Europe, thus relieving the local market. The shortage of sugar may knock the price off of apples some because as sugar decreases in supply there will not be so much of the fruit cooked. Chicago reports fall apples as being the highest ever known at \$7.00 to \$8.00 per barrel. Peaches will doubtless go to \$3.50 a bushel, as the crop is very short. Pears also are short."

SHORT FRUIT CROP.

ACCORDING to the August report of the Iowa Horticultural Society, fruit crop conditions in this state on August 1, were as follows:

Summer apples 25 per cent; fall apples 27 per cent; pears 18 per cent; American plums 23 per cent; domestic plums 13 per cent; Japanese plums five per cent; grapes 52 per cent.

"There will be about half as many apples and plums, and the same number of grapes as were harvested last year should normal conditions prevail until crops are gathered for market or storage," the report states.

Lack of rain last fall and the severe winter was responsible for the poor fruit conditions.

SAVE OLD SACKS.

IN the past no special pains have been taken to dispose of cotton grain sacks or even burlap sacks after they have been received and emptied. In due time they are destroyed by mice and in that way become a total loss. As a result of war conditions, bags of all kinds have become exceedingly scarce, owing to a shortage of ships required to bring burlap from India. It seems that bags are used extensively in the army in fortifying trenches so that the demand for them is unusually heavy at a time when the material can be transported only with difficulty.

Attention has been called to the fact that an enormous saving of sacking material can be effected by fertilizer dealers shipping their produce in two-hundred-pound bags instead of using those of one-hundred-pound size. There are something like three million tons of fertilizer shipped annually in small bags and if it were possible to use the larger bags this item in itself would save, it is claimed, \$4,000,000 a year.

No more patriotic act can be performed at the present time than to gather together all the empty sacks on the farm and ship them to seedsmen, to fertilizer companies, or to those who make a special business of dealing in second-hand sacks. Companies who have their sacks branded will pay a good price for their return, and while the revenue derived from the marketing of the sacks amounts to something there is a still more important reason for preventing their waste, namely, that the country at home and abroad is in most urgent need of this kind of material and it is, therefore, a helpful, patriotic act to go to a little trouble to have sacks returned where they may be filled and used again.

Man Shall Not Live by Bread Alone

IF our farmers are to continue to produce meats for our people and our Allies, the elements entering into the cost of production must be given due consideration. Federal Meat Producers' Association adopts policy to encourage the live stock industry.

REALIZING that a condition confronts the producers of live stock, and especially of meat animals not anticipated by reason of climatic conditions, we apprehend that in the coming months the production of an adequate supply of meat will be very seriously curtailed.

A widespread and serious drouth over a large part of the corn belt has produced a condition nothing short of a calamity, and we believe that in order to avert a shortage in meats and animal products that the federal government should announce a definite policy in regard to production.

In order to facilitate conditions, we suggest that the Food Administration modify its regulations with reference to the feeders buying corn and other food stuffs at market centers and expedite shipment of the same.

If the present line of meat prices are to be maintained for meats, then the elements entering into production should be given consideration. To restrict the price of a commodity and not restrict the price of the elements entering into the production of that commodity seems indeed a short-sighted policy, and calculated to work injury and injustice to the country at large, as well as to curtail production and thus defeat the purpose and needs of the nation.

While this association is opposed to the propaganda of price fixing as an economic principle, still to treat one class of producers thus and not another under the stress of war conditions, savors strongly of favoritism.

The depleted conditions of summer pastures and forage crops, renders the future supply of meat animals and feeding stock especially hazardous and uncertain. In view of this fact we believe that the federal and state authorities should cooperate to locate feeding and grazing places where surplus feed or surplus stock can be taken through another season, rather than compelling them to be shipped to central markets and slaughtered at seriously low prices.

We believe as a matter of public policy that the meat division of the Food Administration should not deter the announcement of putting into effect the ratio of thirteen to one on the production of hogs for the present year.

We suggest that matters pertaining to loss and damage to live stock in transit under the Federal Railroad Control should

be promptly and fairly adjusted as formerly under private ownership.

We suggest as a means of facilitating the future production of meat that the grain division of the Food Administration modify its rule governing shipments of grain and food stuff to actual feeders and consumers in order that they may not be compelled to comply with the license system and regulations as now in force and that feeders be permitted to buy and store such amount of corn at least six months in advance or to cover a normal feeding period.

We recognize that the control and proper disposition of the packing industry of our country is one of the greatest questions needing careful consideration and ultimate solution. We think the smaller packing centers, especially, should be encouraged and developed in order to facilitate transportation and that proper restraint and supervision of the larger packers should be provided with the idea of obviating any imposition on the producer or consumer, and with the view of developing new centers for disposition of meat-producing animals. The profits shown in the sworn reports of the large packers are abnormal and the campaign of advertising conducted by them is calculated to blind the public to the menace of this monopoly. The control by the packers of many food products not allied to the slaughter of animals carries with it a power control of these industries and should be subjected to the most severe investigation with a view of eliminating any imposition upon the consuming public.

The suggestion may be opportune at this time to producers generally that we use extreme caution in future operations. Conservative producers should confine themselves to the use of material on hand and by the addition of suitable concentrates much may be produced in the drouth-stricken districts and the nation's supply of meat thus augmented. Likewise many head of young stock may be conserved to the future needs of the nation, and in this connection we approve of the policy of the federal government in advancing loans to feeders and producers of live stock in order that undue sacrifices may not be entailed.

The following committee was authorized to meet with the Food Administration at Washington not later than September 10: John G. Brown, W. H. Tomhave and S. P. Houston.

Winter Grains In the Crop Rotation

ASIDE from the sentimental and patriotic reasons for growing a larger acreage of wheat and rye there is a growing desire on the part of practical farmers to utilize winter grains in their crop rotations. Where there is a chance of success from fall seeding, the advantages of fall-sown over spring-sown grains is so marked that there should be no hesitation in making the decision between them.

One of the most important factors in favor of fall seeding is that a far better seed bed can usually be prepared in the fall than in the spring. Winter rains and snow have a tendency to leave the soil water-soaked, so that it is very slow warming up and getting into workable condition. In the fall, especially on land that has been occupied by a cultivated crop, the soil is in ideal condition to be economically prepared for seeding. In the spring when the rush of farm work is pressing, the ground is usually hastily prepared, and the seeding rushed so that later-planted crops may have attention at the proper time. On the other hand, there is plenty of time to do the work in the fall, and the soil is ordinarily in such condition that comparatively little tillage is required to establish an ideal seed bed for winter grains.

Another important advantage of fall seeding, especially this year when so many fields of newly seeded clover and timothy have failed to make a good stand, is the fact that a more compact seed bed may be established for the grass and clover crops that are seeded with the wheat and rye crops in the fall and spring.

In many parts of Michigan farmers report better results seeding clover and timothy with wheat and rye than with spring grains. In the case of securing a better stand of clover and grass, much of the success is due to the fact that the winter grain crops are harvested early, thus giving the new seeding an opportunity to make a vigorous growth, and escape the injuries of drouths, which are so common when they are seeded with a crop that pumps the moisture out of the soil until late in the season, and leaves the tender plants to survive or perish in a period of dry weather late in the summer.

Many farmers are finding it important to work out new systems of crop growing to conform with their present labor supply; some of these men are finding it possible to handle their farms with less labor, tools, equipment, and horsepower by growing fall-sown grain in their crop rotation. Seeding in the fall provides profitable employment for the men and teams to fill the gap between harvesting small grains and the corn, bean, potato and other fall crops, while the rush of work in the spring is lightened. It is generally conceded that the fall-sown grains conflict less with the other farm activities than the spring-sown grains, besides the better condition of the land which ordinarily prevails in the fall also allows the fall seeding to be accomplished more economically than is possible to bring about similar conditions in preparing the field

A Discussion of These Crops from the Broad Standpoint of Farm-Management

for our spring-sown crops of grain. On many farms where the fields are rolling, the winter-grain serves as a cover crop, and prevents the loss of plant food by washing and leaching. Where the ground remains frozen during the winter, little attention need be devoted to sowing cover crops, but in many sections these factors should be considered. The use of winter grains for cover crops is coming more and more to be taken into account in various parts of the country.

On many farms where live stock is kept the growing of wheat provides an ideal place for the farm manures that accumulate during the summer and fall months. Recent experiments indicate that the returns from the use of farm manures as a top-dressing for the wheat crop are larger than when used for other grain crops. The use of the manure in this way not only helps the wheat crop, but it creates ideal conditions for the clover and grass crops that are seeded with the wheat crop.

Destroying Weeds.

Fall-grown grains destroy many weeds that are troublesome where the spring grains are grown. The plants having a different growing season have an advantage over weeds that start in the spring. A few winter annuals are usually present in thin spots and about the edges of the field, but those which are troublesome in spring grains seldom cause trouble in winter grains.

One other advantage of fall-sown grains is the fact that they may be employed to utilize any excess plant food that has been used to stimulate the growth of crops having a high

rye is preferable to wheat because it makes a more vigorous growth of straw earlier in the spring.

Land that has been occupied by a cultivated crop which has had clean cultivation during the growing season, can be fitted for fall seeding by harrowing. My practice is to sow wheat on potato or corn ground. Where the corn is harvested for silage one has time to sow wheat or rye. By giving the ground a thorough disking, and going over it with a smoothing harrow, a good seed bed can be prepared for the winter grains and clover and grass crops at a minimum cost for labor and team work.

Have the Land Drained.

Winter grains are sure to fail if the land is not properly drained. It is probable that two-thirds of the failures with winter grains, especially in the northern states, is due to an excess of water in the soil. Another source of failure is that of seeding the crops too late in the fall, as is often the case when the work is delayed to remove the preceding crop in time to sow the winter grain. In the case of the potato crop, and the portion of the corn crop that is harvested for silage, the difficulty is largely overcome. I plan to regulate the acreage of winter grains according to the amount of land that can be properly prepared in time for seeding, keeping in mind that the later seeding should be with rye rather than wheat.

Good Seed Essential.

Without good seed with strong vitality and germinating and growing powers, fertility and careful preparation of the soil are practically wasted.

to pigs and calves. Unless the strong germ is present, sending out strong rootlets with vigorous feeding zones, the plant starts in life poorly. Quite as essential as a strong germ is a large supply of starch which is converted into plant food for the small plants. This is why large grains furnish a stronger growing plant than shrunken, immature seed, and is a strong argument for the grading of the seed with a modern fanning mill or grader.

Methods of Seeding.

The use of improved grain drills as a means of seeding has been instrumental in diminishing the number of bushels of seed needed for the wheat or rye crop, for when a man is certain of his seed and when he knows that it is all being placed at the uniform depth in the ground and will grow, it is folly to suppose that an excessive amount will be sown, as was the case when broadcasting was the only means of distributing the seed.

When broadcasted and then disked and harrowed, no matter if the work was properly done, there was always some seed near the top that would not germinate and grow and still more with so light a covering that although it might start it could not develop a vigorous plant. Not only has the grain drill demonstrated that all the grains may be depended upon to grow but the uniformity of ripening is much improved, the yield greater and the stand of clover and grass where this is an item is almost wholly insured, especially where the drill rows run north and south, thus allowing the tender clover and grass plants to become hardened to the heat of the sun before the crop is cut, and also allowing them plenty of room to develop.

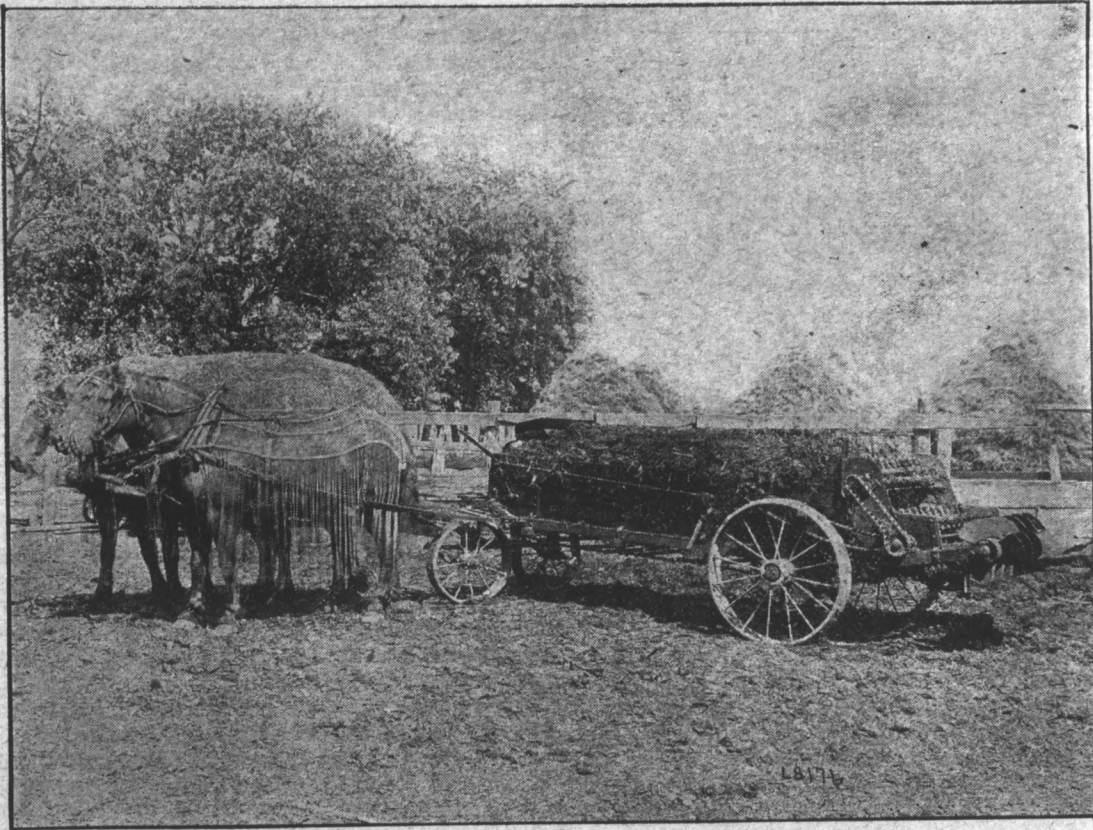
How to Fertilize.

The kind and amount of fertilizer to use depends so much on soil conditions that one can not advise what would be best for every farm. As a rule, it pays to use a very moderate amount of fertilizer, even though the ground is in a pretty fair state of cultivation. It gives the young plants a start and helps the clover to obtain a start early the next spring. If heavy quantities are used in order that the land may be seeded to permanent pasture or meadow, it is well to apply a heavy application of mineral fertilizer to the plowed ground and get same thoroughly worked into the soil before seeding and drill in a moderate amount of complete fertilizer at the time the seeding is done. As a rule we use about two hundred pounds of complete fertilizer to the acre where the wheat crop follows potatoes in our rotation, but we use about eight hundred pounds of fertilizer to the acre for the potato crop in addition to several loads of stable manure.

Green Feed for Winter.

As a winter pasture crop, rye is the most hardy, and furnishes more grazing than wheat. In the case of winter oats and barley the possibilities of injuries are so great that it seldom pays to pasture the crop very extensively, unless they make a too-vigorous growth before winter sets in.

L. W. S.



Farm Manures Pay Double Dividends when Used for Top-dressing the Wheat Crop. Large Crops of Wheat and Fine Seedings of Clover and Timothy Result from this Practice.

money value. In many parts of the country farmers apply an excess of plant food to the potato and other market crops, and sow wheat immediately after these crops are harvested. In some sections wheat growers often get a crop of from forty to fifty bushels per acre by seeding the crop as soon as the potatoes are dug and the ground thoroughly harrowed. If it is desired to plow under the winter grain to increase the humus content of the soil,

With good seed a fair crop may be expected, even on badly farmed land. This brings up the question at once, "What is good seed?" The first requisite of good seed is a strong germ which will spring quickly into growth when the seed is sown in a warm, moist soil. Everyone recognizes the much more vigorous growth made by a pig or calf that is strong and healthy at birth. The same principles apply to young wheat plants that apply

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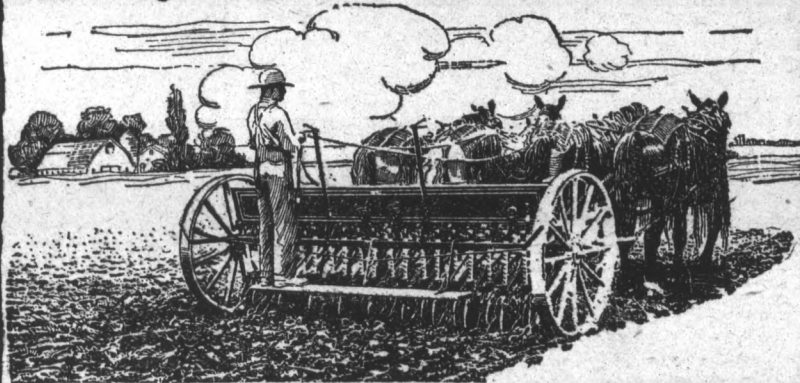


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Winter Protection of Fruit Trees

By C. B. FORD

ONE of the most important factors in establishing a fruit orchard is that of protecting the young trees from mice and rabbits during the winter. These pests may not touch a tree in your orchard for several seasons; then, unexpectedly, they may girdle and kill forty per cent of them. Mice and rabbits usually damage only small trees, although in some cases they attack trees from four to six inches in diameter. Many young orchards in Michigan have been seriously damaged in one winter by these pests.

Mice and rabbits are more active in young orchards during the winter months, when the supply of green food is limited, but if there is a mulch about the trees, or if cover crops grow up about the tree rows, both mice and rabbits may do considerable damage during the fall. There is something about the bark of young apple and pear trees that seems particularly attractive to rabbits. During the winter when snow covers up the grasses and clovers for rabbits and provides an agreeable cover under which mice can hide, the young trees should have some cheap and effective protection.

The only safe means of preventing these injuries is to provide guards for the trees so that the animals cannot touch the bark. Washes and paints have been tried and recommended, the idea being to cover the bark with substances that would prove repulsive to the animals. But these substances have proved ineffective in affording the desired protection. Such materials as blood, liver, axle grease and other greases have no good qualities to recommend them for protecting young trees.

The only safe and practical means of preventing these winter injuries is to put wire or wood guards about the trunks of the trees. In case you discover that serious damage is occurring, and you want to stop it immediately, wash the trunks of the trees with a lime-sulphur solution, or with ordinary whitewash in which arsenate of lead has been mixed at the rate of two ounces to each gallon. This will prevent injury until the next hard rain.

Effective wood guards are made of veneer cut from logs, by special machinery. It comes in flat packages, crated together, and sufficient wood for each tree costs about one-cent. Before putting them around the trees soak in water and wrap them about the trunks of the trees and tie them with tarred string. When the wood becomes dry it is quite hard and offers little inducement for the mice to gnaw through.

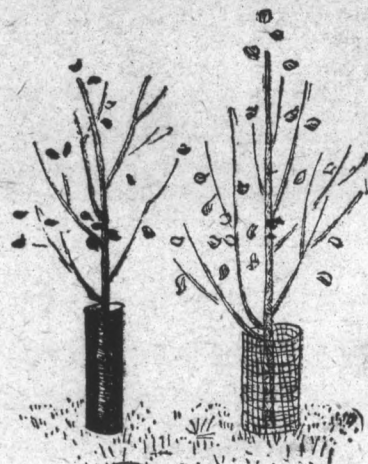
These wood guards are cheap, durable and effective against mice and rabbits, and if closely fitted and pressed into the soil about the tree help in preventing the entrance of borers and cutworms into the trunks of the trees. These veneer strips come with two or three inches of the end, that goes into the ground, treated with a preservative. This end should be set in the ground to prevent the worms and bugs which crawl on the surface from burrowing in the trunk of the tree under the ground.

Many commercial orchard owners object to these wood protectors because they have to be removed each spring, on account of keeping the sunlight from the trunk of the trees. If this is not done the constant shading of the trunk has a tendency to damage the bark and cause it to blister and check. Removing them each spring requires considerable time and the work comes at a time when other activities in the orchard demand attention.

Wire guards are more expensive. They possess all of the desirable qual-

ities of the wood guards except that they do not keep out worms and bugs. The greater cost is more than offset by the fact that when once applied to the trees they do not need to be replaced. This is a more important item in the commercial orchard than on the average farm where only a few new trees are put out from time to time.

The best way to buy wire tree protectors is to buy rolls of proper mesh wire sixteen inches high and cut it in strips twelve inches wide, making a roll about three and a half inches in diameter. This makes a very desira-



Wood Veneer and Wire Guards.

ble shield for young trees. Unless one buys material especially adapted for tree protectors, a few small stakes will be needed to hold the protectors in place.

As a rule, quarter-inch mesh wire is preferable, for a mouse can get his head through a larger opening and do considerable damage. If the orchard site is frequently covered with deep snows it will pay well to use higher guards to prevent rabbits from reaching any part of the trunks of the young trees.

Even though the trees are well protected with guards it is well to keep grasses and cover crops from settling down close to the trunks of the young trees, because there is always danger of fire running through the dry grass and leaves and burning the bark of the trees. It is also a good plan to tramp the snow firmly about the trunks of the young trees.

Young fruit trees are too valuable to leave unprotected during the winter. A little thoughtful attention to putting on these protectors in the fall is a good insurance against winter losses from mice and rabbits. The value of one good tree will more than repay the cost of time and materials necessary to protect one hundred young trees.

FIELD ROT OF HEAD LETTUCE.

"Remarkable control of this disease was obtained by spraying the diseased plants with formaldehyde, one pint to thirty gallons of water," Mr. Levin reported. "In tests in 1916 at Bay Port, Michigan, the disease was checked by this treatment in fields which were about to be given up as a total loss. In 1917 the rot began to become serious during an extremely wet and cold period in July. Spraying with formaldehyde completely checked the trouble. In an adjoining field the owner, seeing the success of the treatment, sprayed a portion of his field. In the sprayed portion the disease was checked, while in the unsprayed portion of the field the crop showed a high percentage of rotting. A third field in the neighborhood, unsprayed, was almost a total loss."

Growers in quest of more detailed information about the treatment are requested by the college to write to the Department of Botany, East Lansing, Mich.

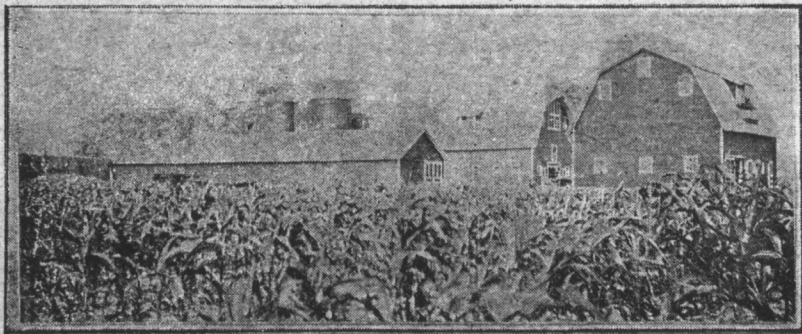
City Market Question Still Unsolved---By ALMOND GRIFFEN

It is hard enough, goodness knows, as he would at the corner grocery or to raise food stuff, but the selling of the vegetable wagon stopping at his end is quite as complex and certainly is just as important. War conditions and food scarcity and the imperative demands on this country for the very bread of life by the allied nations lend great emphasis to this question at the present time.

The growing season opened early and very promising with Michigan farmers, but frost and drouth have hit them hard and the crop returns and prospects for the future are not nearly so bright now. These conditions have almost put the city markets out of business. Attendance at the wholesale market in Grand Rapids has been light, some leading growers not taking stalls this year for the first time since the market was opened. An attempt by the city to open a retail market in the south section of town was a failure. Consumers were on hand but there was little stuff offered by the growers.

Saginaw has been working hard on a city market plan, led by the local woman's committee of the Counsel of National Defense, and up to the last of June the largest number of farmers

Several years ago a report was made on the distribution of farm products after extensive study by an industrial commission appointed by congress, and composed of five senators, five representatives and ten laymen. Scanning the report we find that conditions have not changed much and the findings in the main are applicable today. The report reads in part: "The first fact recognized is that the American system of distributing farm products is essentially a speculative system from beginning to end—speculative in the sense that after products pass out of producers' hands and until they pass into consumers' control there is not a moment nor a stage in the distributive movement during which the one who has legal control over the property in question does not run the risk of a rise or fall in the value of the property. With the growth in volume and scope of production and in variety and complexity of operations involved in the marketing of products of the farm there have grown up gradually classes of men and commercial methods pecu-



Corn and Silos Spell Prosperity.

showing up with stuff to sell any morning was four. The women had sent out hundreds of letters to farmers telling them about the market and urging them to cooperate, hence they were disappointed over the results. In July the market attendance was somewhat better, but the main difficulty in Saginaw and elsewhere this season evidently has been the scarcity of farm, garden and orchard products.

Grand Haven opened a free-for-all market in June, the market days being Wednesday and Saturday. A rest-room has been fitted up there for farmers, with modern conveniences. Arrangements were also undertaken for taking care of stuff left over by the growers from one day to another.

We hear a good deal about the successful markets in Baltimore, Washington and other cities, but a closer study shows that these cities have not yet solved the problem fully. Recently Chairman Johnson, of the House District Committee, in speaking of the market bill now pending in congress, said: "The high cost of living in Washington is chiefly due to the lack of a proper market system. The Washington Market Company is the chief source of the trouble. Big storage and packing companies have space in the market and they dictate what this little fellow and that one shall sell. And the little ones have to do as they are told. Otherwise, they will be frozen out of business."

The municipal market system adopted on an extensive scale in Los Angeles, Cal., has not been entirely successful to date. It is claimed that the peddlers who buy up odds and ends in the wholesale markets display the goods in the city retail stalls the following day and the consumer pays about as much at the city market with the privilege of carrying stuff home,

liar to the purposes and conditions which call them into existence; but in the vast army of men and indefinite variety of methods there is not a single responsible agency engaged which is not in some way required to assume liability for loss or gain from changes in value occurring in the course of distributing farm products to consumers. In brief, the risks of distribution are shifted by both producers and consumers upon the distinct class of speculators known as distributors who make it a business to take such risks and to divide them up among themselves on the basis of net profit on capital and cost of business capacity. This in final analysis is the underlying fact in the system of distributing farm products in the United States."

Again the commission says: "Distributor and producer fail to cooperate and the consumer pays part of the cost of uneconomical methods. The probability is that the entire business of selling on commission is antiquated and should have been abandoned long ago. Cooperative methods have not yet fully proved themselves available as substitute methods, though the California system is successfully developing in the right direction. Any improvement whatever must be based either on an aggressive organization for producing interests or on a better organization for municipal distribution. A striking feature in the shortcomings of municipal markets is the low proportion of cost to consumers that goes to the producers."

New distributing methods that are of interest are appearing in cities. At large city markets now you will find light delivery cars, reading "dealer in fruits and produce," and these middle-men who buy of the farmers have regular routes each day, supplying the



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The telephone played a tremendous part in this Nation's mobilization for war. It continues vital to the Government's program.

At the same time it has remained at the service of the whole people whose demands upon it grow apace with that of the Government.

The public is entitled to the best service that it is possible to render. But the public has a partnership in the responsibility for good telephone service.

It takes three to make any telephone connection: the person calling, the company, and the person called. Without the cooperation of all three the service suffers.

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can be heard at one end of the line which are not properly spoken into the transmitter at the other. The relation between the speaker and the hearer is the same as the relation between the orator and his audience. It cannot be maintained if the orator turns his back to the listeners or if the audience is inattentive.

Telephone traffic must be kept moving. Speak distinctly—answer promptly—and release the line as quickly as possible. Don't continue reading when the bell rings.

These seem little things to ask the individual telephone subscriber, but when the individual is multiplied by millions all over this country, it is easy to see how important it is that all should cooperate.



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Military demands from a limited population have made such a scarcity of farm help in Canada that the appeal of the Canadian Government to the United States Government for

Help to Harvest the Canadian Grain Crop of 1918

Meets with a request for all available assistance to go forward as soon as our own crop is secured.

The Allied Armies must be fed and therefore it is necessary to save every bit of the crop of the Continent—American and Canadian. Those who respond to this will get a

Warm Welcome, Good Wages, Good Board and Find Comfortable Homes

A card entitling the holder to a rate of one cent per mile from Canadian Boundary Points to destination and return will be given to all Harvest Applicants. Every facility will be afforded for admission into Canada and return to the United States. Information as to wages, railway rates and routes, may be had from the

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\$38 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against material and workmanship. Made also in four larger sizes up to No. 8 shown here.

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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.

UNADILLA SILO CO.
Box M.
Unadilla, N. Y.

When writing to advertisers please mention the Michigan Farmer.

(Continued from page 177).

small and sleepy grocer trade. Some grocers do not care to get up early in the morning and do their own buying, so they pay the extra price to the middleman and then pass on the price burden to the poor consumer. Hucksters for the most part have horse-

cal system of distribution that may revolutionize old store methods. Goods are neatly displayed and plainly marked and you go about making your own selections and pay as you go out. The saving in clerk hire and in time consumed in waiting on people, by having them wait on themselves, is a big item.

IN the future shall we have organized growers, organized distributors and organized consumers? Or will we be able to cut out the middleman entirely, with the city consumer dealing direct with the farmer? If so, how? The question is still unsolved and it is worth thinking about.

drawn vehicles and confine their operations to households, while the dealer goes from store to store with his light truck or automobile.

Again, it is interesting to note the new "serve-self" grocery stores that are springing up in cities, an economi-

The purchasing power of a chain of stores is also a factor. These stores of course, are on a strictly cash basis and are along the line of the merchandising success of the five-and-ten-cent stores, with their many sales and little profits.

Wireworms and Lime

For many years I have read Lillie Farmstead Notes, and have been impressed by the practical nature of your letters. I have a field that I have had in corn for the last two years, last year and this. It was broken last year, a clover and timothy sod. Last year this field was a partial failure because of wireworms. The field is a sandy loam fairly well tilled and is in a good state of fertility (had twelve loads of manure to the acre and 125 pounds of acid phosphate drilled with corn). I had our county agent down last year. He took a couple of samples of soil, promised to have them analyzed and write me, but have been unable to hear from him since. Where can I send samples of this soil to get an analysis? Will lime stop the work of wireworms? I have replanted this field three times this spring and now the prospects are for an almost total failure. I have talked with many farmers around here but have been unable to get any help. The field has been farmed for sixty years. Never has had any lime applied, raises good oats, fair wheat and fair hay. Clover makes a fair stand. We have owned the farm for ten years. I have followed this rotation: Clover and timothy hay, corn two years, oats, wheat, and again hay. The field has been heavily manured three or four times in these years, and fertilizer has been applied each year. Lenawee Co. C. A. R.

The wireworm is a difficult pest to deal with. The practical remedy is prevention. If one leaves land in clover and grass for more than one year he is almost sure to be bothered with wireworms. The longer meadow is left the more serious is the damage from wireworms, when the land is planted with other crops. In driving about the country one sees on every hand crops that are damaged by wireworms. Sometimes crops of oats are practically ruined by them and yet the farmer is helpless. The only thing to do is to keep the land in cultivated crops until these insects have gone through their metamorphic changes and go to other fields to secrete themselves and deposit eggs for another crop of wireworms.

My father practiced a four-year rotation—corn, oats, and wheat with clover and timothy seeding, allowing the meadow to stand two years. The first year it was nearly all clover, the next year mostly timothy. Then the land was planted to corn again. We were bothered more or less with wireworms and cutworms in the corn, and sometimes the oat crop was injured.

I have practically rid my land of these pests by cutting the meadow short one year, seeding to clover, mowing it once one year for hay and then plowing it again. In this quick rotation insects do not get a chance to establish themselves and there is little or no bother from either wireworms or cutworms. Prevention is the great remedy for these pests. This year we are mowing a twenty-acre field for the second time because we had so much

work to do we couldn't plow it on time, so I am expecting losses from cutworms or wireworms next year on this twenty acres.

There is no known remedy. Salt will drive them out, but if you use enough to drive them out you will injure the crop. The same way with the cutworms. They live on the young plants they find in the soil until they mature and change to a different state and escape to other fields, then the proper thing to do is to establish such a farm practice that will not enable them to infest soil again if possible.

Lime.

I do not think it is practical to send a sample of soil to an agricultural laboratory to have it tested for acid. Personally, I don't think much of the laboratory test. You can tell yourself better than the chemists can tell you what your soil needs if you will only make a few practical experiments. If you will get some blue litmus paper and bury it in the moist soil you can get an idea whether your soil is acid or not. If there is acid there it will change the color of the blue litmus paper to red. That is what the chemists would do if you sent the soil to him. You can put a little of this soil in a bottle or jar, pour on it some rain water that contains no lime, stir it up well and then add a little hydrochloric acid. If there is lime in this soil this hydrochloric acid will act upon the lime and bubbles will come from the solution. But the best test of all for the farmer is to apply a little lime to the field. It takes a little longer but it is sure. Go to your dealer who handles building supplies and buy a sack of hydrated lime. Go out into the field somewhere after the land is plowed and partially fitted and spread this sack of hydrated lime, say on a piece of ground two rods square. It won't take you more than half an hour to do it, then fit the ground and plant it to crops. If your land is in need of lime your crops will be improved where this lime has been deposited. If you can see no difference in the crop or with any of the crops in the rotation it is safe to conclude that your land doesn't need lime. If you can see a benefit, it tells you better than any chemists can tell you. And this is the way to experiment with fertilizer also. Apply it on a portion of the field and note results.

With the rotation you are using and with the stable manure that you have used, this field ought to be in condition to produce profitable crops of almost anything, if they are put in on time and the season is at all favorable. I would suspect from reading your letter that lime would be of material benefit, and yet you can easily ascertain without any question at a very little cost.

COLON C. LILLIE.

SILOS for This Year's Crop

Erected without Delay. Ready for Silage Immediately.

THIS year, of all years, you owe it to your country and to yourself to turn your corn crop into silage. Don't think it's too late to get a silo. You can have the kind of silo which 60,000 successful farmers consider the best and have it ready for your present crop. Being the largest silo manufacturers, we have your

INDIANA SILO

on hand ready to ship. You are assured of quick transportation. The silo will reach you promptly. You'll find it easy to erect. You'll have your silo up and ready in ample time.

The Indiana Silo is built of materials which are free from defects, and which do not cause or permit the ensilage to become moldy at the walls of the silo. Staves have tight mortised joints and are interchangeable, making the silo easy to erect. There is no metal spline at the joints to rust out or complicate erecting.

It doubles the feeding value of your corn crop, enables you to keep 50% more cattle on your farm, and get an increased milk flow during the feeding season.

Write to nearest address at once for catalog and full particulars showing how easily you can pay for and make money on an Indiana Silo this year.

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TOP PRICES will prevail for many years' harvest, but the great war has drained men and animals off the farm. Replace them with a



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and swell your profits at the same time. Bad weather and unfavorable soil have no terrors for the British Battle Tank or for its worthy offspring, the BULLOCK CREEPING GRID TRACTOR. Will work in ground so soft a man would mire, or a hillside so rough that the wheels of the ordinary tractor would spin and slip. The CREEPING GRID has no wheels—it lays its own broad track and then rolls over it.

You can bank on the CREEPING GRID doing more work than three men and six horses on any farm.

A three or four bottom tractor, depending on soil conditions. Write for catalog TODAY.

BULLOCK TRACTOR COMPANY
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Ensilage to the Top

Was your Silo really full when you began winter feeding? The average Silo when filled in a hurried fashion settles about one-fourth. If you'd like to know how the upper fourth of Your Silo can be made to pay \$95 to \$150 yearly, extra, write for our 1918 catalogue to-day—it's free for the asking.

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Pigs, Pork and Patriotism

By A. M. PORTER

If we are to continue to provide meat for foreign people as well as our own, every farmer must put forth his best effort to produce more hogs. A glance at the prices of pork on the leading markets in this country and you can plainly see that we are slaughtering, consuming at home, and exporting more pork than we are producing. Some will say that the feed is too high to feed to the hogs, but the price has more than doubled in the past few years and the farmer can make many of the waste feeds on the farm profitable by raising hogs. You will find many communities in this state where the number of hogs have decreased during the past year. What has this caused? Look at the market prices of pork and the question is answered. These prices are high because we need more pork and now rather than any other time the farmer should be able to raise hogs profitably.

Increase the Fats.

We can increase the amount of pork fats much more easily than we can increase the amount of vegetable or dairy fats. The people can not get along without fats as a food and because of this need, the farmer should endeavor to produce more fats by the quickest method. This method is by the increased hog production. Nearly all the farmers have a few dairy cows at least, and they are in an excellent position to raise pigs because of the skim-milk, buttermilk and other dairy products which can be used by them

in the making of valuable meat foods. Pork always finds ready sale on all the markets because the packers have found many ways of placing it on the market in attractive forms with excellent keeping qualities. I doubt if you can find any other meat from which so many products are manufactured. A large percentage of all the meat and meat products manufactured in the United States is derived from the hogs. All buyers are very anxious to get hogs because their firm badly needs them in order to keep the markets supplied with their manufactured meat products.

Profits.

The quickest and easiest way of augmenting the meat supply next to the raising of poultry is by raising hogs, the United States of Agriculture points out. The hog is the most important animal for the farmer to raise for meat and money. He requires less labor, less equipment, less capital, makes greater gains per one hundred pounds of food and reproduces himself faster and in greater numbers than any other domestic animal. As a consumer of by-products on the farm the hog has no rival. No other animal on the farm equals the hog in its fat-storing tendency. The most satisfactory meat for shipping on trains or wagons for long distances is pork. I think in many ways the farmer will find that the hog is one of his most profitable domestic animals that he is raising for the market on the farm.



Doing Her Bit to Help Win the War.

TWO FEEDING PROBLEMS.

I have forty acres of coarse gravelly land which I am very anxious to get seeded. It is quite rolling and a long way from the manure pile. Have just taken off a crop of oats. I want to use it exclusively for pasture. Will you please tell me best way to handle it?
Oakland Co. W. A. S.

From the above description of the land I would advise sowing a crop of wheat, or rye, and seeding the same as for ordinary crops of clover and timothy, except that a mixture made up of four quarts of timothy, two quarts of red clover, one quart of alsike, two quarts of bluegrass, one quart of orchard grass and one quart of white clover. The use of eight quarts per acre of such a mixture, sown early in the spring, should suffice. If the land is deficient in available fertility, and no fertilizer is used, rye will come on and produce a more profitable crop than wheat. On the other hand, I believe that it will pay to use sufficient fertilizer to insure a

good crop of wheat and a good catch of clover and grass seeding.—W. M. K.
Corn for Silage.

I have about five acres each of dent and fodder corn. Have silo room for all. How can I get the most feeding value? By putting it all in or using the dent corn for roughage? I have very little hay or straw. Expect to carry my stock as far as I can and make a sale. Can young cattle be fed on ensilage alone?
Gratiot Co. R. B. C.

From the standpoint of digestible nutrients you could probably get the most feeding value from the corn crop by putting it in the silo, but as a feeding proposition I would suggest that you put the fodder corn in the silo and cut and husk the feed corn and feed the stalks along with the silage. At present prices for hay I think this would be the more economical plan. It is a problem that must be decided by the amount of roughage you have to supplement the contents of your silo, as well as the length of time you plan on feeding your cattle.—W. M. K.

LOUDEN

BARN PLANS



WM. LOUDEN
Recognized Leading
Authority on
All Barn Building
Problems.



This book will save you time, trouble and money if you expect to build or remodel a barn, now or later. Write for it today. Consult it before you make your plans.

Louden Expert Barn Plan Service is yours for the asking. Write us what size and kind of barn you have in mind, number and kind of stock you wish to house. We will give you the full benefit of our knowledge, whether you want a small or large barn—with blue prints in which your ideas are worked out to best advantage.

Save Half Your Barn Work This Fall

Louden Labor Saving Barn Equipment is a necessity on every farm. It saves man power—enables you to do your barn cleaning, stock feeding and watering and other chores, with less help, in less time, with less effort.

We would like also to send you *The Louden General Catalog*, a 224-page book finely illustrated, showing Cow Stalls and Stanchions, Feed and Litter Carriers, Water Bowls, Animal Pens, Hay Tools, Barn and Garage Door Hangers, Ventilators—in fact the entire line of Louden Labor Saving Barn Equipment, which is recognized as standard by leading dairy-men and U. S. Government experts. No charge, no obligation, write for it.

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A Silo Filler

You can afford to own

If you own a silo, here is a Silo Filler you can also afford to own. It is the *Ann Arbor "Disc Thrower"*. The latest and finest development of the silo filling principle, made in a size and at a price which is within the reach of any farmer who is silo equipped.

The *"Disc Thrower"* No. 78 has a 6 inch by 13 inch feed opening and can be operated with an engine or tractor of as little as 4 H.P. It has all the *"Disc Thrower"* special features which have won for this filler, farmer recognition as the most effective, the safest and the most economical silo filler on the market.

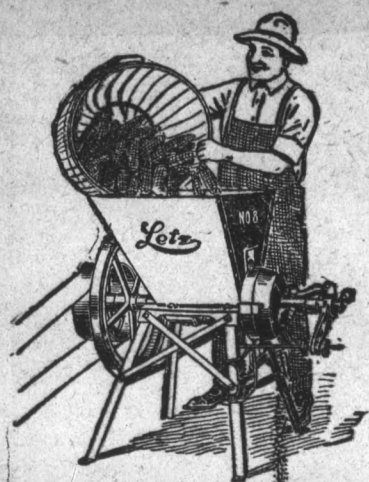
Quality Construction



The *"Disc Thrower"* has a one-piece main frame, giving absolute rigidity. Six fans on the fly wheel combined with the disc thrower principle insure a continuous stream of ensilage without the need for an unnecessary volume of air. The Triangular Shear Bar has three cutting edges and can be quickly changed when dull. End thrust ball bearings eliminate friction and save power.

There are many other features of superiority in the *"Disc Thrower"* which are described in our new catalog—*"Filling The Silo"*—Send for a copy.

ANN ARBOR MACHINE COMPANY
Makers of Ann Arbor Balers "The Baler for Business"
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LETZ FEED MILL
Self-Sharpening Silent-Runner

- No. 6 Letz Mill for 1 to 3 H.P.
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**No Farm Complete Without
One of These Grinders**

**Every Grinder Equipped with
an Extra Set of Buhrs**

Here are Nine Good Reasons Why the LETZ Should be Your Choice

1st.—Letz Grinding Plates will grind damp and wet grains, at very near the same capacity as dry grains.

2nd.—Letz Grinding Plates cannot be clogged.

3rd.—Letz Grinding Plates are SELF-SHARPENING; they will not dull when they are run together empty.

4th.—Letz Grinding Plates are long-lived, because the plates do not dull when run together empty.

5th.—Letz Plates are held on a self-aligning buhr knuckle arrangement; it requires no accuracy to get Letz Plates into the machine right.

6th.—Letz Grinding Plates will grind oat hulls as well as rye or wheat screenings, to the FINENESS OF MEAL IN ONE OPERATION.

7th.—Letz Plates are SILENT RUNNING, making practically no noise when in operation.

8th.—Letz Plates are light running, due to shearing the grain as it passes through the channels of the plate, thus giving them a greater capacity with less power than the rough face plate customarily used.

9th.—Grain ground on Letz Plates is not heated, because it is sheared instead of mashed, rolled or crushed.

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Choose the Feed that's Right -and Ready to Use

There's no need to run risks by mixing your own dairy feed. You don't need to worry about shortage of some essential ingredient. You don't need to guess about the quality of each ingredient.

Here's the ideal balanced feed, ready for immediate use.

International Ready Ration

Saves Mixing Labor

The hours that you spend in mixing feed could be more profitably spent in other ways. International Ready Ration not only saves this time, but it saves money in its cost as compared with any other feed approaching its value. It's always uniform.

The ordinary home mixed feed, though it may contain 20% protein, cannot equal Ready Ration in results. Accept the profits of this scientific feed—the result of years of experiment and experience. Write us if your dealer does not have International Ready Ration in stock.

Better Than Mixed Feeds

International Ready Ration has a 20% protein content. This is the right percentage for the average milk cow—proved by innumerable tests. It has the right percentage of carbohydrates and fat. Naturally it produces the maximum milk flow—an increase is *guaranteed*.

INTERNATIONAL SUGAR FEED CO.

Minneapolis, Minn. Mills at Minneapolis and Memphis
Makers of International Special Dairy Feed—also guaranteed. Can be mixed with home grown grains or fed alone, as a 15% protein ration.

Remember the Name—



PAST, PRESENT AND FUTURE OF SEN RYE.

(Continued from page 172).

offering for sale "Inspected Seed." "Inspected seed must be subject to field and bin inspection by agents of the association.

5. Grain to be eligible for inspection must be grown from "Inspected Seed" except that a man who grows a crop from inspected seed may allow one year without his grain having been passed by the inspector of the association.

6. Seeds to pass inspection:

(a) Must have been grown upon ground free from quack grass and mustards; and other noxious weeds, such as Canada thistle, dock, etc., must have been cut or pulled.

(b) Should be the only variety of that species of grain grown on the farm, except other pedigreed varieties grown experimentally.

(c) In the case of barley, wheat and oats, must be grown from seed stock free from smut. Must show little or no smut of any kind and must show less than one per cent of loose smut of wheat and barley.

(d) Must germinate ninety per cent or more.

(e) Must conform to the following standards of weight per bushel: Oats 32 lbs.; wheat 60 lbs.; spring barley 47 lbs.; winter barley 45 lbs., rye 54 lbs. On sale the ordinary legal weight must be furnished, which is the same for oats and wheat, but for barley and rye is forty-eight pounds and fifty-six pounds respectively.

(f) Must have been cleaned with good mill upon the owner's premises, unless special arrangement is made with the consent of the inspector. Must not be taken to public elevator to be cleaned.

(g) Must contain less than one per cent of mixtures of other varieties. In the case of Red Rock wheat, not over one-half of one per cent of white wheat is allowable.

(h) Must contain less than one-half of one per cent of foreign material.

(i) Must be of good color, comparatively free from soft, yellow berry, shriveled and cracked grains.

7. Inspected seed must conform to state seed law in regard to quack grass, Canada thistle and dodder, containing not more than one in two thousand of these noxious weeds; and further must contain not more than one in 200 of other noxious weed seeds.

8. Shipping tags and report post cards will be furnished members having inspected seed for sale. One of these post cards must be filled out and returned to the secretary immediately on the sale of each order.

9. Members wishing to sell inspected seed must properly fill out the accompanying application for inspection.

10. The inspector will be a representative of the association and not of the college.

A careful reading of these requirements show how difficult it is for the average farmer to produce open fertilized grains which will pass inspection. For that reason, it is very difficult to obtain certified Rosen Rye. I presume that I may speak with pardonable pride of the activities of the farmers of Allegan county in the line of seed improvement. Being one of the first counties in the state to employ a county agent, and having a number of real progressive farmers the results have been very encouraging.

On the eleventh of last June forty-five farmers who are growing pedigreed seeds, met at the court house in the city of Allegan to discuss the best means of preserving the purity of the seeds, the restrictions which should be placed upon threshers, the time and labor required for the extra care of such grain, the inspection and the shipment and the price which they ought

to receive. There were nearly one hundred pieces of wheat to be inspected, somewhat over one thousand acres of pure-bred Red Rock wheat. The fields of Rosen Rye that are eligible are few in number on account of so much land being devoted to the growth of the ordinary rye. The inspectors in the field in this county accepted some fields but rejected many where the farmer had not complied with the preliminary requirements.

On June 8 a meeting was held at Lansing of delegates from the various county associations of pedigreed grain growers. The actual cost of the extra care in the raising and shipment was found to be ninety-five cents per bushel. The delegates determined that the price of Red Rock wheat, certified, in ten bushel lots or over should be \$3.25 per bushel, one to nine bushels \$3.50. Rosen Rye in ten bushel lots or over \$3.00, one to nine bushels \$3.25. The excess price over the market being considered as only a fair remuneration for the extra care and labor required to obtain a proper certificate.

The Michigan Crop Improvement Association has published a card entitled "High Lights in Rosen Rye History." The statements are so concise that I take the liberty to quote it in full:

1909.—Selection begun by F. A. Spragg, Plant Breeder of the Michigan Agricultural College from a sample of Russian rye.

1909-1912.—Exhibited a phenomenal yielding ability compared to common rye.

1912.—Established reputation as the greatest single variety addition for increasing production of bread crops that Michigan has ever known.

1917.—Eighteen thousand bushels inspected and certified by the Michigan Crop Improvement Association. Most sold at \$2.60 to \$2.80 per bushel. Total of 175,000 acres sown with more or less pure Rosen. Much of this is not as productive as inspected seed because crossed with common. Rosen rye shipped to twenty-two other states.

1918.—In spite of adverse weather conditions of past fall and winter, Rosen rye showing up well.

June 18.—Meeting of Michigan Crop Improvement Association. Price of inspected certified seed set at \$3.00 per bushel for ten bushel lots or over, and \$3.25 for less than ten bushel lots, with special quotations on car lots.

THE NATIONAL DAIRY SHOW.

Plans are being perfected to make the National Dairy Show to be held at Columbus, Ohio, October 10-19, of educational interest to every person interested in the production, distribution and consumption of milk and its products. The Federal Food Administration and Department of Agriculture will cooperate with representatives of the Ohio State University, in presenting to the public the latest results of science and practice in the preparation of milk and cheese as substitutes for meat, and in the uses of these products in the dinner pail of the hardy worker, the lunch box of the school child, and the office worker. It is expected that the Bureau of Markets will present interesting data regarding the service which this bureau is rendering to the dairy industry with its market reports, quotations, consultations, etc.

SILLO FLOORS.

Would you advise me to put a cement floor in a cement stave silo on clay soil, or use ground floor? Should I put in some straw before filling in either case?

R. B. C.

By all means put in a concrete bottom in your silo and use no straw beneath the silage for, while this might result in no spoiled silage, yet we do not recommend this practice.

M. K.

Central Michigan Holstein Breeders Hold Picnic

Central Michigan Holstein Breeders have some severe reverses before this held their second bi-annual picnic of the season at the farm home of A. A. Black & Sons, Tuesday, August 13. The day was ideal and the fine grove in the front yard made an excellent place for the gathering.

There were about two hundred and fifty farmers and their families present, representing the breeders within a radius of fifty miles. At noon everyone enjoyed an old-fashioned basket picnic dinner, with all the ice cream that one could eat. Following the dinner Prof. A. C. Anderson, of M. A. C., gave a judging demonstration, using a prize bull calf from Mr. Black's herd.

The president of the association, J. B. Strange, called the meeting to order and introduced the M. A. C. Training Detachment Quartette. The boys sang several songs, and incidentally included several solos that gave both spice and enthusiasm to everyone present. When the time came for the

war is won. He made a great appeal for everyone to get into the game and give his support, both morally and financially, as it is only with this support that this war can be won and won right.

Mr. Mark Cuttler, of South Riley, next rendered several songs, in which he rivaled Harry Lauder. It was not long until Mr. Cuttler had most of the people laughing and singing, and one would almost believe he was in Scotland. Here Miss Nancy Black added to the above spirit by giving the Highland fling and the Scottish bagpipe. These were so good that the people insisted upon more and more, until Miss Black was too tired to respond.

Mr. Horace Norton, of M. A. C., then gave a brief talk, giving the breeders present some timely suggestions in regard to holding a consignment sale next winter. Mr. Norton's one strong point was that to have a successful sale, only the best type of individuals



The Kind they Breed in Central Michigan.

boys to leave, they were cheered with long calls to beat the kaiser.

The next on the program was several readings by Miss Van Sickle. These were especially good and everyone was only too sorry that time would not permit hearing more.

The president then introduced the speaker of the afternoon, Myles F. Gray, who gave one of the best patriotic talks the writer has heard in some time. He immediately made a hit with the Holstein breeders when he said: "This is a time of thorough-breds, thorough-bred Americans, and this is what you stand for in cattle, as well as people." Mr. Gray very emphatically told the people what they must expect in the next months, and that they must not be too optimistic about the present success, for we will surely

must be consigned, and more emphasis must be put on the individual than on the individual's records.

Mr. Albert Jenkins, Chairman of the Sales Association, gave a report of last year's sale, which was very pleasing, considering it was the breeders' first attempt.

After a brief discussion the breeders voted to hold another sale this coming winter, at the time of the breeders' meetings, and gave the president power to appoint a sales committee.

After listening to some more songs by Mr. Cuttler, everyone returned to their homes, after having enjoyed one of the pleasantest picnics the Central Michigan Holstein Breeders have held in some time and with many remembrances of the day spent at the Black farm.

Normal Milk

I am sending you a sample of milk. I have been getting a young cow coming three years old in September, fresh five weeks ago. My wife is having trouble in getting her butter together. A lady told me there were cows that would not make butter. I have handled cows all my life and never heard of that before. Will you test this milk and if there is a reason for this cow not making butter, would like to know it.

J. W. M.

The sample of milk duly received and seems to be normal. It produced a good cream and was of good flavor and this cream should churn into butter if properly manipulated. My judgment is that there is nothing abnormal about the cow; the only reason it takes a long time to churn is because the cream is not properly ripened and churned at the proper temperature.

To have butter come quickly cream should be properly ripened. It is considerable bother to make butter from one cow and do it right because you have to hold the cream so long in order to get a sufficient amount to churn. If the cream is separated it should be cooled at once and stored in a cool place until enough accumulates for a churning. The next cream should be cooled before it is added, and so on until enough accumulates for a churning. Then the cream should be ripened (soured) by gradually warming to about seventy-five degrees and stirred thoroughly and allowed to stand for about twenty-four hours. After this it should be cooled to sixty to sixty-two degrees. In summer if cooled to

(Continued on next page).



"Slipping" not "Saving"

"I kept slipping back two feet every time I went ahead one." That's what the small boy gave as an excuse to his teacher for being late for school one winter day.

And that's just what is happening to the cow owner who is trying to get along without a cream separator or with an inferior or half-worn-out machine. Like the small boy he is "slipping." He thinks he is thrifty, but for every dollar he saves by not buying a De Laval he loses two through not having one.

It isn't economy to do without labor saving and money saving and food saving machines. It isn't economy to feed 40-cent butter to the calves and hogs.

It is economy to buy and use only the best cream separator made—and that's the De Laval.

Viewed from every standpoint—clean skimming, ample capacity, ease of operation, freedom from repairs, durability—there is no other cream separator that can compare with the De Laval.

It's real thrift and genuine economy to buy a De Laval Separator NOW.

Why not see the nearest De Laval agent at once! See a new 1918 De Laval machine for yourself. Try it to prove every claim made for it. If you don't know a De Laval agent write direct to one of the addresses below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York

29 E. Madison St., Chicago

We invite you to ride in a Hasslerized Ford

The Hassler Shock Absorber makes a marvelous change in the riding qualities of a Ford. It will give your car the smooth, easy, restful glide you associate only with high priced limousines.

Prove our claims. Ride in a Ford equipped with the

For
FORD
Cars

Shock Absorber

For
FORD
Cars

We will apply a set for ten days' free trial. At the end of that time we will remove the set without a question and without a cent of cost to you, if you say the word.

There's no obligation to buy tied onto this offer. If you've never ridden on Hasslers, have a set put on, even though now you don't think you want them. We will take the risk because we know what Hasslers do to a Ford.

Don't take some other fellow's word for this. Try Hasslers yourself. You will "try anything once,"—there is no risk or trouble in this offer for you.

Besides making your Ford ride like a \$2,000 car, Hasslers save tires, gasoline, reduce up-keep one-third, and increase the resale value of your car. Nearly a million of the Patented Hasslers now in use.

Write today—now—for Free Trial Blank and name of nearest dealer.

Robert H. Hassler, Inc., 1823 Spruce St., Indianapolis, Ind.

When Writing to advertisers please mention The Michigan Farmer.

Holstein Bulls for Michigan

Mr. F. D. Cutler, of Barry county, Michigan, recently purchased one of the best and highest-priced Holstein-Friesian bulls that ever came into the state. This fine animal is a son of Rag Apple Korndyke 8th, the most famous sire of the breed. This young sire's name is King Ormsby Rag Apple and Mr. Cutler paid \$10,000 for him. His dam is Ormsby Jane Piebe Segis with a record of 38.17 pounds of butter and 669 pounds of milk in seven days.

M. C. Haight and F. H. Williams, of Allegan, Mich., are congratulating themselves on the purchase of a Holstein bull calf a little over a year ago. Mr. Haight went to New York to look over the herd of Oliver Cabana. He was struck by the appearance of a calf, three-fifths white, with a black line as straight as a rule, and contracted for it. The price was such as they could afford to pay for the reason that the dam had a record of only twenty-one pounds of butter in a week, which is a very low record for the Pine Grove Farms. This year, when the dam of the bull was tested at the age of eight years, she produced in one week, from 570.6 pounds of milk, 32.75 pounds of butter. This is a marvelous performance for a cow of her age and has multiplied the value of the bull many times. The sire, Rag Apple Korndyke 8, is generally conceded by Holstein men to be "the greatest bull in the world." He is the only sire having a forty-two pounds, three-year-old daughter. He is the sire of the youngest thirty-pound heifer. He is the only sire having two two-year-old daughters whose records average 29.76 lbs. of butter. He and four of his sons have brought the fabulous amount of \$152,200 at public auction. Three half-brothers of the bull owned by Messrs. Haight and Williams have brought at public auction over one hundred thousand dollars.

NORMAL MILK.

(Continued from page 181).

sixty degrees the butter should come in a very short time.

Sweet cream can be churned into butter, many creameries make sweet cream butter, but it takes much longer to churn and the cream must be colder when churned. I don't think it is practical to make sweet cream butter with an ordinary hand churn.

I know of one instance where a certain cow produced no butter-fat whatever, the milk was actually skim-milk when it was drawn from the cow, but this is the only instance that I ever heard of. Nearly always when there is trouble in churning it is not the fault of the cow but the fault of the person who manipulates the cream and the churn.

COLON C. LILLIE.

LIVE STOCK NEWS.

At the Federal Reserve Bank in Chicago it is stated that the bank is discounting an unusually large amount of cattle paper. This paper is running for six months after date offered, while commercial paper is dated for only ninety days. There have been numerous complaints of late that the country banks are not handling cattle and sheep paper as freely as stockmen desire, and this has resulted in many applications to live stock commission firms of Chicago and other live stock markets. Farmers have no trouble in obtaining money on cattle paper from banks which are members of the federal reserve system.

According to Washington advises, the government is planning a system by which advances can be made to banks loaning to stock raisers of the west and southwest. The Texas situation is disastrous, and it is stated that nearly the entire calf crop must be sacrificed because of lack of feed, unless ways are devised for moving them to more favored grazing districts.



How the Colt Lighting and Cooking Plant Differs From All Others

DIFFERENT: because there is nothing to get out of order—nothing to wear out. Farmers have used them for 14 years continuously, without spending a cent for repairs.

DIFFERENT: because it gives a soft but powerful white light—much more powerful than any other system. No matches required—simply pull a little switch.

DIFFERENT: because it is silent. If it is put in the cellar (where it can stand in the corner) you would never know it was in the house. It works equally well if put in an outbuilding.

DIFFERENT: because it runs itself. Beyond putting in a little carbide (like crushed stone) and plain water once a month, it requires no attention. The U. S. Government lights the Panama Canal with carbide and water. 700,000 miners insist on having Carbide Light to work by.

DIFFERENT: because it not only lights the house and barns more perfectly than any other system, but supplies fuel for a genuine gas cooking range—a range which will cook the meals with all the advantages of the gas ranges used by millions in the big cities.

DIFFERENT: because its first cost and maintenance are lower than any other system.

Carbide Lighting **COLT** and Cooking Plant

"In 10 years there has not been one minute when it was not working perfectly."

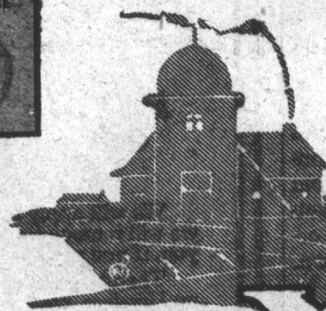
D. T. CENTER

Write us today for the names and addresses of neighbors who have used the Colt double service system for years and prefer it to all others. Benefit by their experience.

J. B. COLT COMPANY
42nd Street Building - New York

"We have given your generator the least attention of anything on the farm."
E. H. MARSHALL

901



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SOLVAY
PULVERIZED
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YOUR LAND

GUARANTEE
94% carbonates
95% thru 50-mesh screen
Furnace Dried
Fine as Flour

There is little need of discussing the advantages of applying land lime. Every progressive farmer knows them. Every farm authority urges the use of lime. You will find it best to use Solvay Pulverized Limestone because it is so fine and contains such a high percentage of carbonate that it will produce maximum results at a minimum cost. Extensive additions to our equipment this season enable us to promptly take care of your full requirements. Let Us Supply You With Litmus to Make a Soil Test Solvay Process Company, 580 W. Jefferson Avenue, Detroit

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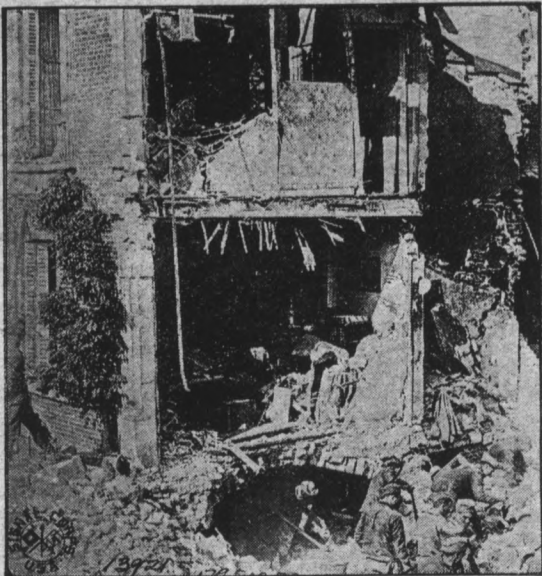
Magazine Section

LITERATURE
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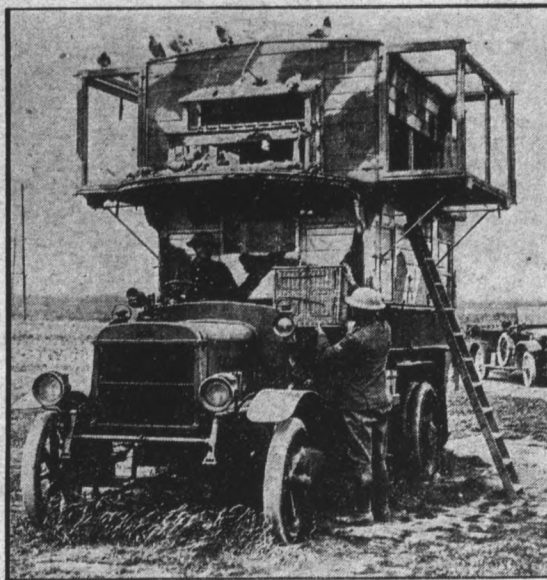
MICHIGAN FARMER
AND *LIVE STOCK* JOURNAL
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The FARM BOY
and GIRL
SCIENTIFIC and
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WORLD EVENTS IN PICTURES



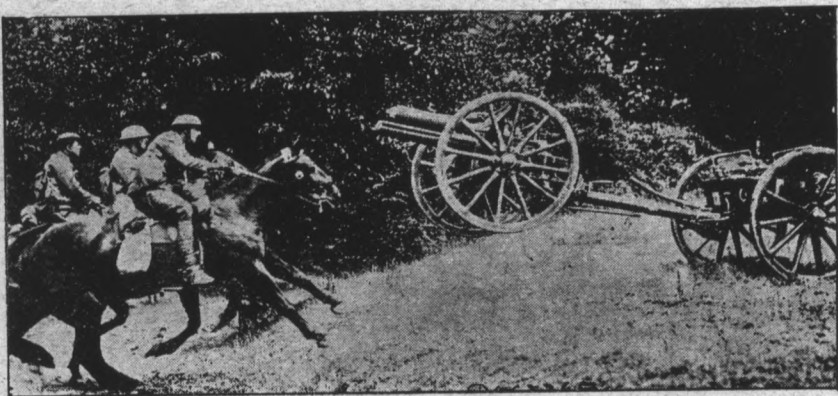
Three American Officers were Killed Here.



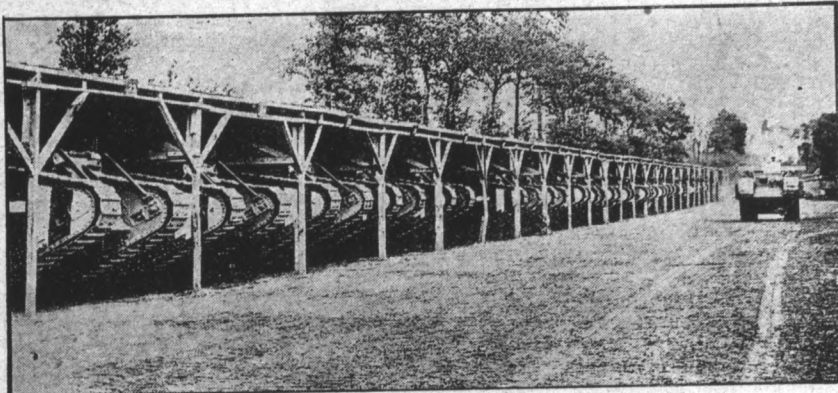
Carrier Pigeons Work Under Heavy Fire.



Democracy Leaders Rejoice Over Good News.



British Artillerymen are Pressing Hard Against Retreating Hun Lines.



A Line-up of British Tanks Behind the Changing Battle Lines in France.



French Expect to Repeat their 1917 Victorious March into Noyon.



Survivors of Chateau-Thierry Going to Greet their American Liberators.



A Group of Heavy Naval Guns Being Used in Cooperation with the British Navy in Resisting German Attacks on Coast Towns of the British Isles.

"By the Way"

AND THE SKY BLUE.

Father ruefully gazed on his last dollar. "Money has wings and house rents make it fly," he said.

"Yes," answered his fifteen-year-old son, "and some houses have wings, and I've seen many a house fly."

"You're smarter than your old dad, maybe, son, but I always thought that no part of a house except the chimney flue."

WE SAY SO.

A girl was asked to explain why men never kiss each other while women do. She replied:

"Men have something better to kiss, women haven't."



Her Master's Voice.

IT WAS HITCHED TO HIM.

An old negro was sick, and a doctor of his own color had been attending him. He didn't seem to get along any too well, so he summoned a white doctor.

"Did the other doctor take your temperature?" asked the white doctor on arrival.

"I dunno," replied the darky. "I ain't missed nothin' yet but mah watch."

ONE KIND OF ADVICE.

A farmer once asked the editor of a country paper for some advice. He wrote:

"I have a horse that at times appears normal, but at other times is lame to an alarming extent. What shall I do?"

The reply came: "The next time that your horse appears normal, sell him."

WEARING THEM OUT.

Some soldiers back from the trenches were being shown, behind the lines, a machine for sterilizing clothing, and of course, eliminating "pets." One of the party was obviously quite unimpressed, and afterward an assistant at the sanitary station asked him whether he did not think the machine a fine one?

"Well enough, perhaps," said he. "But I've got a dodge of my own that is better."

"Oh, what is it?"

"Well, I wear my shirt two days one way; then they are all inside, see?"

"Yes?"

"Then I turn it inside out and wear it that way. Then they're all outside, aren't they?"

"Well, yes."

"By the time they've got inside again I turn it back again."

"Well, well?"

"And so I go on and on; and at last the marching and counter-marching breaks the little devils' hearts, and they die."

The Work of Two Cars At the Cost of One Ford

The Heath-DUPLEX makes a Ford touring car do the work of both a passenger car and a truck.

It actually turns dead expense into paying investment.

The Heath-DUPLEX is a patented folding truck body.

It attaches permanently to your Ford touring car, ready, in a minute's time to be made into a truck or passenger car.

It takes advantage of the wonderfully low-cost operation of the Ford and applies it to a practical, money-making purpose.

It adds hundreds of pounds of carrying capacity to the Ford at an exceedingly small initial expense.

On the average farm it will literally pay for itself in a month's time.

All this without interfering in any way with the Ford's usefulness or altering its appearance as a passenger car.

With the Heath-DUPLEX you have a strong, serviceable truck to haul produce, machinery and supplies anywhere.

In 60 seconds, and without tools, you can turn the Ford back into a passenger car again.

The Heath-DUPLEX attaches to an old Ford as well as a new one.

In the original installation (made by any man handy with tools) the tonneau is made removable. Nothing else is disturbed.

The Heath-DUPLEX is never removed. It simply folds under the tonneau when you want a passenger car, and opens out—after the tonneau is lifted off—for trucking purposes.

The folding delivery body has a carrying space 4 feet 4½ inches long, 32 inches wide and 10 inches deep.

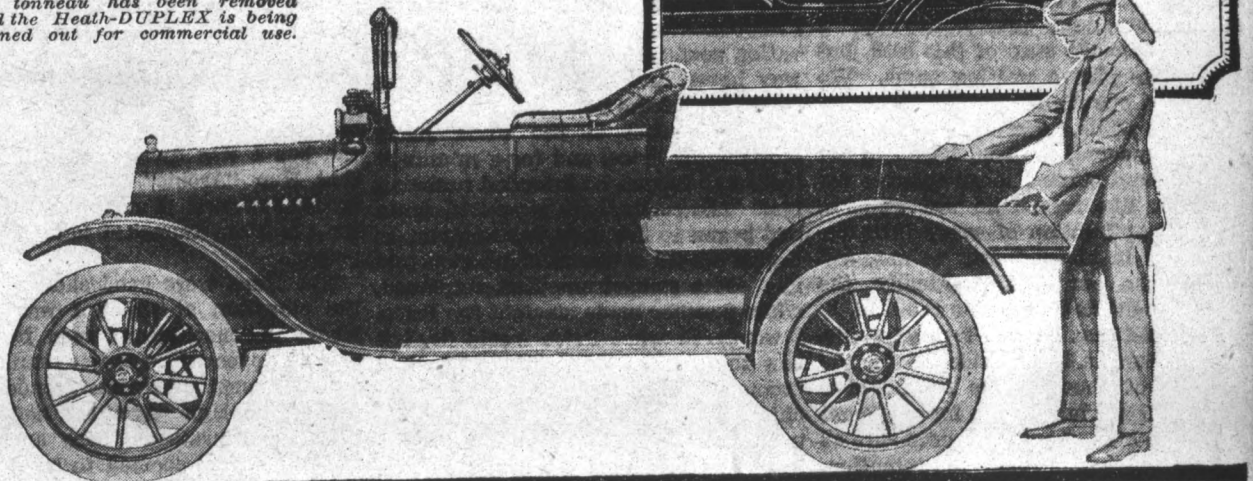
In these times, when a day is all too short and extra labor can hardly be hired, it behooves every farmer to see, as soon as possible, how much the Heath-DUPLEX would mean on his own farm.

There is doubtless a Heath-DUPLEX dealer in the nearest town, who will gladly give you a demonstration. If you write us we will send you his name, also descriptive literature.

There will be an exhibit of the Heath-DUPLEX at your State Fair, Detroit, Aug. 30 to Sept. 8th.

McCord Manufacturing Company, Inc.
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The upper view in the panel shows the Heath-DUPLEX folded under the tonneau. In the lower picture the tonneau has been removed and the Heath-DUPLEX is being opened out for commercial use.



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Make a Ford a
Truck or Passenger
Car in 60 Seconds

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Red Rock

The Hardest and Heaviest Yielding
Winter Wheat

For Michigan and the northern states. Has yielded 37 bushels average per acre at the Michigan Experimental Station. Record yield of nearly fifty bushels per acre.

Rosen Rye

Is a new variety that will pay you well to grow. Out-yields common Rye 10 to 20 bushels per acre. Nice long heads well filled with large kernels. Ordinary yield 30 to 40 bushels.

Clover, Timothy, Vetch, and all dependable seeds for fall planting.

Write for free samples and fair price list.

Fall Bulbs

Beautiful new Darwin Tulips, Hyacinths, Narcissus, Lilies, Crocus, etc. Plant these bulbs this fall for winter and spring blooming.

Isbell's Fall Catalog Free gives full information. Write for it today.

S. M. ISBELL & CO.
Box 10 Jackson, Mich.

ROSEN RYE, a new variety originated by Michigan Experiment Station has been heavily out-yielding almost all other varieties of winter rye. \$2.50 per bu. new 16 oz. bags 70c.

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Pure Rosen Rye AND Red Rock Wheat

Developed at the Michigan Agricultural College, inspected and certified by the Michigan Crop Improvement Association. For list of growers write the Secretary, J. W. NICOLSON, East Lansing, Michigan

SEED WHEAT

Selections of pure seed of Fultz and Poole varieties, for starting high-grade seed crops. We have a limited quantity of very fine seed. Booklet. Samples.

O. C. SHEPARD CO.,
Box 62, Medina, Ohio

SEED WHEAT QUICK SERVICE

Wholesale prices. Kharkov, Red Rock, Harvest Queen and other high yielding varieties. Have Rosen Rye, Timothy, Alfalfa, Clover and all Field and Grass Seeds. Sold direct to you under our strong Money Back Guarantee. Buy your seed in Chicago where you get low prices and quick service. Write today for Free Bulletin and samples of the seed you need.

AMERICAN MUTUAL SEED CO., Dept. 431 CHICAGO

Red Rock Seed Wheat

\$3.00 per bu. new 16 oz. bags 70c each.

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Seeds Wanted

Red Rock Wheat
Sand or Winter Vetch
Red Clover Seed (Both kinds)
Edw. E. Evans, West Branch, Mich.

ROSEN RYE

800 bus. class 1. Registered seed. Our Rosen Rye has taken first prize at the exhibit of the Michigan Crop Improvement Association for the past two years.

H. M. & S. B. QUEAL, Hamburg, Mich.

We are in the market for Seed Wheat. CARLOTS MAIL SAMPLES Farmers Elev. & Pro. Company, Bad Axe, Mich.

FEEDING CULLS.

Write us for prices local and carlots—Michigan Stock.

MICHIGAN BEAN COMPANY, Port Huron, Mich.

For Sale Mich. Winter Barley, certified by Mich. Crop Improvement Association.

YOUNG BROS., Niles, Mich.

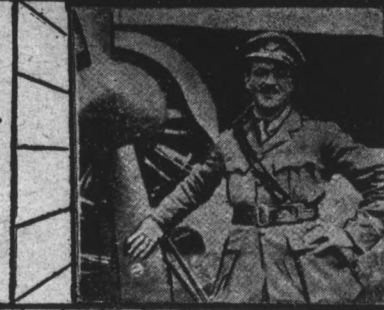
Seed Wheat. No. 1 Red Champion and Red Rock, the greatest yielding varieties. For sale by W. J. MERRIAM, Almont, Mich.

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A FLYING FIGHTER

by L. T. E. M. ROBERTS, R.F.C.

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(Continued from last week).

We found ourselves in a very peculiar situation. I was so close to him that I could see with the naked eye every detail of his machine. His face also I could see quite clearly, even to the wrinkles around his mouth.

There was something odd in our position. I had to smile at the thought that we were so close together and yet dared not harm one another. The Hun also smiled. Then I reached down to feel the handle on my pressure reservoir to make sure that it was in its proper place, for I knew that one of us would soon have to make a break.

I had never before met a Hun at such close quarters in the air and though we flew parallel to one another for only a few minutes, the time seemed like a week. I remembered some of the tactics told me by some of the older and best fighters in the corps, and was wondering how I could employ them. Finally a thought occurred to me. Two machines flying at the same height are not necessarily on exactly the same level, as they keep going up and down for about twenty feet.

I was flying between the Hun and his own lines and I had fuel for another hour and a quarter anyway. I wanted to make sure of this bird, but decided to play a waiting game. We continued our flight side by side.

After a while, however, much sooner than I expected, the Hun began to get restless and started to manoeuvre for position; like myself he was utilizing the veriest fraction of every little opportunity in his endeavor to out-manoeuvre the antagonist. Finally, the Hun thought he had gotten the lead.

I noticed that he was trying to sidestep, go down a little, evidently for the purpose of shooting me from underneath, but not far enough for me to get a dive on him. I was not quite sure as yet that such was really his intention, but the man was quick. Before I knew what had happened he had managed to put five shots into my machine, but all of them missed me.

I manoeuvred into an offensive position as quickly as I could, and before the Hun could fire again I had my machine gun pelting him. My judgment must have been fairly good.

The Hun began to spin earthward. I followed to finish him, keeping in mind meanwhile, that it is an old game in flying to let the other man think you are hit. This bit of strategy will often give an opportunity to get into a position that will give you the drop on your antagonist. The ruse is also sometimes used to get out of a fight when in trouble with gun jam, or when bothered by a defective motor.

I discovered soon that this precaution was not necessary, for the Hun kept spinning down to the ground. He landed with a crash.

A few minutes later I landed two fields away from the wreck and ran over to see the kill I had made.

I had hit the Hun about fifty times and had nearly cut off both his legs at the hips.

There was nothing left in the line of souvenirs, as the Tommies had gotten to the wreck before I did. I carried off a piece of his props and had a stick made of it. That night we had a celebration over the first Hun I had

brought down behind our own line since I became a pilot.

Next day I went out to get another Hun to add to my collection. I was in the act of crossing the Hun lines when bang! to the right of me came a thud, and my engine stopped. Revenge, I thought. I volplaned to the ground, made a good landing in a field just behind our lines, and 'phoning up the squad, I then had another engine brought out to replace mine.

On my way to the squadron I witnessed one of the greatest air fights I have ever seen. It took place above the cemetery of P—.

Three Huns were aloft behind their own lines, and back of them was one of our patrolling scouts.

The Hun does not believe in coming over our lines if he can possibly help it, and generally he will manoeuvre so that any engagement will have to be waged over German territory.

One of our men named Price, who was coming in from patrol, was pilot of the scout, which was flying at the same height as the Hun aircraft, about 12,000 feet. Price was well behind the Hun lines when they saw him, and all three of them made for him at once. I happened to be at an artillery observation post, which I had to pass on my way home, and so was able to get a good view of the combat.

The foremost of the Huns made straight for Price, and for a minute it looked as though he intended ramming him. The combatants separated again and began to fire upon one another, as the tut-tut-tut of the machine guns told me. Of a sudden one Hun volplaned, while another made straight for Price. I wondered what Price would do, but saw the next moment that he had "zoomed" over the second Hun machine, which just then swooped down upon them. While Price was "zooming," I noticed that the first Hun was falling to the ground, having either been disabled or killed by Price's machine gun.

Yet within a few moments the second Hun also crashed to earth, and the third was now making for home as fast as his motor would carry him; but Price chased and quickly caught up with him. It was an exciting race. Price was working his machine gun for all the thing was worth, and before long the third Hun went down.

Just five minutes had been required for the fight. When I met Price later I congratulated him. I remember wishing him all the good luck a fellow could have. But that did not help, for within a month he, too, came down in a heap.

The day following the fight I went out on another patrol, and, remembering what had happened on the day before, I decided to go up high before sailing over into Hunland. The Huns were in the habit of being especially hard on our fellows after such an exploit as Price's, and I knew that I would have to keep all my wits about me that day.

I went up about 15,000 feet and started across the lines.

I had no trouble getting across Hunland. But the day was fairly clear and the Hun "Archies," I soon discovered, were working overtime. The amount of shrapnel ammunition they

spent that day was not small. I was about three miles behind the Hun lines when right ahead of me exploded a "woolly bear." It was all black smoke, with a heart of fire and ragged at the edges. When it burst my machine started to do a cake-walk. It seemed to be out of control. The racing motor caused such vibrations that I was afraid the machine would fall to pieces. I shut off power quickly and headed homeward, landing in one of our advance landing grounds.

The trouble was that one-half of a propeller blade had been shot away. Otherwise the machine was unhurt. I telephoned for another propeller and was soon up in the air again.

I will admit that I had the greatest respect for the Hun "Archie" batteries. The "woolly bear" they had fired at me was something new, and it certainly did damage enough when it exploded near a machine.

But duty is duty.

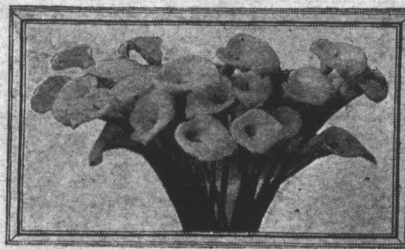
After the mechanics had attached the propeller I went up again, but shrunk at least six inches when the next "woolly bear" exploded quite close to me. I ducked into the cockpit, although it is self-evident that one is no safer in the cockpit than outside. When the machine crashes to the ground the cockpit goes along, since no one as yet has devised any means of anchoring it to a cloud. Though the bus I was flying was a fast one, that Hun "Archie" battery did most creditable work. I must say that much for the Hun, though I hate him like poison.

The Huns were good shots, even at the elevation at which I was flying, where my machine as seen from the ground appeared no larger than a mosquito. I spent a very exciting day. The fire of the Hun "Archies" had never been as accurate as today and those "woolly bears" seemed to have us all puzzled.

For all that, I had been lucky. When

SUMMER.

BY L. M. THORNTON.



The summer hath so many songs,
Of joy and hope and glee;
The robins strain, the pattering rain,
The beech leaves rustling in the lane,
And sings them all for me.
And that is why through all my days,
I chant unceasingly her praise.

The summer hath such pictures fair
Of earth and sea and sky;
The stretch of green dark hills between,
The fountain's silvery sparkling sheen,
Painted to please my eye.
And that is reason for my love
That places her all else above.

The summer hath such perfume sweet
Where blossomed fields unroll;
The lilies blue, the budding yew
And roses damp with falling dew,
Incense to charm my soul.
And that is cause for pen and voice
To praise and honor and rejoice.

I returned to the aerodrome it was to learn that "Pizzdoodle," an old Scotch friend of mine and as fine a boy as ever lived, had been brought down.

Captain Albert Ball, one of the best pilots in the corps and with more Huns to his credit than anyone else, had also been killed. The same fate had overtaken a number of others, many of whom I knew.

I spent a great deal of time that night wondering whether it would be my turn next. I remember looking over my medals and a certain peculiar mascot of mine—a Chinese doll. Life never seemed so uncertain nor so short.

I had to wait next morning for quite some time before I received orders to go on patrol. In the meantime I had learned that the King was coming to inspect our squadron, and I wondered whether I would have to hide myself into the blue just at that time and so be obliged to miss the show. But luck was with me this time and I stayed below.

Presently the King drove up in a car. We were lined up and were looked over by the royal eye. The King shook hands with the commanding officer, chatted with him for a while, and then walked down our line. We were presented to him one by one, and the King had a kind word and a smile for every man.

After the King had addressed the man next to me, the wing commander told him that I was a Yankee; whereupon the King shook hands heartily with me and told me that he was proud of the Americans in the British service.

He asked me how I liked flying, and I told him that I had had no chance as yet, having been shot down only twice. The King laughed heartily and remarked that he had no fear for me, that I seemed quite able to take care of myself. He also gave it as his opinion that the United States would soon be doing fine work and giving a good account of itself. Then he questioned me as to my length in the service, and expressed the hope that we might meet again.

When the King had left our camp, I started out on patrol with a feeling that something was bound to happen that day. I was rather blue, but I made up my mind that old "Archie," back of the Hun lines, was not going to get me this time if I could possibly help it.

I went up twenty thousand feet, and soon noticed that there was a fight under way across the Hun lines. I wanted to see what was going on and made for the spot, but I had not gone very far before old "woolly bear" picked us up. Soon shells were bursting all around me.

Before long a gang of our men were making for the scene of the fight and this gave the Hun "Archies" every reason for sending up their "woolly bears."

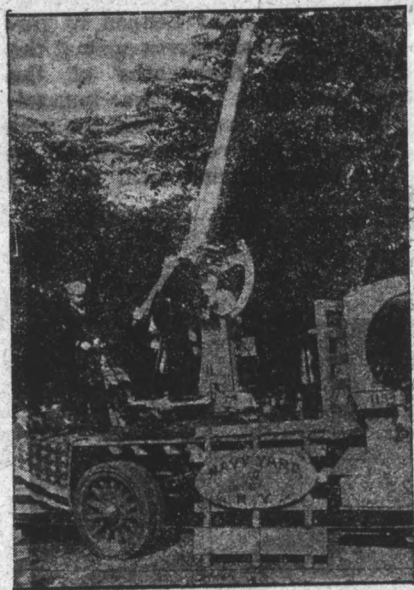
The seventh shell that exploded near me sent a steel fragment into my carburetor. Of a sudden my motor slowed down, and, as usual, I had visions of having to make a forced landing in Hunland.

The piece of shell had done considerable damage to the sides of the cock-

pit, and for a moment I feared that it had smashed some of my control. But that fear was ungrounded, as presently I discovered. My controls were still intact, and for that reason I would be able to glide to the ground. I swung my machine into position for a glide towards our line, and before very long I was at ten thousand feet, with the Hun shells keeping close to my track. Some of them exploded a little ahead of me, which is always a bad sign for a descending man. It shows that the "Archie" gunners have a good line on the course of the dive, and every next shell may be the last for the man in the machine.

It was bad going on this day. The "woolly bears" continued to stand in my way, and I sped through their fumes nearly all the way down. To this day I do not understand how I managed to land, as I finally did, in a convenient field.

But forced landings keep a man's nerves on edge. With the motor dead the pilot has lost the full power to control the machine when judging his landing place, and generally he reach-



This American Anti-Aircraft Gun will Make Hun Flyers Cautious.

es the ground at too great a speed to make a safe landing.

On this occasion I hit the ground at a speed of about fifty-five miles per hour, and had the misfortune of being thrown to one side by a bump on the ground which was struck by one of the wheels. The next instant the machine was on its nose, and then turned over on its back, and more or less smashed. During the somersault I was stunned by being thrown against the instrument board. The result was that I was bruised all over, and had my lip cut, my eyes blackened, and my chin knocked up quite badly. I was unable to get out of the wreckage, and still had to fear that the gasoline, which was spilling from the tanks, would ignite; in which case I would have met the end which a pilot fears most.

After I had been pulled from the wreck, I was given some badly needed attention by a doctor who was passing; then I went to the nearest telephone and called up the commanding officer, who had me brought to the aerodrome in a car. He also sent a lorry for the remains of my bus.

That night we had our wing commander for a guest at dinner, and he told me that they were going to send me back to England for a furlough. I wanted to stay, but he thought that it was better that I should rest up a bit, saying if I did not get out now the Huns would soon get me for good. Though I had raised some objection to being returned to England, I was really quite willing to go. I have yet to meet the flyer who wants to go back in the air after he has had the necessary number of spills, unless he is out of his mind or has imbibed too freely.

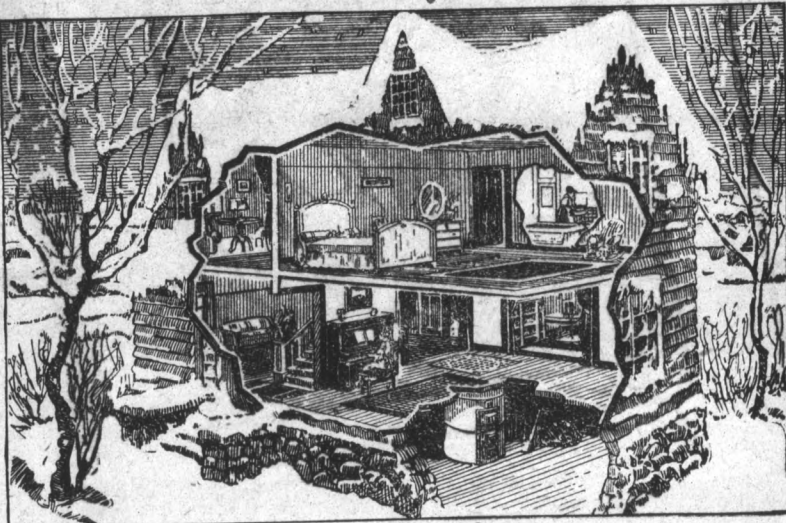
The cumulative effect of accidents in flying is such that in the end the

(Continued on page 188).

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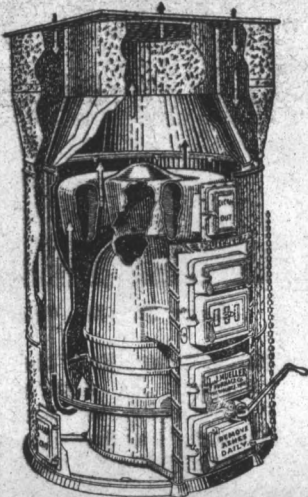
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A Flying Fighter

(Continued from Page 187)

man has to fight his nerves as much as the dangers of the air and the Hun. Three weeks after my discharge I have known old pilots who had been on active duty at the front for months

and months, and nothing seemed to matter to them any more. For all that, they were gradually falling to pieces. They were keeping up physically well enough, but their nerves were getting away from them, and the moment was bound to come when they would not be able to control them any more.

That state of affairs is easily understood when one stops to consider that nine times out of ten the man going over the Hun lines is shelled. On almost every trip he may have to fight some "Heinie," as we call the German aviator. This means that the man aloft is taking chances every minute. The thing that keeps the man buoyed up is the thought that he has become indispensable to the men fighting on the ground. Without the airplane, modern military control would be impossible. The men in the front trenches rely entirely upon the observer and his pilot for their communication during a fight. The flyers know that, of course, and for that reason strain every nerve to be of service to the boys in the trenches. How valuable the services

there were no openings just then. from the hospital I went to work with a new squad.

My present detail had another feature which was not welcome to me. I was expected to fly every type of machine which was then being manufactured, and these types were not few in number. The first day in camp one of the pilots, a chap named McGurrie, had engine trouble while in a scouting machine, and injured himself in landing. Since just then I was flying the same type of machine I made sure that my motor was O. K. before leaving the ground. But despite that I had the same sort of accident. A few days later one of the fellows got his machine on its back while up in the air, and had a hard time righting it again. He came near landing on his back, which, of course, would have been the end of him.

It was the duty of the men in the squadron camps near London to participate in the manoeuvres against the Zeppelin raids. Nine-tenths of the alarms were false; but it was impossible to tell the scares from the real thing, and for that reason we would go up and patrol around until the "all



Look Out, Mr. "Heinie," He's Coming.

of the opponent through "spotting" the clear" signal came out. Usually that that often they succeed in cutting led to very long flights, which was a down by fifty per cent the artillery fire of the opponent through "spotting" the friendly artillery to the batteries that are doing the harm.

I got my route orders next morning and then started for England. Some of the boys envied me that I could go back to old Blighty, and swore that the next time they went out they would take a chance on being brought down by the Hun "Archies," who used the "woolly bear" shells.

I am inclined to believe that some of them were as good as their word. Within a short time three of them had been brought down for good, and two others had to land on German territory where they were made prisoners of war.

Usually that led to very long flights, which was a hardship in many cases for the reason that we used to go up in whatever clothing we happened to have on when the alarm came in, no time being taken by us to dress. When the alarm signal came, we had to rush for our machines, jump into them, and then get off without delay of any sort. Some of the alarms came at night, of course, and I have seen men climb into their machines in their pajamas. And pajamas are not quite the thing for a three hours' patrol in the air. It is always cold up there, no matter what the season may be, and the speed of the machine intensifies that cold many times. Many of the men almost froze to death, and often they would land because of that before the "all clear" signal came.

(CHAPTER XVIII.
Back to Blighty.

(Continued next week).

Hesperus

BY F. L. WELLS.

UPON my arrival in England I received a week's leave of absence and when it was over I was detailed to a good squadron near the "Big Smoke."

My new duties consisted of having to test and ferry to other squadrons and training camps all sorts of buses. That took me all over England and in some cases to France.

I enjoyed that work for a while, but soon discovered that it was very strenuous. I was almost constantly in the air, and the bad season was now on. For a while I was laid up with bronchial pneumonia, an ailment which has frequently bothered me.

I made an attempt to be transferred to a better climate as instructor, but

Dreams 'midst the twilight glow
Amber the west;
Birds singing soft and low
Earth sinks to rest.
Dew-laden shadows creep
On lawn and stream,
High o'er the mountain's peak
Hesperus gleams.

Star of the twilight hour,
Sweet Hesperus.
Wave to my sweetheart's bower,
Love thoughts and rest.
Tell her I love but her,
Softly thy light,
Peeping through pine and fir,
Whisper good-night.

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50 good Belgian Hares, and other large Rabbits, also some fox and Rabbit hounds, W. E. Lecky, Holmesville, O. enclose stamp.

Grading and Selling Apples

In the July 20 issue you have an article, "Standardizing and Labeling Produce Containers," which is not plain to me, and I wonder if you can give me the desired information or tell me where to obtain it. I live in southern Michigan two and a half miles from the Indiana state line, and have an apple orchard. A large part of my crop is marketed to people who drive to my orchard, buy what apples they want, and take them to their homes across the Indiana state line. They come with boxes of all sizes and with bags of all descriptions, and some take the fruit loose in their automobiles. There are times when I box and ship apples across the line and other times when I take them in open boxes or crates and sell them to people in Indiana.

I have a large number of Standard Michigan bushel boxes on hand, their capacity is, I think, 2,342 cubic inches. I have frequently sold apples in these boxes, calling them one bushel, and on some occasions when going with them to Indiana the grocerymen have demanded that I weigh the apples and give them fifty pounds for a bushel when, as a matter of fact, 2,342 cubic inches of apples will not weigh more than from forty to forty-five pounds, according to variety. Am I to understand that when I sell a bushel of apples under the new law I am required to give but 2,150.42 cubic inches, regardless of the state in which they are sold?

If I sell apples at my residence here in Michigan, in open boxes, and the buyer empties them into a sack or other container to take them across the state line, must I mark such apples for inter-state shipment? Suppose I ship in barrels or boxes across the line and do not mark the apples No. 1 or No. 2, how, then, must I proceed? If I haul apples across the line and sell to grocerymen in open boxes or crates must I mark the grade of apples on boxes or crates and the number of pounds, etc.?

F. E. M.

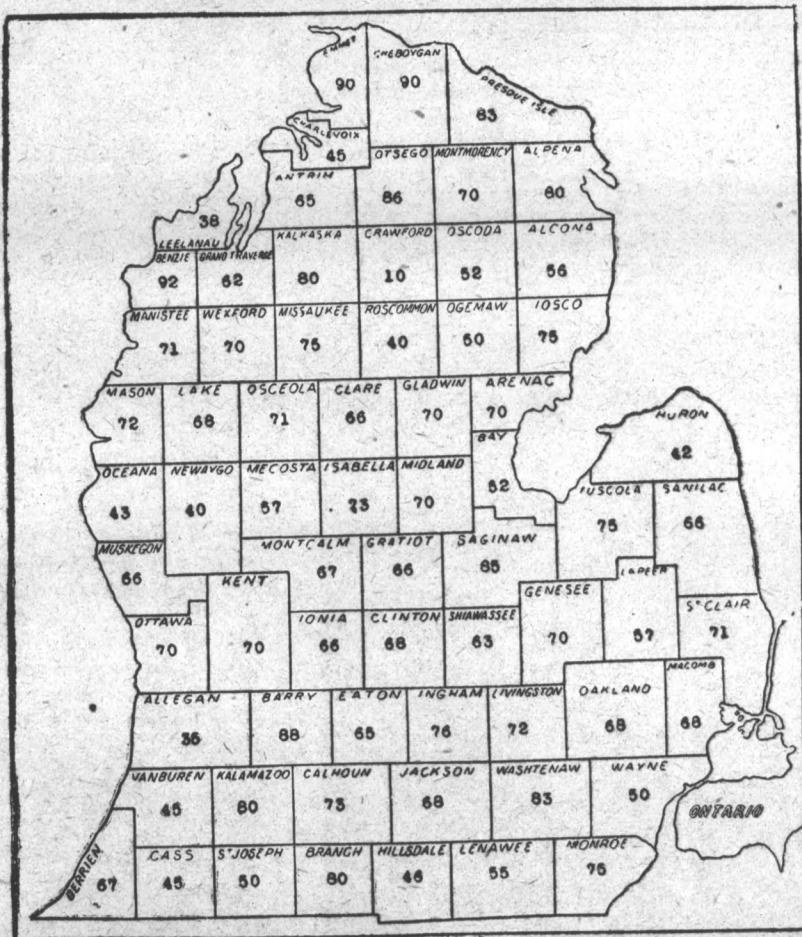
There are at present two federal acts covering containers to be used in inter-state shipments for all kinds of fruits and vegetables. The amendment to the Federal Food and Drugs Act states that food in package form should be marked on the outside of the package, with the contents thereof in terms of weight, measure, or numerical count. Statements of weight

should be in terms of avoirdupois pounds and ounces. Statements of dry measure should be in terms of the United States Standard bushel 2,150.42 cubic inches, and its customary divisions, i. e., bushels, pecks, quarts and pints; or in the case of the articles in barrels in the terms of the United States standard barrel and its lawful subdivisions, i. e., one-third, one-half or three-quarter barrels, as fixed by the act of March 4, 1915. Therefore, in answer to your first question as to whether you could sell a bushel of apples and give but 2,150.42 cubic inches regardless of the state in which they were sold, it may be said that, if it were an inter-state shipment, according to the law, this transaction would not only be lawful but all inter-state shipments must conform with these rules.

The first requisite is that you mark your package plainly. If it is a bushel box you should mark it one bushel or else give the net weight. Boxes should be marked conspicuously and on the outside. If you hauled your apples across the state line yourself it would still be an inter-state shipment. In regard to various people coming in automobiles and taking apples away with them in all kinds of sacks and other containers, it is not required that you mark the containers but it is suggested that you be sure to measure the bushels in a container that is plainly marked "one bushel" and also whose capacity is not less than 2,150.42 cubic inches. The point is that, although you do not ship the apples yourself, still in this case they are intended for inter-state shipment and therefore your transaction would probably come under the Food and Drugs Act. It is always well to mark plainly the grade of the product that you are shipping in addition to the net contents. You may, if you wish, mark your containers in terms of avoirdupois pounds and this statement should be the net weight and not the gross weight.

F. A. B.

Our Prospective Apple Crop



THE state has prospect for a fair crop of apples this year. The above map shows the estimates made by the federal crop correspondent in the various counties. The most promising varieties of early sorts, as reported by the Secretary of State, are the Duchess, Yellow Transparent, Wealthy, Snow, Red Astrachan and Maiden Blush. Of the winter sorts, the following are most promising: Baldwin, Northern Spy, Greening, Wagner, Ben Davis and Talman Sweet.

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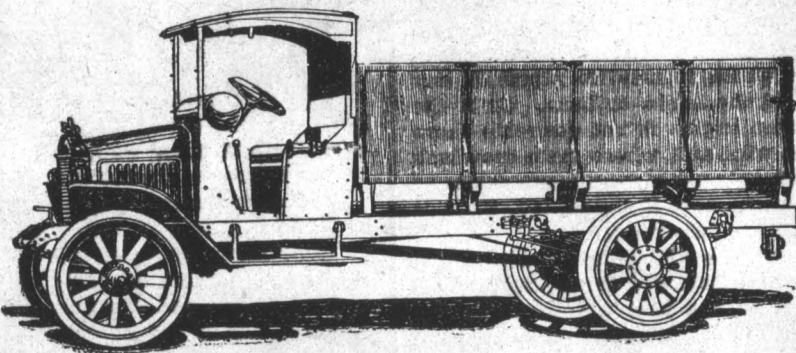
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At Home and Elsewhere



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A MAN close up to the big military machine that is being put in motion by our great republic, stated two days ago that the mothers back home are the real heroes in this great war. These real patriots can be aided with their burdens by introducing into their homes recent improvements in time and energy saving.

Foremost among all the indoor conveniences for the farmer's wife is a good water supply. With a generous supply of water on hand, a great deal of housework will be lightened. In these days when gasoline engines have been so reduced in cost that they are within the reach of almost every farmer, one may be used to pump the water from the well to an elevated tank from which it may be piped to any part of the house or barn. Or if the gasoline engine is not desirable there is the wind-mill, whose main drawback is that it is not always serviceable. As far as the cost is concerned, there is very little difference.

When the water is elevated, then may be considered the manner of using it to the best advantage in the house. In the first place a good enameled sink with a back should be put in the kitchen. The sink should have a good trap leading into a tile drain whose outlet should be at considerable distance from the house on a hillside or if the ground does not permit, in a septic tank. From the elevated tank the water should be brought to the sink and controlled by means of a faucet. Galvanized iron pipe should be used instead of lead and then the work can be done without the aid of a plumber. A branch should run to hot water boiler connected with kitchen range and then there will always be on hand an abundant supply of both hot and cold water.

In connection with the sink, there should be a dripboard so that all dishwashing may be done with the water close at hand. The sink, enameled both inside and out, may be procured at a moderate cost. This kind is most sanitary and can easily be kept clean and the trap will keep out all offensive odors. In constructing the drain care should be taken to get fall enough to carry the water off quickly. The outlet should be far enough from the house so that there will be no danger of the waste water contaminating the well-water. If it is on a hillside there will be no danger of the water forming a cesspool and becoming the source of disease. If proper care is taken that nothing except water is allowed to pass through the drain, there will be no danger from this source as the soil will quickly absorb it all.

Another great conven-

These are Not Luxuries, But Dividend-Paying Investments---By M. R. HODGDON

ience in the summer time is the refrigerator. A suitable ice house for family use may be built at a small cost. If the farmer does not have a large dairy, a house 16x12 with a ten-foot wall will hold enough ice to last all summer. The ice may be obtained from a neighboring river or lake at a small cost. Then in the summer it can be used in

Besides these things there are the cream separator, the churn, and the washing machine, all of which may be operated by the same gasoline engine which pumps the water. The cream separator has become a necessity on a farm, even where only two or more cows are kept. The use of the separator reduces the care of the milk

the labor of working the butter and will necessitate the use of the ladle only in packing the butter into crocks. A washing machine that can be operated by an engine will make the washing almost a pleasure as it will do away with the laborious rubbing of clothes.

This list of conveniences in the housewife's department can be extended almost indefinitely or until they become luxuries. Along with the use of the elevated tank, the farmer may have a bathroom where all the household may have a refreshing bath after a hard day's work. Then there is the question of heating the house properly. A furnace, either hot air or hot water, may be put in at a moderate cost. If the farmer feels that he can afford such a thing, he will find it a great saving in the end. In normal times he can purchase his fuel from the coal dealer cheaper than he can hire a man to cut wood. By putting in a furnace the farmer will find that all parts of the house can be warmed during the winter and made pleasant and healthy. Then, too, with a furnace, the fuel is kept in the cellar, thereby saving the housewife from the dirt which must be cleaned up when two or more stoves are kept going during the winter.

Again, the labors of the housewife may be lightened by the use of a more modern system of lighting than the kerosene lamp. With the use of kerosene goes the filling and cleaning of lamps and chimneys which during the winter months must be done almost daily. By installing a gasoline or acetylene lighting system all this may be done away with and the farm house furnished with a nice clear light at a moderate cost. Or better still, the house may be lighted by means of a gasoline engine, dynamo, and storage batteries. This latter way is more expensive but one has at hand in one

of these electric plants the foundation for a very extended service by using the electric current for the operation of power machinery, and for providing heat and light.

In considering the many phases of rural life the question is often asked why our farmers do not have more of these conveniences in the house so that the housework may be lightened. A few years ago most of these things would have been considered a luxury and entirely beyond the reach of any except the wealthiest. But within the last few years these things have been perfected and so reduced in price that they are now within the reach of practically all. So the progressive farmer and his wife are even now keeping pace with the times by introducing most of these time-savers and comfort providers.

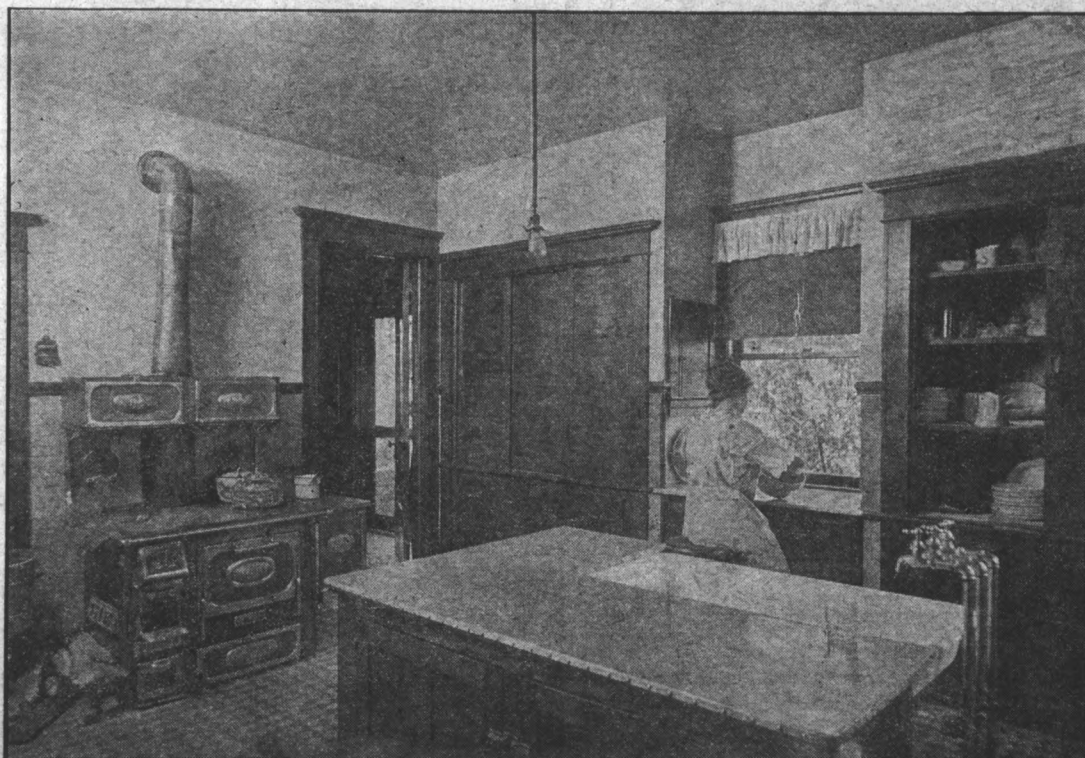
Don't Overwork the Children

IN the country and on the farm children are often required to work in the field and gardens too long at a time, or to carry water and other weights too heavy for their strength and often to work under a blazing sun. Such early work interferes with growth and development, which is the one great business of childhood. Many men and women, whose physical strength is impaired, might trace their ills to sickness, underfeeding or overwork during the formative years of early childhood.

The tasks children are given to do should be suited to their years, and varied by frequent opportunity to rest and to play. At the same time food should be good and plentiful and there should be long hours of sleep. The harm which heavy work can cause little children can be ill afforded at any time, and least of all now. For the children must be kept well and strong to meet the demands which will confront them when they come to maturity and face the tasks of reconstruction in the critical years to come—work which will demand physical well-being as well as efficiency and character.

the refrigerator. This can be put in some convenient place and the milk, butter, and other things that ordinarily spoil easily can be kept in it, thereby saving many trips up and down stairs to the cellar. Then the ice will be found very acceptable in making ice cream and lemonade which are found so refreshing in hot weather.

vessels to a minimum. It gets all the cream from the milk and butter made from it is more wholesome. In making butter the barrel churn is the best. It is simple in construction and has no complicated parts to wash and can easily be operated by an engine. Along with the churn should go a butter worker, the use of which will lighten



A Well-Planned Farm Kitchen with Combination Table and Sink

Jelly from Corn Syrup Saves the Sugar

Just now, in the height of the canning season, sugar is the paramount question. We must conserve and substitute in every way possible if we are to make our twenty-five pound allotment put us through, and all sorts of suggestions are being given us as to the use of corn syrup, honey and maple syrup and sugar for canning and jelly making. With honey at thirty-five cents a pound in the comb, and maple syrup all the way from \$1.75 to \$2.25 a pail, few housekeepers who would have to buy either one will use much of these sweeteners. Most of us, however, can get the corn syrup. But if you try it, my advice is to approach your venture with bated breath and a stern determination to be strictly accurate in measurements and time of cooking. Corn syrup alone, I have found not a satisfactory substitute for all the sugar in jelly making. Boiled down with gooseberries for jam it was not bad, though the flavor was not the same as sugar gives. It may be the fault of the housekeeper that the syrup did not work out right, but this is what happened.

A very successful extension specialist told me that the best currant jelly she ever tested was made with white corn syrup, using cup for cup measurements. I passed the idea on to a friend who was about to make currant jelly, forgetting that the specialist is the most accurate of those most accurate persons, while the housekeeper is one of those who puts in "a little of this and a dab of that" and then "cooks it awhile till it's done." She tried the corn syrup jelly with disastrous results. The compound might be all right for the children to spread on bread, but it is ropy and sour, not at all the

sort of jelly to take a prize at the State Fair.

Later I tried white corn syrup with blackberry and apple jelly, equal parts of juice. I boiled the juice eight minutes, after extracting from the fruit, then tried small amounts, using one-fourth syrup and three-fourths sugar, half-and-half, three-fourths syrup and one-fourth sugar, and all syrup. The all-syrup concoction was a flavorless gummy mixture. The three-quarter and half-and-half were much alike, ropy but with more flavor, while the one-fourth syrup was a very good jelly. It cut clear as jelly should, and had the berry flavor.

It may be that in the hands of an expert jelly-maker all syrup would work out satisfactorily. But I am inclined to think that amateurs would not be satisfied with the results they would obtain. However, if you can save one-fourth of your sugar in jelly-making, you have made a decided gain.

Corn syrup can be used satisfactorily in sweetening apple sauce and can be easily substituted for half or all the sugar in jams and fruit butters. The white syrup gives better results than the dark. It can be bought in ten-pound pails for ninety cents in most places, and in some cash and carry stores sells for as low as seventy-four cents a ten-pound pail. This is equal to sixteen cups, and using a cup and a half to replace a cup of sugar, it would be the equivalent of ten and two-thirds cups of sugar, or five and one-third pounds. This, at the prevailing price of sugar, nine and a half cents, makes the syrup cost more than sugar. But with the half-pound per week limit on sugar the saving effected by using corn syrup balances the extra cost.

Two Boys Conserves Fuel

By L. M. THORNTON

Girls can learn how to conserve wheat and meat and coal and sugar. They can help mother plan menus and devise means of saving fuel. But just how the boy is to help in food and fuel conservation is a more difficult question. The boys I know solved it in the following way:

Even with the fireless cooker a little heat is necessary. To build a fire means the burning of a considerable amount of fuel, and wood is so high in price as to be almost prohibitive. The boys wanted to help and one morning after reading a newspaper article which suggested a plan, they started out bright and early and made the rounds of a dozen houses in the neighborhood, asking the housewife or maid if she would be willing to save her waste paper and give it to them if they would call for it every other day.

The boys then began collecting the papers. On the mornings when collections were made they borrowed their mother's washtub, partly filled it with water and after tearing up the pieces soaked them until they were reduced to a pulp. They then formed this pulp into balls about the size of a base ball, pressing them firmly in shape. The balls were then laid in the sun until thoroughly dry, after which they were packed away in the woodbox to be used as fuel.

Mother was at first skeptical but she found that the pulp balls held a fire longer than sticks of kindling, and that the two little laddies, the oldest but eight years of age, furnished her all the fuel she needed except on the one day a week when it was necessary to heat the oven for baking. Boys can

surely help with the conservation problem if they try.

HOME QUERIES.

Household Editor:—I would like to know if I could get a recipe for green tomato pickles through the Michigan Farmer.—Reader, Saginaw County.

The proportions of sugar, vinegar, etc., given in the following recipe are to be used with one peck of tomatoes:

Cut off the hard part above the stem and a thin slice from the blossom end, then slice about a quarter of an inch thick. Sprinkle with one cup of salt and let stand over night. In the morning drain and boil fifteen minutes in two quarts of boiling water and one quart of vinegar, two pounds of brown sugar and the following spices tied in a bag: A tablespoon of white mustard seed with two of cloves and enough broken cinnamon bark to make up a cup. Let this cook for ten minutes, then add the tomatoes and let cook for one hour. Remove the spices and put in fruit jars, covering the tomatoes with the syrup.

S. B. McBain, Mich.—Write the Department of Agriculture, Washington, D. C., for information about vinegar made by vinegar bees.

X. Y. Z.—In using corn syrup, maple syrup or strained honey as a substitute, reduce the liquid called for in the recipe, milk or water, one-quarter of a cup for every quart of syrup or honey added. At least one and a half cups of corn syrup should be used for every cup of sugar called for. Honey is acid, so if you use honey add one-half teaspoon of soda for every cup. Reduce the amount of baking powder called for by an equal amount.



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Attractive exhibits of the choicest foreign and domestic merchandise will be found in every department on every floor.

Newcomb-Endicott Company
Woodward and East Grand River





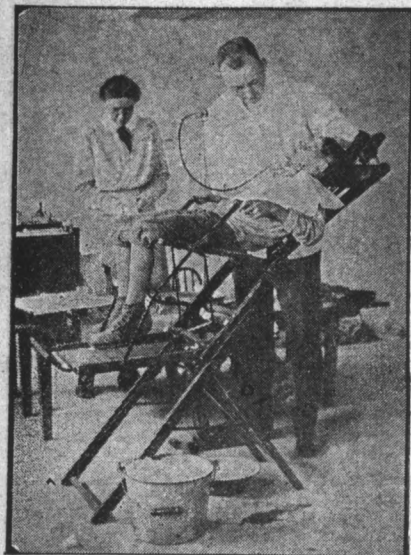
Our Boys and Girls

At Work and play



Dental Care for Rural School Children

By ETTA LEE GOWDY



Laying the Foundation of Health.

Considering that the care of children's teeth is the most valuable measure, from a health standpoint, that can be done for children, Kent county for two years has conducted itinerant dental clinics during the summer months in a number of their rural schools, bringing expert dental care to the rural communities and proving that the experiment is a useful and economic advantage to child life, especially in the earlier years when chil-

dren are most susceptible to infections and contagious diseases.

This work, financed by a private society, was supervised by the county nurse who made arrangements for the clinics in the different schools, obtained the permission of parents of each child to attend the clinics to have mouths and teeth efficiently cared for.

The portable dental equipment was transported in the nurse's automobile and a large number of the children also were taken to the clinic and home in the same car.

During the summer of 1918 there have been twenty-two clinics in fourteen different townships of the county, reaching one hundred and fifty-four children in thirty-five different schools,

children who otherwise perhaps, would not have had this care.

This is one of our county activities



Waiting for the Dentist.

Progression and Retrogression

It is often said that "What is good enough for the father is good enough for the son." The statement is incorrect, proclaims a writer. It leaves the wheel on a slope where it cannot stand. The instant it ceases to ascend it begins to slide down. As with the individual, so with communities and nations—where progression pauses, retrogression begins.



The Nurse Drives them Home.

for the welfare of our rural school children.

Three-fifths of all the children of the United States are in rural schools.

During these strenuous war times when so many of our best men and women are being sacrificed for the cause of liberty, we should put forth a great effort, as a war measure, to conserve our child life; that every opportunity available should be utilized to increase their physical strength and health; to prevent disease and eliminate physical defects, which are so prevalent in early childhood and which if not corrected often become a menace to health in adult life.

Let us pull together in our rural communities for our nation's greatest asset—our coming citizens.

Tanning Rabbit Hides

IN saving the hide of the rabbit for fur, more pains should be taken in removing than the ordinary market stock requires. Grasp the animal firmly by the hind legs and give a sharp blow back of the ears with the edge of the hand or a short stick, then bleed well by cutting the throat.

The skin should be removed "cased," hang the animal by the heel tendons, after starting the cuts down the inside of the hind legs, slit the legs to the base of the tail in a straight line across the vent and slit the tail. Many times the tail will slip whole, but unless it is slit open it is hard to tan, as liquor will not penetrate as easily and fur will slip or fall out. If the feet are well furred, one may have the skin of the feet, toes and nails all left on by severing each toe just above the nail. The skin is pulled down over the head, wrong side down out, using the knife to cut any ligament attaching to the flesh. Always cut towards the body rather than the skin so that no cuts may be made in the skin. Bits of flesh and fat may be removed afterwards. When the fore legs are reached they may be cut off at the ankle joints or the toes, as desired.

The skin should then be fleshed, removing all flesh and fat, as any left on the skin will rob the roots of the hair and cause some to fall out. After salting well, be sure to cover all parts thoroughly, the skin should be put in a cool place for about four days to dry before tanning.

When skins are ready to tan, they should be washed in a solution of half a tub of lukewarm water to which has been added half of a bar of common laundry soap, one pound of sal soda, one-quarter pound of concentrated lye and one ounce of liquid ammonia. This removes the glue from the pelt, then they are ready for tanning.

A formula which has been used quite extensively and found very satisfactory, consists of the following ingredients: Five gallons of water, three and one-half pounds of common salt, and two ounces of sulphuric acid (fluid). Dissolve salt in water before adding acid. It is advisable not to lean over tub while stirring in the acid as the fumes are not especially beneficial. Always use wooden or earthen tubs, as acid will eat metal.

Some people have an idea the hide should not be wet on the fur side, but this is all nonsense. Put them right in the brine you have mixed and let them stay well covered with the brine from six to twenty days, when they should be tanned. To tell when they are thoroughly tanned, stretch a portion of the hide over the knuckles and if it shows white like rawhide, it is tanned; if not white, put back in the solution for a few days.

After the skin is tanned, wring out and hang on a line in a shade, about twenty-four hours. Do not let them dry too much, but take down and pull and stretch with the hands and rub over edge of hardwood board, in all

directions, being careful not to stretch in the center, as this often happens if not pulled on all sides evenly. If they dry too fast, roll them up for awhile then continue the process of stretching, with occasional beating until quite dry. Do a little each day and the hide will be much softer when it is dry.

To clean, immerse in gasoline as you would a piece of dress goods, rubbing with the hands, then wring out and rub cornstarch or Fuller's earth in wet fur and hang on line to dry in sun. Beat all powder out and the skin will be clean and ready to make up into garments. G. A. BOLDEN.

When Fur Bearers are Prime

THERE is only one excuse—a poor one for all concerned—for trapping too early. The excuse is, of course, that some other trapper may get ahead of you.

But where the trapper hasn't any competition—on his own farm for instance—or where an agreement can be reached to wait, the taking of furs at the right time will bring far larger returns.

In a great many cases inexperienced trappers get out too early because they are not quite sure when the various furs are prime. Hence the following may enable no inconsiderable number of trappers to make more money out of their work this year.

Skunk are prime in the north toward the end of October; south, toward the end of November. They depreciate about the middle of March.

Mink is best during November to the end of January in the north and in December and January in the south.

The fur depreciates during February. Muskrat is fair in the fall, when

trapping is, of course, easiest. But the prime fur is taken in the period from mid-winter to March. A good condition may be expected in the north up to about the first of June, while the similar date in the south is about the first of April.

Opossum in the north becomes prime toward the middle of November and remains good until March. In the south the prime fur comes about the first of December. It depreciates somewhat earlier in the north.

If you are after raccoon in northern territory, you will find the fur prime about November first. The time is a little later for the south.

Fox, speaking generally, is prime in northern territory from the first of November until the middle of March. For the south the period is from the last of November to the beginning of March.

It will pay trappers handsomely to concentrate their efforts upon the periods when furs are prime. Certainly no great departures should be prac-

The Boy and the Farm

By G. W. TUTTLE



I HAVE always been thankful because I was brought up on a farm. Health hobnobs with the country boy. He looks askance at industry but she also dogs his footsteps, and in after years he looks back, and says: "You were my best friend and I knew it not."

Even when it rains there is a job in the cellar or attic or barn that just fits into a rainy day—there are no jobless days on a farm. But if a boy has a good father—as I had—with a good memory, and a great heart of sympathy for a boy, a heart that never grows old, there will be wonderful days, golden days, sandwiched between the hard-working days; days when the brook and the river and the old woods will be a land of enchantment to the eager boy. A boy, and a willow pole, and a cunning trout or a nibbling perch, spell content.

And if the country boy runs out of hooks he will have a makeshift ready. Necessity is the mother of invention, and the country boy is the brother of invention. I knew a grown-up boy who, when he lost his last hook while fishing, took a safety pin from his clothing and made from it a hook with which he caught twelve trout. "But," said the young fellow, "when they bit I had to keep them moving!"

Yes, country boys are apt to keep things moving; would not the great cities stagnate if it were not for the red, healthy tide of country blood and industrious habits that flow into them—life that leaps and dances and pulses as the country brooks leap and dance and flow down the rugged hills and green pastures to the sea. Yes, the city is the sea, and the country lads and lassies are the streamlets that flow into it.

Pure and undefiled is the air of the country. You have heard of the city lad who, when remonstrated with by his mother for climbing a telegraph pole, said: "Well, a fellow must do something to get some fresh air!" Not a fresh air invitation, but a challenge, were the topmost branches of the giant maples to us. Country boys were fore-ordained to climb trees—it was fore-ordained also that many of them should climb to high position of honor and responsibility in the land because of their early lessons on the farm; lessons of industry and perseverance.

There are always obstacles to contend with on the farm. There are insect pests, and drouths, and weeds, and there are early frosts and destructive storms. There are the sudden showers when the hay is ready for the barn—and when a hard job is supposably finished who enjoys doing it over again? There is large room on the farm for patience and perseverance. The farm is a character-builder, a personality-developer—you cannot run a farm and be a nonentity.

The curse of many a young life in the city is idleness. The body grows weak and flabby, ambition atrophies, and all the plans for, and outlook upon life, are dwarfed and distorted because there is underneath no foundation of industry. Such a young man would hold his hat under an apple tree and wait for the apples to fall into it. Not so the country youth; up the tree he goes, and apple or boy comes down.

It was a long walk to the old church on the Sabbath day—a Sabbath day's journey for me was twelve miles. It seemed a long way, sometimes, but today, when I am old and gray, my legs are the best part of my anatomy, and I can get up in the noon o' the night and walk, twenty-five miles when the lure of the trout in the rushing, foaming mountain streams is upon me—yes, I am a boy still.

And there is more chance for religion in the life of the country boy. There is less unnatural rush and excitement, there is less to smother and crowd out the natural craving of the soul for God. And there are many times when the boy works alone and he has a chance to think. And there are so many things for the country boy to think about—the new life that springs up like magic in the spring-time, that courses through the veins of every flower and shrub and tree; the songs of the birds, the beauty of the flowers, the responsiveness of the soil. If you say, "There is no God!" to the country boy, his heart will reply, "God is here!"

The temptations of the country are less than those of the city. Life is more normal; there is less of apparel and more of substance. There is more chance that the solid virtues will have right-of-way in the life of a boy; that he will grow up to be useful, that he will help cut out evil from the world as faithfully as he cut out the weeds on the old farm, that he will work with God in making men better even as he worked with Him in making the old farm more valuable and productive. He will be a lifter, not a leaner; he will say, "Where can I serve best today?" instead of folding his arms and saying, "Here am I at the table of life; somebody wait on me, quick."

THE CHANGE.

By L. M. THORNTON.

I want you here little lad on my knee,
For my lips to touch and my eyes to see;

I want your hand in my own today,
But instead, you have scampered outside to play.
And the house is still as I sit alone
In the silence mothers alone have known.

I want you here little lad to tell
You over and over I love you well.
I want the touch of your soft brown hair

But you're off for a game that I cannot share
While I wait and lonely and longing bide
'Till the night shall bring you back to my side.

I want you here little lad on my knee
But I'm glad you're sturdy and strong and free.

I want your hand little lad to hold
But I'm glad you're fearless of storm and cold.
And I'm glad that 'tis Nature's and Heaven's plan
That I've given the world a some-day man.

WHEN FUR BEARERS ARE PRIME.

(Continued from preceding page).

ticed since the result is furs which are of little value to the fur houses.

By having plenty of traps and making every possible preparation to work vigorously during the right season is the way to get the most out of trapping.

Fifty-Seventh Semi-Annual Statement

The National Loan & Investment Company

OF

Detroit, Michigan, July 15, 1918.

ASSETS

Real Estate Mortgages, Trust Deeds and Contracts	\$3,332,098.57
Real Estate	111,886.81
Home Office Building	120,000.00
Due on Stock	26,746.45
Stock Loans	565.00
Furniture and Fixture	2,200.00
Unexpired Premiums, Fees and Taxes	439.93
Due from Agents and others, including Advance Paid Stock in course of collection	12,043.73
Liberty Bonds	14,950.00
War Savings Stamps	832.00
Cash on hand and in banks	187,110.96
	\$3,808,873.45

LIABILITIES

Capital Stock	\$3,491,857.43
Paid in	161,763.30
Undivided Profits	\$3,653,620.73
Coupons Due and Unpaid	4,066.05
Advance Dues and Interest	2,094.55
Due Borrowers and Stockholders	113,427.67
Recording Fee Suspense Act	24.00
Special Reserve for Franchise Tax	1,800.00
Reserve	33,840.45
	\$3,808,873.45

JA Mutual Savings Association

Pays 5% Interest on Savings Accounts

Ask for booklet on Systematic Saving

COMPARATIVE STATEMENT OF ASSETS:

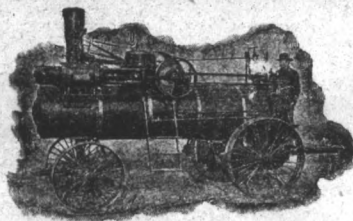
July 15, 1915	\$2,966,782.05
July 15, 1916	3,192,500.78
July 15, 1917	3,454,936.69
July 15, 1918	3,808,873.45

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Port Huron Engine & Thresher Co.
Port Huron, Michigan.



Angora Goats. 35 head of Angora goats for sale. Excellent for clearing up brush land. They have cleared my farm. Prices reasonable. JAMES OVERBEELS, Hamilton, Mich.

CORN HARVESTER

Self-Gathering for cutting Corn, Cane & Kaffir Corn. Cuts and throws in piles on harvester. Man and horse cuts and shocks equal to a Corn Binder. Sold in every state. Price only \$25 with fodder binder. The only self-gathering corn harvester on the market, that is giving universal satisfaction. Dexter L. Woodward, Sandy Creek, N. Y. writes: "3 Years ago I purchased your Corn Harvester. Would not take 4 times the price of the machine if I could not get another one." Clarence F. Huggins, Spearmore, Okla.: "Works 5 times better than I expected. Saved \$40 in labor this fall." Ray Apple, Farmeraville, Ohio: "I have used a corn shucker, corn binder and 2-rowed machines, but your machine beats them all and takes less twine of any machine I have ever used." John F. Haug, Mayfield, Oklahoma: "Your harvester gave good satisfaction while using, filling our silo." K. F. Ruegnitz, Otis, Colo.: "Just received a letter from my father saying he received the corn binder and he is cutting corn and cane now. Says it works fine and that I can sell lots of them next year." Write for free catalog showing picture of harvester at work and testimonials.

PROCESS MFG. CO., Salina, Kansas

FOR SALE De Laval Cream Separator, 1,000 pounds capacity, good condition, at a bargain. Address YPSILAND FARMS, Ypsilanti, Mich.

FOR SALE Second-hand 9-18 gas tractor complete with two bottom gangs, in excellent condition; thoroughly overhauled; bargain for quick sale. J. B. MASON, R. 3, Kalamazoo, Mich.

Red Rock Wheat 500 bushel certified seed Registry number 8016. For sale by W. B. STICKLE, Three Oaks, Mich.

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278 Acres \$4400; with Crops, Pr. Horses, 13 Cows and 3 heifers, 2 bulls, 4 calves, hogs, wagons, harness, machinery, tools, etc. Mile to sawmill, mile and half to railroad town. Estimated 275,000 ft. timber, 200 cords pulp wood, 4000 cords wood. Productive loamy tillage for corn, potatoes, grain, meadows for many tons prime hay, wire-fenced 40 cow pasture, 100 good apple trees. Good 9-room house, big stock barns, good condition, new horse barn, carriage, poultry, corn, hog houses, only \$4400 for everything, small cash payment. Details page 9 Strout's Catalogue of this unsurpassed bargain and others many with stock, tools, crops; free copy. E. A. STROUT, FARM AGENCY, Dept. 101, 814 Ford Building, Detroit, Mich.

McClure Stevens Land Co.

We have for sale: 15,000 acres of fine unimproved lands, well located, joining well settled locality, on easy terms. A tract of 160 acres, 5 miles from Gladwin, on daily mail route, all fenced with woven wire, 20 acres under fine state of cultivation, 6 acres in fruit. A Sheep Ranch of 310 acres, all fenced, well grassed over, living water, 700 acres cleared, 30 acres under fine state of cultivation with fruit, good buildings, 250 head of sheep. 4 stock ranches well grassed, fenced and watered with living water.

McCLURE STEVENS LAND CO. Gladwin, Mich.
Beautiful Home and block (8 lots) of land a block and a half from Central Michigan Normal School, all kinds of fruit, shrubbery, shade, will sell or trade for good farm. Cooper, Gover and Francis, Mt. Pleasant, Mich.

Autumn In the Poultry Yard

By R. G. KIRBY

THE unsettled conditions make it necessary for poultry raisers to study requirements for equipment and place their orders early. Incubators should be ordered as soon as possible so that there will be no delayed shipments next winter to interfere with early hatching; brooders should also be ordered early. The fuel supply for both incubators and brooders of the coal-burning types should receive attention and some arrangement made for procuring a supply before it is needed. Pipe for the brooder stoves may be scarce next spring and all orders for such accessories should be placed this fall.

Old incubators and brooders frequently need certain repairs and unsettled conditions may make them difficult to obtain promptly next spring. A delayed order may cause inconvenience and result in financial loss and a serious handicap to the season's work.

A large flock of poultry requires some investment in hardware, such as water pails, metal fountains, tin cups for shipping coops, hinges for doors, trap-nest doors, etc. No poultryman should hoard material of any kind at this time, but it is only good business to make a careful estimate of the absolutely necessary equipment and then place the order early to avoid the inconvenience of delayed shipments.

Sunshine for Poultry.

A study of the habits of the farm flock prove that they need shade and sunshine. At times they wish to rest in the shade when the days are hot or hot winds are blowing. At other times they enjoy basking and dusting in the sunshine and these sun baths are very essential to the well-being of the flock.

The fact that the hens love sunshine should be considered when building the poultry house. The house in the winter must be substituted for the range in summer and thus sunshine is a double necessity. The windows in a shed-roof poultry house can be constructed so that the sunshine will reach all over the house and even strike the boards beneath the roosts. The windows in all types of houses should be arranged to allow considerable sunshine to strike the inside of the house. The sunshine keeps the scratching litter dry and prevents dampness which is so unhealthful for fowls while in winter quarters. Sun-

shine is the cheapest and best disinfectant which the poultryman can obtain. The poultry house with plenty of light will be much easier to keep in a sanitary condition than the house which is dark and damp.

When using a dust box in the poultry house it should be placed near the window so that the sunshine will help to keep the dust dry. It also gives the

birds a chance to dust and sun themselves at the same time.

Keep the Hens Scratching.

In the early fall when the winds are cold and the days are rainy, it pays to give the hens the best possible conditions for exercise. This is especially necessary with the young pullets, which should be brought into laying condition before freezing weather. It

is far better to keep the birds inside when it is cold and rainy than allow them to huddle around the range and become chilled and catch cold. Watery eyes sometimes seen in the fall are nearly always due to exposure in the cold wind.

This means that some scratching material must be provided. The poultry houses need renovating and all old material should be removed. After the harvest it will pay to give the hens a deep litter of clean straw. They will enjoy working it down and the litter will be almost as necessary for their comfort as in the winter when no outside ranging is possible. The straw absorbs moisture and keeps the house in good condition so it will be easier to clean and prepare for winter before the birds are placed in their winter quarters.

Some breeders use shredded cornstalks for poultry litter during the winter and find that it absorbs moisture and does not break up as readily as straw. Beneath the litter it pays to use sand. If garden soil is used the poultry house will soon be very dusty and whenever the birds scratch the air will be filled with dust and this dirty air causes watery eyes and a consequent deterioration of health.

Fix Up the Roofs.

Shingle roofs are not desirable because they are not tight. Building paper carefully placed and sealed at the seams, will stop all draughts. Repair the roofs as soon as leaks appear and make an inspection two or three times each year. If the wind blows up a small section of roofing paper, in a short time the tear will increase and an entire strip may be torn from the roof. If small leaks appear the moisture seeping between the paper and roof will cause rotting of the paper.

When placing roofing paper on a poultry house the best work can be done on a still warm day. The warm sunshine makes the paper lay better on the roof and the still air prevents the blowing of the paper, which may cause tears, or at least prevent rapid work in nailing it on. Galvanized roofing nails are more satisfactory than the large disks sometimes used.

In buying roofing paper to select a good grade rather than use a light weight inferior brand. The heavy substantial paper will last many years without much attention, but a poor grade will wear out in a short time.

Winter Care of Queen Bees



This Farmer Can Get Along Without a Government Sugar Card.

Inspectors who visit the bee keepers in the spring time invariably find a large number of dead or dying laying-worker colonies, which show the unmistakable signs of laying-workers in the raised and uneven surface of the empty cells. This condition comes about almost entirely because of the failure of queens in the fall, or because of their death in the winter. A large part of the best bee keepers of the country never permit a queen to become over two years old. While the queens may live to be even four or five years old, experience shows that most of them have passed their period of usefulness when they are over two years old. As the death or weakening of such colonies is largely the result of a failing queen, it is, therefore, good bee keeping practice to make a careful examination of each colony during August or early September to ascertain whether or not each queen is do-

ing her full duty. All queens which show signs of failing either by the presence of a large proportion of drone brood, or by there being only a little brood present, should be superseded at once. The presence of a young queen in a colony during August and September guarantees that the colony will go into the winter with a large number of vigorous young workers. This is of the utmost importance in wintering. No young bees are permitted in any normal colony in Michigan from about the first of October until about the first of March. In order to bridge over this long period, and in order to have in the colony sufficient vitality to produce the heat necessary in the winter, there must be a large proportion of young bees in the winter cluster. The presence of old queens accounts for the death of entirely too large a number of colonies in Michigan.

Ingham Co.

B. F. KINDIG.

Poultry Interests Get Together

WARTIME emergencies are bringing about new conditions in every line of production. To meet these changing conditions and put his business on a profit-making basis should be the foremost object of every poultryman. The recent meeting of the National War Emergency Poultry Federation held at Chicago was eminently successful. The attendance was large at all sessions and plans were perfected to start a movement to interest every poultryman in the country to help boost the industry.

The educational program was a feature of the meeting. The first day was devoted to addresses and discussions dealing with organization and production questions and the problems of allied industries. Moving pictures contributed by the National Poultry, Butter and Egg Association, were extremely interesting, especially in showing the part which cold storage plays in insuring a uniform supply of perishable food products.

Dr. G. F. Warren's address, "Poultry Profits as Influenced by the War," was

a revelation of facts and figures showing how the problems of poultry production have been intensified by conditions brought about by the war. He showed especially of high feed and labor cost upon production, and called attention to the fact that these must be overcome by higher prices for poultry products and greater efficiency in production.

Prof. James E. Rice showed very forcefully the great value of artificially illuminating the poultry house during the winter to stimulate greater egg production, such lighting as applied morning and evening to lengthen the day, thus inducing a greater food consumption. The practice has proven financially sound and will no doubt come into more general use on commercial egg farms.

The National Poultry Forum, which occupied an entire morning session, was productive of valuable discussion and thought. Each topic presented was prefaced by a short discussion by specially qualified "five-minute men," who were chosen for the same at the

meeting. The questions discussed in the forum were:

1. The organization of the National War Emergency Poultry Federation.
2. The increase or decrease in the poultry population of the United States. Reports by states.
3. The importance of educating the public to the food value of poultry and eggs.
4. The national standardization of poultry and egg grades.
5. The preparation and distribution of market reports and quotations.
6. Regulation of factors affecting the costs and profits of the production of poultry products.
7. Regulation of prices or profits for the distribution and storage of poultry products.
8. Rulings affecting trade customs:
 - a. Trading between dealers of the same class.
 - b. Loaning money with warehouse receipts as collateral.
 - c. Fixing dates for removal of dressed poultry or eggs from warehouses.

d. Price fixing by gentleman's agreement.

e. Rule prohibiting the killing of hens.

9. Closer relationship between poultry producers and various divisions of the United States Government relating to production, distribution, consumption and conservation of food.

10. Cooperation between the producers, distributors and consumers.

11. Standardization of methods to arrive at a sound conclusion regarding actual costs of producing poultry products throughout the United States.

12. The possibility and desirability of having a poultry representative on the Farmers' Committee of Twenty-four.

13. A campaign for stimulating the consumption of poultry products.

14. The effect of various methods of preparation and preservation of poultry products upon the quality, price, profits and production.

15. The icing vs. dry-packed methods of shipping poultry.

Dr. E. V. McCollum's address, "The

POULTRY INTERESTS GET TOGETHER.

(Continued from page 194).

Food Value of Eggs," was a masterful discussion and explanation of research work recently performed which shows the peculiar and wonderful properties which eggs possess as a food for humans. Eggs, he said, were a protective food and essential in the human diet. They contain properties which make them especially desirable in the feeding of the young child where a normal growth is desired. When the true value of eggs is more generally known then consumption is bound to increase.

Addresses by representatives of the various departments of the federal government were instructive and highly appreciated, for they showed the important work under way. An address by W. A. Brown, representing the Poultry Department in the Dominion of Canada, contained an elaborate account of their far-reaching poultry program to meet war conditions.

The work in judging fowls for production qualities, including illustrated addresses and demonstrations, was of the greatest interest and practical value. This represents a new line of effort, but one which is bound to be of ever-increasing importance in efficient poultry management. Culling to eliminate non-productive hens is a wartime duty which everyone owes himself and his country.

A feature of the convention was the extensive educational exhibits displayed by the various government bureaus and by state institutions. These consisted of charts, posters, models, and printed bulletins and circulars, and created the greatest interest.

The business sessions of the convention were characterized by harmony of purpose and action. The adoption of by-laws, national program, appropriate resolutions, and the election of officers were quickly and successfully accomplished, due to united belief that real work was in hand and that definiteness of purpose and harmony of ac-

tion would help to bring about immediate results to promote and develop the industry.

Considering the unanimity of purpose, the harmony of action, the highly instructive educational program of addresses and exhibits, and the completeness of permanent organization, the convention can, without question, be considered one of the most memorable meetings ever held within the poultry industry, and bids well for the future success of the federation idea.

EXPANDING THIS YEAR'S FEED SUPPLY.

(Continued from page 173).

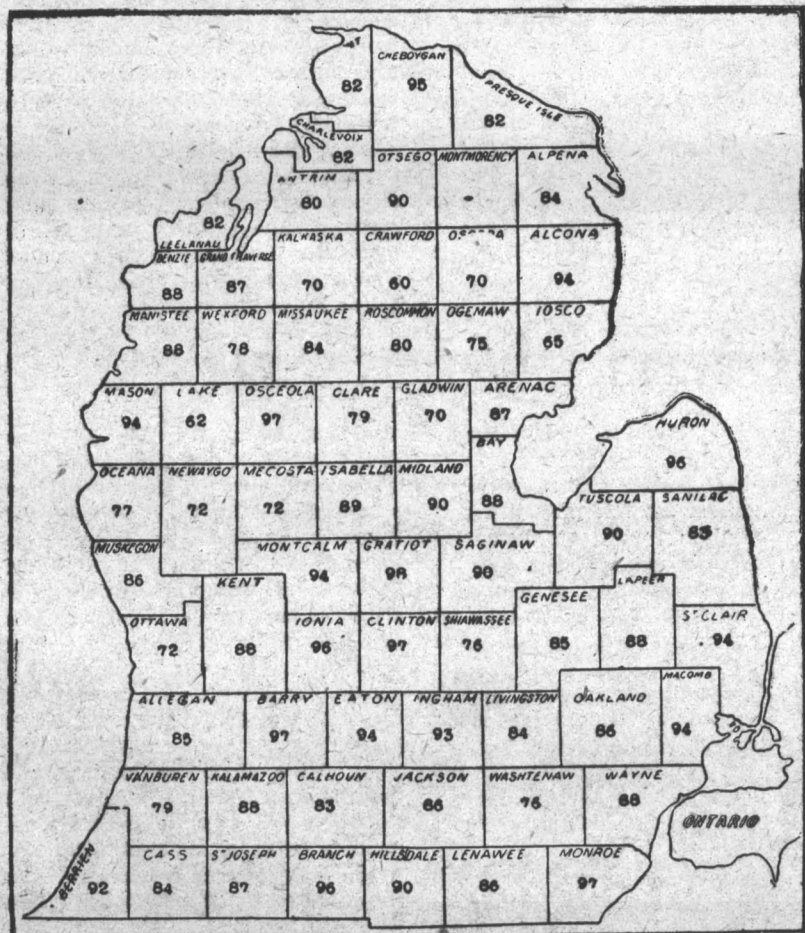
should be thoroughly wilted before going into the silo. Where the seasons are relatively short or where late planting has made it impossible for the crop to reach a fair degree of maturity for siloing within an abbreviated summer and fall, the use of immature corn is unavoidable. It can be made into a fair quality of silage, however, if allowed to wilt, and if stored so as to exclude air.

In case the crop is past the standard degree of maturity for the silo—that is, when the leaves have dried out and the grain dented, it is necessary that water be used while filling the silo. This will improve the keeping qualities of the feed and insure its packing more firmly in the silo. Corn siloed after it has been frosted is likely to cause trouble when fed. Chemical changes occur in the plant after the frosts which greatly detract from its fitness for silage. If cut immediately after the frost it will not be so badly affected. A good quality of silage can be made only when the corn is cut at the proper time, reduced to short lengths in a standard cutter and packed firmly in a well-built silo.

When the silo is full a lot of good feed can be saved by putting a thick covering of weeds, straw and the like, evenly over the top of the silage and wet down to hasten their decay. This effectually seals the top and prevents the air from coming in contact with the surface.

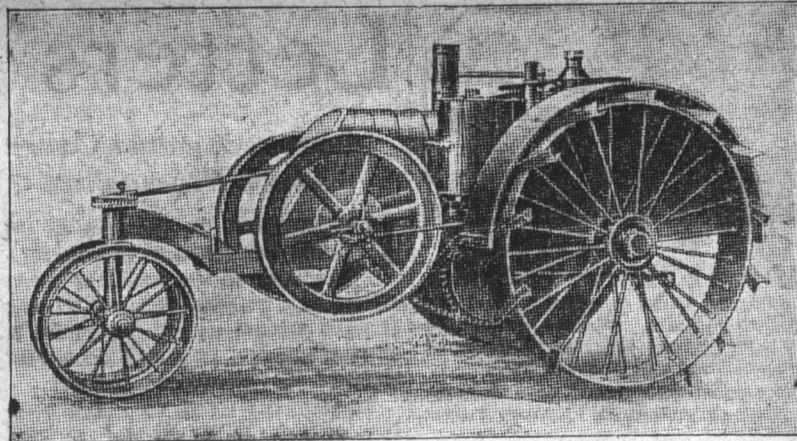
W.M.K.

Condition of Our 1918 Bean Crop



The Condition of the Bean Crop in the Various Counties of Michigan is Shown in the Accompanying Map.

While the condition of the field bean crop in the United States is slightly below the average condition for the past five years, the crop in Michigan is four per cent above her average crop, according to the federal crop reporters. The acreage of this crop probably varies little from the record acreage planted in 1917. Beans are maturing rapidly.



Let The

"PONTIAC FARM TRACTOR"

Solve Your Problems of Increased Acreage and Consequent Increased Production of Farm Produce.

In placing your order for a "Pontiac" you are not only securing a serviceable machine that will add greatly to your ability to help win the war by increased production of the necessities but also guaranteeing yourself against future trouble and annoyance by having a simply constructed dependable and efficient machine.

Tractor ownership today is an absolute necessity for every farmer who is desirous of obtaining the best results from his efforts at farming with the present dearth of efficient farm labor and it is imperative therefore in placing your order for one of these labor saving machines that you secure the one best suited for your individual requirements.

In order to do this it is advisable that you study well the merits of the "Pontiac" before placing an order elsewhere and among some of the superior points are: Simplicity of construction, dependability in action, adaptability to burn kerosene, fuel oil, or distillates, as well as the ease with which it can be handled by the every day practical farmer, who does his farming from a purely practical standpoint of securing an adequate return on his investment and is not in the farming game for the mere pleasure of tilling the soil or spending his income in hiring high priced expert labor to operate intricate and in many cases ill adapted farm machinery.

One of the admirable features of the "Pontiac" is its single cylinder motor with its consequent freedom from motor troubles and its high power efficiency, as well as the ease of accessibility should any trouble of this nature develop. With its large cylinder capacity, 9 in. bore by 12 in. stroke, it easily develops 15 H. P. on the draw bar or 30 H. P. on the belt giving ample power for handling four bottoms in any ordinary plowing or sufficient for the ordinary threshing outfit, corn husker, or silo filler.

With one of these machines it is possible to take advantage of every minute of day light and in fact no objections will be offered by a "Pontiac" to working continuously 24 hours per day if the occasion demands.

Backed up by the efficient aid of one of these machines the average farmer may view with complacency the ever increasing labor shortage feeling secure in the fact that he has a trusty lieutenant who will not desert him at the supreme moment when most is demanded in the way of preparation for the crop, harvesting and securing, as well as marketing it.

Another important feature is the fact that the price places it within the reach of the farmer of moderate means and at the same time gives him as much tractor as is usually furnished at twice the price.

Prices, and agents terms furnished on application. Correspondence solicited.

PONTIAC TRACTOR CO.

Pontiac, Mich.



My Crops Were Doubled

That's a common report from farmers who have tile-drained ordinary land. The soil-bed is deepened, surplus moisture carried away plant food made more accessible and all the fertilizer is made use of—none carried away by rain.

Investigate—write today for folder, "Add More Acres to your Farm."

American Sewer Pipe Co.

Michigan Branch

Jackson, Mich.

Drain Tile
Building BlocksSewer Pipe
Vitrified Tile SilosPOULTRY
HOMESTEAD FARMS

A Federation of Interests

Laying Hens

150 S. O. White Leghorn Yearling Hens; 50 S. C. Single Comb Black Minorca Hens.

Pullets

40 S. C. White Leghorns; 25 S. O. Black Minorcas; a few R. O. Reds and White Rocks.

Cockerels

Buff and White Rocks; S. O. Black Minorcas; S. O. and R. O. White Leghorns; S. C. Brown Leghorns. We shall be pleased to describe and to quote prices on any of this stock.

Bloomington Farms, Bloomington, Mich.

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 a winter 500 pullets 400 eggs on Jan. 24th. Can common Leghorn do so well. Tested and trapped ten years. Order NOW breeding stock at our special summer prices. 3,000 choice pullets \$1.50 each, 1,000 selected yearling hens at \$1.25 each egg record in pullet year of 200 eggs and over and 1,000 selected breeding chicks from 265 to 275 egg dams at \$1.25 each order now your chicks 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. O. White Leghorn and Barred Rocks. Would advise ordering early. Price reasonable. Write us your wants. Sunnybrook Poultry Farms, Hillsdale, Mich.

BUFF LEGHORNS, 50 Choice hens and a few cockerels selling for \$1.50 each, this is half price. Dr. WILLIAM SMITH, Petersburg, Mich.

White Wyandotte eggs for hatching also baby-chick out of choice stock; send for a 1918 circular. DAVID BAY, 700 Norris St., Ypsilanti, Michigan.

Barred Rocks—EGGS FROM STRAIN with records to 200 eggs a year; \$2 per 15. Delivered by parcel post, prepaid. Circular free. FRED ASTLING, Constantine, 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 B. FERRIS 824 Union, Grand Rapids, Mich.

Fowlers Buff Rocks Booking orders now at a \$2 for 15; \$4 for 30; \$5.50 for 50; \$8.00 for 100.

R. B. FOWLER, Hartford, Mich.

Pine Crest White Orpington greatest egg producers—hens and young stock, buy now for next winter. Mrs. WILLIS HOUGH, Pine Crest, Royal Oak, Mich.

Rhode Island Reds

Both combs. No stock for sale until December. INTERLAKES FARM, Box 39, Lawrence, Mich.

Rose Comb Br. Leghorn cockerels \$1.00 each, from best lines in America. White Pekin Ducks \$2.00 each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

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

SILVER, Golden and White Wyandottes, good breeding stock after Oct. 1st, fine lot of cockerels \$5 to \$6 each. O. W. BROWNING, R. 2, Portland, Mich.

Pullets Wanted, Prefer Leghorns. F. J. BARRETT, R. F. D., Milford, Mich.



GET MORE Milk—Flesh—Work!

Cows, horses, mules or calves all feel the painful sting of flies. Millions of them, in every barn, pasture, barnyard. Each takes its drop of blood and pound of flesh.

The worried critters can't produce more milk, flesh or work if the fly worry is constant—all day long.

SO-BOS-SO

KILFLY

saves money by keeping stock quiet and contented. It's a harmless, effective liquid that rids stock of fly worry. Sprayed daily on stock it saves its slight cost many times.

Get it at any good dealer's. Call for it by name. Insist on it because it's a success for over 18 years and backed by our strong guarantee.

If your dealer hasn't it, write us for our special Trial Offer.

The H. E. Allen Mfg. Co., Inc.
Box 55 Carthage, N. Y.



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

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, R. Orion, Michigan
W. E. SCRIPPS, Proprietor.

WOODCOTE ANGUS

TROJAN-ERICAS & BLACKBIRDS (BLACKCAPS) only. The most fashionable strains of the breed. Great 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.

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

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 \$1850 each. His bull calves are booked ahead at reasonable prices. Avondale Stock Farm, Wayne, Mich.

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

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

GUERNSEYS: Owing to ill-health I will sell two Imported young cows, also two American bred cows. Two of them due to freshen in Sept. Best of breeding. G. A. WIGENT, Watervliet, 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.

For Sale Registered Guernsey bull Sequel breeding seven months old. PAUL RUEHS, Caledonia, 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.

I Always Have Holsteins To Sell

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

L. E. CONNELL, Fayette, Ohio

HOMESTEAD FARMS

A Federation of Interests

Holsteins: From a herd of 50 Holsteins headed by the Bull King Zerna Alcarita Pontiac, son of King Segis Pontiac Alcarita, the \$50,000 Bull, we offer a number of bred cows and heifers, younger heifers and calves, and young bulls.

One particularly high class young bull now ready for service.

If you want Holsteins of any class, will you please write to us for descriptions and photographs?

Every animal guaranteed. BLOOMINGDALE FARMS, Bloomington, Mich.

Advises Against Over-Much Paternalism

PATERNAL" is defined as "The claim or attempt to control the business or the social or personal affairs of a people—the public making of such provisions for the public need or convenience, as might otherwise be supplied by private enterprise."

As with the child, so will it be with the citizen if excess of caring for wants—real or imaginary—is permitted or practiced. Proper self-reliance ought, always, to be encouraged for, thereby only, will the desired efficiency be obtained.

Self-respect, so vitally necessary in the maintaining of worthy character, demands that reasonable, personal activity be exercised whereby to secure the providing for all proper wants.

If it be true that "Worthy character makes labor more efficient, gives harmony in the home, and a higher standard of citizenship in the community," then, indeed, ought every obtainable means be employed to secure the possession of that worthy character, without which, man, sometimes, sinks below the level of the brute creation.

The recent taking over of the railroad properties of the entire United States by the government, it may be, was justified by the existing conditions. Also the Farm Loan Act may have been proper; yet there is, doubtless, danger connected therewith, lest these acts result in the lessening of that very essential self-reliance, without which real efficiency of the citizen is impossible.

To have an "easy time" may appear desirable, but such is not truly to be desired for "it is combat rather than comfort which results in strong character."

The life history of the men who have had the greatest influence in moulding the public sentiment of their times, proves them to have been men who grappled, bravely, with the stern duties of life which beset them, and let us remember, even, that "it is the struggle and not the attainment which measures success."

The duty of the state requires that "the highest good, and to the greatest number" should ever be the determining principle in all of its decisions and acts, and this may necessitate the subverting of the freedom of the individual citizen, to some extent, under certain conditions.

The constitution of our state defines, in a general way, the relations and duties existing between the state and the citizen and our supreme court is authorized to interpret the provisions of the constitution, the correct interpretation of which gives proper freedom and assures safely to the individual, law-abiding citizen.

But our supreme court, though constituted of men of the very highest ability and integrity, yet, as we know, are its members divided, at times, upon some of the deep questions which come before the court for its discussions.

And this raises the question: "Is not our supreme court the authority which should decide under which conditions and how far, if ever, it be permissible for our government to go, in being paternal?"

While it is conceded that our government conducts the postal service, and to perfection, yet this is not proof that like success would result if the government should undertake the conduct of other public utilities.

Personally, I have never favored the governmental ownership of public utilities, the postal service alone excepted, believing as I do, that corporate

ownership under governmental supervision, will give the best results.

We all are quite willing to receive some aid, as we journey on life's highway, and there may be real need of some aid, at times, but this ought never to be carried to such extent as to result in the relaxing of vigorous, individual effort, which, as previously stated, is an absolute necessity in the maintaining of that commendable self-respect which is a demand of our higher nature.

It is hoped that our government will not undertake any tasks which should be performed by its citizens, either individually or in a collective capacity.

The regulations, established for the conservation of food and fuel, were intended, of course, for the securing of "The greatest good and to the greatest numbers," and were without doubt, necessary to the successful prosecuting of the war.

The immensely added burdens, placed upon those who are responsible for the right conducting of government's affairs, in these most trying times, since our nation has entered this world war, brings forward many new and complicated questions for solution, demanding the best thought of the best minds, and these are the times in which loyalty to our government is demanded and with added emphasis.

In this connection, these words of our ex-President are most opportune: "It is righteousness and not peace which should bind the conscience for man, or a nation, is disgraced if the obligation to defend the right is shirked."

The pronounced individuality of the average American citizen, will lessen, doubtless, any danger which may be feared from our government undertaking that which may be deemed a Paternal Act.

Clinton Co.

J. T. DANIELLS.

Suggests Growing Soy Beans

I WISH to say a word concerning soy bean raising in Michigan. I raise the medium yellow and they get ripe early enough here in Livingston county.

They are not affected by the drouth. They do not wilt when the corn leaves roll up.

Last year frost which killed the corn and other beans did not hurt the soys. They stayed green and kept growing until we had a freeze.

Last year my crop was out in a forty-day rain. They lay in piles on the ground through rain and snow without ever being turned and they were not spoiled or colored a particle. The pods seem to be impervious to water.

They are a sure crop. Outworms may cut them off, but they will come again. Rabbits will eat them until only the stems are left, but they will send out new shoots. If planted in hills ten or fifteen in a hill they will push their way out through any kind of soil.

They outyield other beans, and the stalks make excellent hay besides. Their oil will help win the war, and they would be the most profitable crop we Michigan farmers could raise if we had a home-made market the same as they have in the south.

That is why I write this letter. Why don't somebody get a couple hundred farmers in some community to sign up the acreage and then club in and get an oil press for the beans and they could get the cake back as a stock food or it could be sold. The idea needs someone to start it and set the ball rolling.

Livingston Co.

A. DREW.

Who Does the Fleecing?

POSSIBLY the theory I am advancing may sound narrow and selfish, but I think a little consideration will convince anyone that it is perfectly straight business sense.

Prices of farm products are curtailed on all sides, yet the protest of the farmer is invariably considered as a blow aimed at the city consumer. The cry is always raised that the farmer is starving the city babies by asking for a better milk price, but suppose we trace the price of milk to its source and see how much of the responsibility really rests with the producer. Exhaustive investigations and experiments were conducted last season to determine the actual cost of the article and the price was variously placed from three to four dollars per hundred weight, according to location and mill feed prices. It was conceded at all points that it could not possibly be produced anywhere, under the most favorable conditions, for less than three dollars, and it more often ran well up toward four; but it sold last month for \$1.80, out of which the farmer must pay several expenses, thus leaving him a net price of about \$1.50 and a "net loss" on the cost of production of at least another \$1.50. I know of milk selling to consumers for fourteen cents per quart, or about \$7.00 per hundred, and I have no idea that I had the highest price for which it did sell. Why should it cost fully three times as much to carry it to the consumer as it did to produce it? In just what way is it the farmer's business, if the city working man sees fit to let the dealers and distributors fleece him for over three hundred per cent of the value of his food? He has these parasites at close range; could he not deal with them far more advantageously than is possible for the farmer, who is often several hundred miles away? And why does it concern the farmer anyhow? Would the manufacturer of outing flannel in the city interest himself in the needs of the farmer if the merchant at the general store on the four-corners were charging four or five prices for winter "nighties" for country babies? Would he not consider a person who suggested that he should see that the farmer gets these things for a reasonable price, a fair candidate for an insane asylum? Milk furnishes only one instance, it is exactly the same with all farm products and, because these are considered prime essentials, prices are set by law on any that bid fair to pay the cost of production, though none are set on cotton or woolen cloth, or farm machinery, or any manufactured article whatsoever. Is it fair? Is it not placing the farmer in competition with big business interests and at a fearful disadvantage? If these things paid as well as an equal expenditure of effort in other lines, there would be no shortage of any of them. There are too many people who like money for this to be an economic possibility. In every community are vacant farms with good houses, and in every factory are numbers of men who know how to farm—indeed, many of them have done so within a few months, and if it paid as well as the factory job the country would soon be deluged with a super-abundance of food stuffs but the farmer and his family cannot live on patriotism alone.—

E. M. Anderson.

"There is a reproachful old saying about "kissing a cow," but the dairyman who best succeeds must come very near it. He must watch her, anticipate her wants and demands and furnish her with all cow comforts.



"Your Flock
Needs It"

It pays to buy **Tix-Ton-Mix** with salt the year around keeps flock healthy and free from stomach worms and ticks. A \$5.00 box makes \$60.00 worth of medicated salt—saves you big money—A \$1.00 trial box of **Tix-Ton-Mix** by parcel post will medicate a barrel of salt.

Write for club offer—booklet on
"Nature and Care of Sheep"

PARSONS TIX-TON CO., Grand Ledge, Mich.

AT THE STATE FAIRS

Be sure to see the Aberdeen-Angus cattle. There you will have an opportunity at more than 25 leading live stock shows to inspect the choicest representatives of the grand champion beef breed. These show animals are samples of the best American herds. Their produce has won at the world's greatest live stock show, the International Exposition, at Chicago, 15 out of 16 fat carcass grand championships over all breeds, as well as 13 out of 16 fat carlot grand championships, 11 out of 14 steer herd grand championships, and 10 out of 16 single steer grand championships. Calves of the breed have been demonstrating their baby beef making superiority at shows and markets from Canada to Texas. The bulls of the breed have been getting market topping steers at all leading markets, demonstrating their place in the winning of the war.

"Ask the man who owns some."

AMERICAN ABERDEEN-ANGUS BREEDERS ASSOCIATION,
817-M F Exchange Ave., Chicago.

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

Who is bred for real production his sire Maplecrest Koradyke Hengerveld is one of the best bred long distance bulls 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 Boys' Dam is Gluck Vassar Bell 30.57 lbs. of butter in 7 days, 121 lbs. in 30 days. Butter test 5.77. Lethers 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. R. 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.

OAK Leaf Farm. Herd sire Lenawee Pontiac Calamity King offer 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 956.776.
E. H. GEARHART & SON, R. 4, Marcellus, 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.

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.

"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.

\$50 Liberty Bond gets 1 mo. old grandson of Pontiac Maid 30.1-5 lb. Other granddam sister to grand sire of 42 lb. 4 yr. Herd free tuber. Apr. adv. for females. Terms. **M. L. McLaughlin, Redford, Mich.**

The Pontiac Herd

"Where the Champions come from"

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

Do you want a Pontiac in your herd?

Pontiac State Hospital, Pontiac, Mich.

The Traverse Herd

This is the chance you have been looking for. We will sell a few, good A. R. O. cows. One with 27.18 in 7 and 110.36 in 30 days. Three others above 24 lbs. Come and see them or write for descriptions and prices but hurry for they will go quickly. Also a few bull calves for sale, the kind you will be proud to own. Pedigrees and prices on application. State age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Michigan.

Registered Holsteins For Sale

- 9 Granddaughters of Spring Farm King Pontiac 6th, from A. R. O. Dams up to 20 lbs. 6 to 13 months old.....From \$100 to \$150
- 5 Extra good Granddaughters of King of the Pontiacs, from 9 to 14 months old.....\$800 for all
- 1 Daughter of Spring Farm King Pontiac 6th. Four months old.....\$150
- 3 Two-year-old Granddaughters of Spring Farm King Pontiac 6th.....From \$150 to \$200
- 1 Extra Fine 3-year-old son of King of the Pontiacs; 27-lb. Dam; 29-lb. Grandam.....\$800
- 1 Son of Aristocrat Pontiac from a 22.50 lb. 2-year-old.....\$400

GEO. S. BIGELOW, BREEDSVILLE, MICHIGAN.

Want Yearly Records?

Our new sire has four sisters whose semi-official records are 877, 742, 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 Buter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Angie Koradyke, 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

\$106,000 paid for bull calf! Of course it was a Pure Bred **HOLSTEIN**

The record-breaking production of this profitable breed makes record-breaking prices possible.

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

As I am Going Into Registered Stock

will sell all of my High Grade Holstein Cattle consisting of eight cows 3 to 5 yr. old all due to freshen this fall. Four two yr. old heifer due in the spring. Six Heifer calves six months old, all the above. Females are unusually well bred as I have kept only Registered Bulls for the last 12 years and raised them all. Price will be right quality and breeding considered. Address **E. H. WORVIES, South Lyons, Mich.**

Only 3 Cows Left

and two six months old bull calves. \$50.00 check, or Liberty Bond gives you your choice of either calf. **MARTIN MOON, Brunswick, Mich.**

HOLSTEINS of quality. Bull calves from dams with records high as 31 lbs. in 7 days. Also cattle puppies. **E. A. HARDY, Rochester, Mich.**

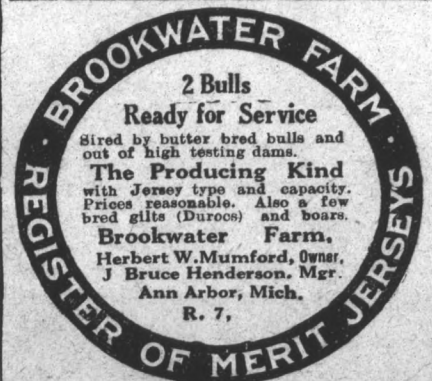
Holstein calves, 25 heifers, & 2 bulls 15-16ths pure, 5 weeks old, beautifully marked, \$25 each, crated for shipment anywhere. Buy only the best. **EDGEWOOD FARM, Whitewater, Wis.**

Holsteins: Bull calf born Oct. 6. A nice individual well grown in good condition. His seven nearest dams average butter 7 days 23.36 lbs. milk 533 lbs. Dams record 18 lbs at 2 1/2 yrs. **W. B. Reader, Howell, Mich.**

Maple Lane B. 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.**

THE Wildwood Jersey Farm offers for sale choice bull calves for fall service from E. of M. daughters of Majesty's Wonder by Majesty's Oxford Fox. Herd tuberculin tested. When looking for sire to head your herd, get a Majesty. **Alvin Baldwin, Capac, Mich.**

For Sale Registered Jersey Cattle of both sex. **Smith & Parker, R. 4, Howell, Mich.**



Hillside Farm Jerseys, offer 3-yearling bulls, backed by tested dams, and sired by a double grandson of Royal Majesty, first prize & junior champion at Mich. State Fair, good individuals. **C. O. Deane, Ypsilanti, Mich.**

JERSEY bull and bull calves for sale from R. of M. cows, also heifers and cows of all ages. **O. B. WEHNER, R. 8, Allegan, Mich.**

Lillie Farmstead Jersey Cattle. Several heifers bred to freshen next fall. Also a few heifer and bull calves of choice breeding. **Colon C. Lillie, Coopersville, Mich.**

For Sale Registered Jersey Bulls ready for service \$75.00 each. **NOTTEN FARM, Grass Lake, Mich.**

HEREFORDS

6 bull calves for sale, Perfection Fairfax and Prince Donald breeding. **ALLEN BROS., PAW PAW, MICH.**

Herefords Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reasonable. **COLE & GARDNER, Hudson, Mich.**

Herefords Bob Fairfax #94027 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.**

BIDWELL SHORTHORNS

Registered bulls, cows and heifers—Good Scotch and Scotch-Topped cattle. In prime condition. Modern sanitary equipment. Farm 10 minutes from N. Y. C. 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. We offer 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.

C. H. PRESCOTT & SONS,

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

Maple Wood Shorthorns

One bull calf 3 months old roan and of best milking strain. Also Duroc Jersey Boars for fall service. **HARTER & EASTON, Jenison, 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. **P. P. POPE, Mt. Pleasant, Mich.**

For Sale Three reg. Shorthorn bulls 10 and 11 mos. old, red, little white, Bates breeding, will orate and ship, satisfaction guaranteed or money refunded, write or come and see. **Wm. D. McMULLEN, R. 1, Adrian, Mich.**

The Kent Co. Shorthorn Breeders Association are offering some choice animals at reasonable prices. Write your wants. **L. H. LEONARD, Sec., Caledonia, Mich.**

Dairybred Shorthorns of best Bates Strains, young stock of both sexes for sale. **J. B. HUMMEL, Mason, Mich.**

SHORTHORNS

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

Shorthorn Cattle of both Sex for Sale **W. W. KNAFF, Howell, Michigan.**

For Sale Shorthorns of Quality Scotch and Scotch-Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton by the Oscola Co. Shorthorn Breeders Ass. **JOHN SCHMIDT, Sec., Reed City, Mich.**

Shorthorn herd bull. A roan by the great Avondale, for sale. For particulars write **H. B. PETERS, Carland, Mich.**

Shorthorn Seven Scotch and Scotch-Topped bulls for sale. Price reasonable. **W. B. McQUILLAN, R. 7, Howell, Mich.**

Red Bull Calf 7 mos. old also two heifers for sale. **J. E. TANSWELL, Mason, Mich.**

FOR SALE 4 Brown Swiss Bulls and 2 bred Heifers. **Dr. Wm. Schad, Moline, Mich.**

For Sale 5 double standard Polled Durham bull calves from 4 to 14 months old. **EDW. GUNDEN, Pigeon, Mich.**

HOGS

Registered Berkshire gilts and sows for fall farrowing, 3 boars and spring pigs, either sex. **CHASE STOCK FARM, R. 1, Marietta, Mich.**

DUROC BOARS

Big long, tall, growthy boars. The kind that will add size and growth to your herd. Biggest March farrowed pigs in country. Weigh 200 lbs. not fat. **NEWTON BARNHART, St. Johns, Mich.**

A Few good, sturdy, young, Berkshire Boars for sale at a reasonable price. **THE McNAMARA FARMS, St. Ignace, Mich.**

Durocs. Choice spring pigs out of selected sows and sired by our best herd boars. They are of the big type, strong boned, 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, Bales, Mich.**

DUROC Jersey Spring boars for sale. Good breeding and large bone. Prices and descriptions on request. **J. D. CRANE & SON, Plainwell, Mich.**

Duroc Jersey King Cal. Write for prices and description. **W. C. TAYLOR, Milan, Mich.**

DUROCS April and May pigs of both bred boars. For prices etc., write a Defender **WELLS PARISH & SONS, Allendale, Mich.**

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Choice Duroc Jersey Gilts For Sale.

CAREY U. EDMONDS, Hastings, Mich.

Duroc Jersey—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.**

Duroc Jerseys for sale. Bred sows & spring pigs both sex also Shorthorn bull calves, milking strain. **CHAS. BRAY, Okemos, Mich.**

Chester Whites, spring pigs either sex, trios not akin from strictly big type parents at reasonable prices. **F. W. Alexander, Vassar, Mich.**

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.**

LAST fall gilts all sold, have a good lot of last spring litters from 3 sires good growthy stock. Farm 1/2 mile west of depot, Citizens Phone 124. **OTTO B. SCHULZE, Nashville, Mich.**



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, Portland, Michigan**

BRED GILTS and SERVICEABLE BOARS **J. CARL JEWETT, Mason, Mich.**

O. I. C. & Chester White Swine

Strictly Big Type with QUALITY. Have a few spring pigs either sex for sale. They are of the right stamp, good enough to be shipped C. O. D. **NEWMAN'S STOCK FARM, R. 1, Marietta, Mich.**

O. I. C's a few choice Apr. and May pigs either sex and 4 reg. Holstein heifers. **CLOVER LEAF STOCK FARM, Monroe, Mich.**

O. I. C. spring pigs for sale. I ship C. O. D. and guarantee to please. **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.**

A 500 lb. Gilt just one. We sold Smooth herd, Lansing, Mich. watch his smoke. This gilt is bred to him for Aug. farrow "Liberty Bell" is the best gilt in Michigan you can buy her for just \$100. Bell phone. **J. C. BUTLER, Portland, Mich.**

Large Type P. C.

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

L. S. P. C. all sold out, except the largest gilt raised last year, bred for June farrow. **H. O. SWARTZ, Shoolcraft, Mich.**

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

Big Type Poland Chinas. Spring pigs for sale. Bred 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. HAGLESHAW, Augusta, Mich.**

Big type P. C. spring pigs of the best producers in the West, priced for July at \$25 to \$35. Guaranteed to please. **C. E. GARNANT, Eaton Rapids, Mich.**

Additional Stock Ads. on Page 199

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, August 29.

WHEAT.

Wheat continues to arrive at primary markets in unusually large volume. The increase in the U. S. visible supply for the past week totals 9,419,000 bushels, making the present stocks in sight 42,175,000 bushels, compared with only 4,399,000 bushels at this date a year ago. As a result, trading in the grain is dull and prices are steady at the minimum values fixed by the government. One year ago No. 2 red wheat sold on the local market at \$2.17 per bushel. Present prices here are:

No. 2 red	\$2.22
No. 2 mixed	2.20
No. 2 white	2.20

CORN.

Corn values are lower. The damage done during the extremely hot weather in early August has been found to be much less than was earlier estimated. This caused a reaction in prices to conform to the increased prospects of a good crop. The movement, however, has been small and the visible supply shows a decrease of 1,230,000 bushels for the week. The situation in Argentina is favorable to the buying side as offerings are liberal and demand slow. A year ago No. 3 corn sold on the local market at \$1.96 per bushel. Present prices here are as follows:

No. 3 corn	\$1.65
No. 3 yellow	1.71
No. 4 yellow	1.65
No. 5 yellow	1.55
No. 6 yellow	1.50

At Chicago the decline has changed quotations to the following: No. 2 yellow \$1.73@1.74; No. 3 yellow \$1.68@1.70½; No. 4 yellow \$1.62@1.65; September corn \$1.60½; Oct. \$1.62¼ per bushel.

OATS.

Following a long period of dullness, eastern shippers are again taking hold of the oat market and their help is bolstering prices in spite of the decline in corn. There is now a liberal demand from domestic users, the government and exporters. Receipts are generous, there being an increase of 2,918,000 bushels in the U. S. visible supply. One year ago standard oats sold on the local market at 57c per bushel. Present prices here are:

Standard	70
No. 2 white	69½
No. 4 white	68½

RYE.

There is very little doing in this trade. The market is slow and prices have declined. The local quotation for No. 2 grade of 1918 rye is \$1.65 per bushel.

BARLEY.

Threshing is under way and the yield is fairly good. Farmers are retaining the cereal for feeding purposes. The grain is being neglected on the local market with a few samples selling at \$1.98@2.10 per cwt.

BEANS.

There is little to report on the bean situation. The market is very slow and prices remain unchanged. The new crop is developing nicely throughout this state and other commercial bean-growing sections. Harvesting will be much earlier than usual. At Detroit cash beans are quoted on the exchange at \$10 per cwt. The Chicago market is confined to trading in the best grades of navy beans. Michigan stock, choice to fancy, is quoted here at \$10.50@11 per cwt.

FEEDS.

No change in prices for feeds on the local market is noted this week. Prices to jobbers in 100-lb. sacks are as follows: Brand \$34.66; standard middlings \$36.66; coarse corn meal at \$68; cracked corn \$71.50; chop feed \$48@55 per ton.

SEEDS.

Alsike hulling is giving returns of about 2½ bushels per acre. At Detroit jobbing prices are: Prime red clover \$17.75; October \$17.75; alsike \$15.25; timothy \$4.60.

HAY.

There has been no relief in this market with supplies far too small to meet the current demand. Local prices have advanced over those reported a week ago. They are:

No. 1 timothy	\$26.00@26.50
Standard timothy	25.00@25.50
Light mixed	25.00@25.50

Live Stock Market Service

Reports for Thursday, August 29th

BUFFALO.

This market paid \$20.50 for pigs; \$20.60@20.90 for medium and heavy grades and \$21 for yorkers and light mixed hogs today. Lambs sold up to \$18 and the best calves brought \$20.

DETROIT

Cattle.

Receipts 3,152. Market strong. Best heavy steers \$12.00@15.00
Best hdy wt butcher strs 10.50@11.00
Mixed steers and heifers 9.00@ 9.50
Handy light butchers 8@ 8.50
Light butchers 6.75@ 7.25
Best cows 8.75@ 9.00
Butcher cows 7.50@ 8.00
Cutters 6.50@ 6.75
Canners 6.00@ 6.50
Best heavy bulls 8.50@ 9.00
Bologna bulls 7.50@ 8.00
Stock bulls 6.50@ 7.00
Feeders 8.50@ 9.50
Stockers 6.50@ 8.50
Milkers and springers.... \$75@ 150

Veal Calves.

Receipts 1,128. Market steady. Best \$18.50@19.00
Others 9.00@18.00

Sheep and Lambs.

Receipts 3,359. Market dull; quality very common. Best lambs \$16.00@16.50
Fair lambs 14.50@15.50
Light to common lambs... 12.00@13.00
Yearlings 13.00
Fair to good sheep 10.00@11.00
Culls and common 5.00@ 6.00

Reports for Wednesday, August 28th

BUFFALO.

Cattle.

Receipts 50 cars. The market rules dull. Prime heavy steers \$17@17.50; shipping steers \$16@16.25; plain and coarse \$13@14; best yearlings 950 to 1000 lbs \$15@16; light yearlings, good quality \$13.50@14.25; best handy strs \$12.50@13.50; fair to good kinds \$11@12; handy steers and heifers, mixed \$10.50@11.50; western heifers \$11@11.50; best fat cows \$10@11; butchering cows \$8@9; cutters \$6.50@7.50; canners \$5.50@6.50; fancy bulls \$10.50@11; butchering bulls \$9@10; common bulls \$6.50@7.50; best feeders, 900 to 1000 lbs \$9.50@10; medium feeders \$8@8.50; stockers \$7.50@8.50; light common \$7@8; best milkers and springers \$70@150.

Hogs.

Receipts 10 cars; market is steady; heavy \$20@20.50; yorkers \$20.75@21; pigs \$20.25@20.50.

Sheep and Lambs.

Receipts two cars; market steady. Top lambs \$17.50@17.75; yearlings \$14@15; wethers at \$13@13.75; ewes at \$11.50@13.

Calves.

Receipts 1,500; market strong; tops \$20; grass-fed \$7@9.

CHICAGO.

Cattle.

Receipts are estimated today at 12,000, making a total of 50,500 head received in three days, comparing with 39,500 for the first half of last week. The market is steady, and the 18.90 cattle of yesterday were followed by a sale today at the same price, which is a record breaker. There is not much change in steer prices this week, although some undesirable lots have sold lower. A fair part of the steers have sold at reasonably high prices, but a large share of the receipts consisted

No. 1 clover 20.00@21.00

Pittsburgh.—While receipts are a little more liberal, they continue to be very light and are quickly absorbed at the ruling high prices, which are as follows:

No. 1 timothy	\$30.50@31.00
No. 1 light mixed	28.50@29.50
No. 1 clover, mixed	27.00@28.00
No. 1 clover	27.00@28.00

POTATOES.

With the extension of shipping to a large number of the commercial states of the north, supplies at primary markets are being replenished and prices are not quite as firm as they have been. Shipments for the country on August 27 amounted to 464 carloads. At Detroit prices range from \$3@3.40 per cwt. In Chicago a weaker feeling prevails at \$2.40@2.45 for the sacked stock. The Pittsburgh market is well supplied with the bulk selling at \$2.80@3.15 per cwt.

BUTTER.

Markets for butter are steady to higher. Buying is on a very liberal scale in the majority of the markets, and stocks are being well cleaned up. At Detroit fresh creamery extras are higher at 45c and do firsts at 44 cents. The New York trade is also paying more for creamery stock, the range there now being 45@48c. Western creamery extra is quoted at 47c on the Philadelphia market. At Chicago range for creameries is 41½@45½c. Last week's average price at Chicago is 44.6c, which should serve as a weekly settlement basis.

CHEESE.

A firm tone prevails throughout the cheese markets, with an occasional point where advances are reported. At Detroit flats are bringing 26@27c from jobbers and daisies 26¼@27c. The New York market is firm, fresh specials selling at 26¼@27c, and do average run at 26¼c@26½c. Full milk grades are selling at 26@27c in Philadelphia.

EGGS.

"Advanced prices" is the report from the various egg markets. Supplies are running short, while the demand is urgent because of high-priced meats. Jobbing prices at Detroit for candled receipts from state are 40½c for current run and 42c for firsts in new cases. The Chicago trade is getting 38@39½c for firsts and 36@37½c for ordinary firsts. The New York price for western stock ranges from 38@68c a dozen. Advances are noted at Philadelphia, with western stock quoted at \$13.80@14.70 per case.

POULTRY.

There is very little business being done in poultry these days. The following prices are being paid to receivers in Detroit: Broilers 29@30c per pound for small and 33@34c for large; hens 32@33c; small hens and Leghorns 29@30c; roosters 19@20c; geese 19@20c; ducks 28@30c; turkeys 24@25c.

DETROIT CITY MARKET

A lot of business is being done at the municipal markets these days. Generally speaking, prices are fairly satisfactory to the sellers. Tomatoes are bringing \$1.25@1.50; peppers \$2; egg-plant \$2; cucumbers \$1.25@7, according to size; onions \$2; cabbage \$1.90; potatoes \$1.90@2.10; apples 75c@2; crab apples \$4; eggs 55c.

Yardage on cattle and horses in the Chicago Stock Yards has been advanced to thirty cents a head, calves to twenty cents, hogs to ten cents and sheep to seven cents. The increase on cattle, calves and horses is five cents and on sheep two cents. This is the first advance in rates made in fifty-two years, and it became necessary because of the Alschuler decision increasing the wages of employees.

IN NEXT WEEK'S ISSUE.

Earl W. Gage, Secretary of one of the successful Federal Farm Loan Associations, will tell Michigan Farmer readers how this system is helping the farmers to finance their business.

Prof. E. C. Foreman, of M. A. C., will discuss the feeding of the farm flock from the standpoint of the man who is endeavoring to develop this branch of his farming.

Still another high price for fat cattle was recorded in Chicago the other day when a sale took place at \$18.90, being \$2.40 above the highest price paid a year ago, with \$16.50 up to that date the high record. Steers selling at \$16.50@17.50 which can be used for beef for the army are having a ready sale, but light steers selling at \$15.50@16.40 are in slow demand.

Secretary McAdoo announces that the war finance corporation has completed plans for making direct loans to those interested in the raising of live stock, and agencies are to be established in Kansas City and Dallas.

FEEDING SOW AND PIGS.

I have a feeding problem that I would like advice on. I have a young sow with nine pigs one week old. I want to feed oil meal, middlings, ground oats, and cut clover mixed and steamed. In what proportion may this be most profitably used? Ground oats are worth \$2.95; oil meal \$3.30; middlings \$3; clover is worth around \$15, but this I have. Will the feeding value of clover be increased by grinding? I have a feed mill, and after harvest will have our own oats which contain a small per cent of peas. I am thinking of keeping the litter of pigs over until another season, breeding the sow pigs to have them farrow in June or as near as may be. For winter feeding there will be an abundance of carrots and stock beets, also sugar beet pulp if our plan of making our own beet syrup materializes. Our idea is to grow the pigs as cheaply as possible on roots and clover, both green, and cut and steamed. Is it likely to pan out well? Emmet Co. M. N. E.

The feeds you mention are excellent for sows and growing pigs. A ration made up of 100 pounds of middlings, 100 pounds of ground oats and forty pounds of oilmeal should give good results, especially if supplemented by cut clover steamed and mixed with the grain feed. Your idea of growing the pigs as quickly and cheaply as possible seems entirely practical and possible with the feeds you have at hand. There is going to be a heavy demand for pigs another year, and I believe that you are doing the proper thing in keeping over some young sows. W. M. K.

Veterinary.

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

Cow Bitten by a Rattlesnake—Barrenness.—Early in May one of my young cows was bitten by a rattlesnake and a large bunch formed on the left side of her body, in front of her bag. At first I applied turpentine, then bound mud on it. This drew it to a sort of head and developed into a running sore which healed in a week or so. It healed all over, but a bunch remained and it seems that all the pus did not drain out, as this bunch is now larger than a man's fist, but is soft. It has been so hot that I feared infection if I had it lanced. She is due to freshen the last of October, this making her second calf. What would you advise me to do? I have another cow that has had three calves; she was fresh the middle of March; since then she has been bred seven or eight times without getting with calf. She does not come in heat at regular periods. She has been a good cow and I hate to see her go to the butcher. F. C. R., Miller, Mich.—Give your cow 1 dr. of potassium iodide at a dose in feed or drinking water twice a day, and if you are certain that the bunch is not hernial, then it should be opened for perhaps it contains serum or pus which should be let out. Then swab center of sack with tincture iodine occasionally and the bunch will soon subside. Now regarding your other cow, her coming in heat oftener than every three weeks leads me to believe that her ovaries are in a cystic condition and doubtless she is incurable; however, this can only be determined by having her examined by a competent Vet. who can then ascertain by a rectal and vaginal examination what condition she is in. Giving or applying drugs is not considered very good practice in these kind of cases.

Chronic Mammitis.—I am anxious to know what ails my cow and what to do for her. She is eight years old, came fresh last January. About a month ago her teats became sore and after a few days she commenced giving stringy milk from two of them; now one-half of udder is hard and inflamed. The milk has a strong bad odor, and she has lost considerable flesh. J. C., Atlanta, Mich.—Give your cow one pound of epsom salts in three pints of tepid water as a drench—one dose only. Apply one part fluid extract of phytolacca and four parts of olive oil to caked portion of udder twice a day. Give her two table-spoonfuls of formaldehyde at a dose in feed once or twice a day for a few days. This cow should be carefully milked clean twice a day.

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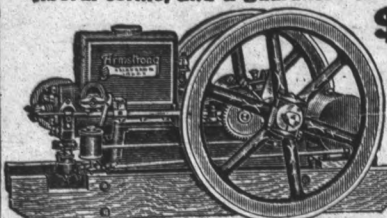
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28 gauge painted 2 1/2 in. corrugated, overhauled siding sheets; 5 1/2 ft. long. No. JB-306, per 100 sq. ft. \$2.00.

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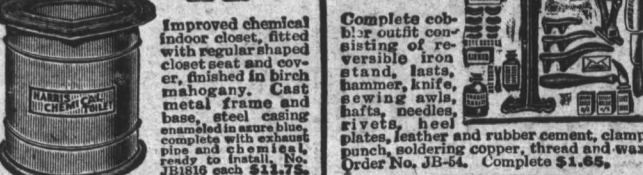
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