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Keep the Corn Growing

By Earle W. Gage

WITH paper and pencil it is an easy matter to get a yield of one hundred bushels of corn per acre—but with a cultivator, it is another matter. An acre of corn with the hills three feet six inches apart each way, two stalks per hill, contains about 3,550 hills, or 7,100 stalks. If each stalk produces an ear weighing one pound we have as many pounds of ear corn to the acre as there are stalks—7,100 pounds, or one hundred and one bushels. There is not much difficulty in producing ears that weigh a pound each; many will range up to a pound and a half. And even if the average ear should weigh only three-quarters of a pound the yield would run up to seventy-five bushels an acre when the stand was perfect.

Good seed in a well-prepared soil, fertilized properly, must be followed closely by judicious cultivation, since demonstrations clearly show us that cultivation is one of the big items of producing profitable corn crops.

There is no one method of cultivation that is adapted to all soils or to all seasons and each season brings its individual problems for the corn grower to solve. Every farmer then must necessarily work out his own methods, but there are a few well defined objects that if clearly understood and followed, will enable him to determine the best methods of cultivation for his conditions.

Corn is cultivated primarily for two reasons, to conserve soil moisture and to keep down the weeds. Other things are also accomplished, such as setting free or making available the insoluble plant food that is in the soil and bringing about a better aeration of the soil. If the seed-bed has been prepared well before planting, however, these effects are of minor importance, as they are accomplished by the stirring of the soil when the ground is being plowed and prepared for the crop. If the seed-bed has been well prepared the best part of the cultivation is done and the remainder will not be a difficult matter. If it was not worked well, and the ground was plowed too wet, or the stalks or sod were not thoroughly chopped up, trouble may be expected when the first cultivation of the corn begins. No amount of cultivation given the corn plants can be so effective or economical as that given before planting, nor can such cultivation be expected to take the place of good seed-bed preparation.

There is usually sufficient rainfall during the spring and early summer in a normal season to afford sufficient moisture for the crop if it is not allowed to waste. Unfortunately, a great deal is wasted and our crops often suffer

from lack of moisture during the hot and dry months of July and August. If the ground is kept loose and friable, much of the water from the spring and early summer rains will soak into the soil and be saved instead of running off the surface and often washing the land badly.

If the surface of the soil is stirred frequently, especially early in the season while the corn is small, this will make a loose dry layer on top that will act as a blanket spread over the

the most important factor in the cultivation of corn. The amount and kind of cultivation necessary must be very largely based upon its effectiveness in destroying weeds. In very dry seasons, after the corn is once well cleaned, weeds are of secondary importance, since the cultivation given to conserve moisture will keep them under control. If the season is exceptionally wet, however, or if the ground has become foul with weeds from lack of proper care, removing the weeds and



Legumes Increase the Roughage Yield of the Corn Field.

ground and will keep much of the water from evaporating. This mulch holds the water in the soil where the plant roots can take it up instead of allowing it to pass off into the air and be wasteful. In preparing the seed-bed for corn, and in cultivating, the grower should keep in mind the idea of absorbing as much water as possible from the spring and summer rains and storing it in the soil where the plants can make use of it.

The destroying of weeds is usually

grass is the main object of cultivation. Weeds should not be tolerated in the corn field at any time, for they interfere with the growth of the plants and use up plant food and moisture that otherwise would go to the corn. Ragweed, milkweed, pigweed, cocklebur, smartweed, morning glories and button weed, are a few of the troublesome corn field weeds, beside the various thistles. All these weeds are easily killed as they are coming through the ground, but if allowed to get well

started, it is often a difficult matter to get rid of them.

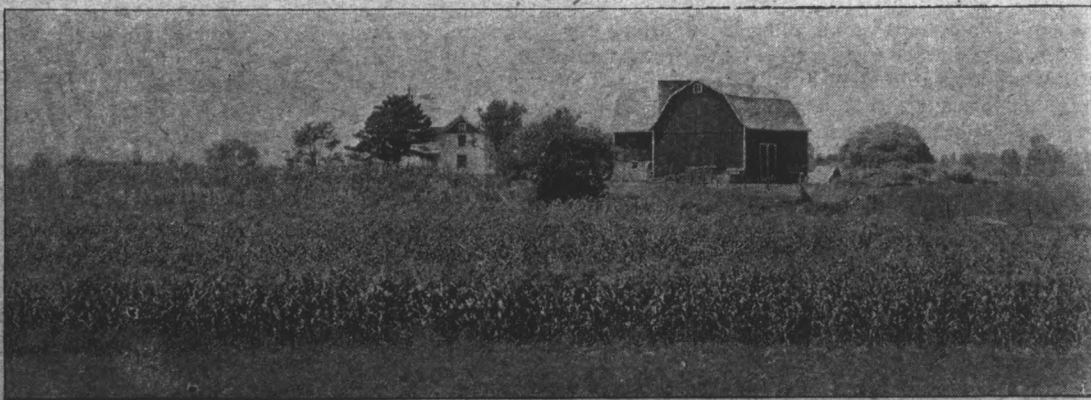
Usually cultivation of corn should start by harrowing lightly before the corn comes up, or at least once or twice before the corn is large enough to cultivate with the cultivator. This is an especially good method if planting has been followed by a rain that has packed the soil and caused a crust to form on top through which the plants cannot break. Early harrowing will conserve moisture by stirring this top soil, kill the weeds and grasses which have started and throw out more seed to sprout and be killed by later cultivation. An ordinary spike-tooth harrow or weeder is best adapted to this work. If conditions will permit, it is well to harrow once before the corn is up, and again before it is large enough to cultivate in the ordinary way.

When the corn is large enough to cultivate, it should be plowed fairly deep and close the first plowing so as to kill all grass and weeds that may have escaped the harrow. Cut the fields cleaned out as early as possible, for it is more easily done than later. Subsequent cultivations should be shallow—not to exceed two or three inches—and should be given every week or ten days and as soon after every rain as possible. Rains tend to beat the soil particles together and form a crust, which causes much loss of water by evaporation. In dry seasons keep a mulch on the ground all the time if possible, especially early in the season while the plants are small.

In general, shallow and frequent cultivations are best. This will make the most effective mulch and will not disturb the corn roots. Deep cultivation cuts off many of the feeding roots of the corn which extend out in all directions from the plants four to five inches below the surface of the soil at a time when they are badly needed to supply moisture and food to the plants.

On some heavy clay soils of the level sections deep cultivation to afford aeration, and ridging to afford surface drainage, is advisable. In most cases, however, shallow and level cultivation after the corn plants are from eighteen to twenty inches high may be expected to give best results.

The Indiana Experiment Station has demonstrated that for a four-year average the yield of corn cultivated three inches deep was 50.8 bushels per acre, while that cultivated two inches deep yielded 53.5 bushels. Missouri and Illinois stations have figures showing greater yields of corn over a period of years where the crop was (Continued on page 32).



Well-cared-for Corn Fields Help in the Production of After Crops.

The Michigan Farmer

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VOLUME CLIII. NUMBER TWO

DETROIT, JULY 12, 1919

CURRENT COMMENT

Economical Production Important

IN these days of high prices and record wages for farm help the problem of maintaining the production of farm products at a profitable level takes on added importance. We hear much talk of the necessity of higher prices for farm products, but where will higher prices lead us if we neglect the principles of economical production. There is no lack of knowledge on common matters of everyday farming, but there is a vital need for the practical application of what we already know. The results of experience and research work in determining the cost of production figures and the amount of labor a man can perform during a season are of real value only in case they are studied and applied.

Hardly one farm in ten is equipped with the proper apparatus to insure economical production per laborer employed. Take, for instance, the various implements of tillage. How few farmers realize the importance of these implements being of proper size, weight and efficiency to meet the requirements of the available man-power and horse-power on the farm. The real exceptional successful farmers have answered the appeal for more farm products because they have studied labor and production problems and are in a position to increase their output to the limit of profitable farm yields. It is the farmer who has been content to produce only a fraction of what his farm is capable of producing under good management who should spend thoughtful hours planning for increased production. In the great food emergency the farmer with a small business may become the deciding factor in solving our food problems. By taking a new view of his business and studying prices of different products he may see clearly that he has been making a mistake by putting his personal labor and knowledge into the growing of four acres of potatoes or caring for six dairy cows. While he may have made a comfortable profit from his small acreage or herd, he has nevertheless been needlessly handicapped in his operations because he did not have proper cultural implements or a well-arranged stable.

With farm products at present prices the road that leads toward a more extensive business with greater profit is not far to seek, but is usually right at hand and consists mainly in such a simple procedure as figuring to make the most efficient use of the help and equipment already at hand. Many

times the purchase of additional machinery may turn some ordinary low-paying crop into a real profit-maker, or a few hundred dollars expended in remodeling a stock barn may change it into a suitable one that could accommodate all the animals the farm could carry, and give profitable employment for the owner during the winter months. And it must be kept in mind that the winter time in Michigan is the auspicious season for the farmer to get good returns from live stock. The fact that prices are soaring, and so many farmers are selling their animals to avoid hiring extra help is giving an opportunity to men who have small farms and believe in stock to put their time, labor and knowledge to most profitable use.

Such problems as tile-drainage and the use of fertilizers have an entirely new aspect since farm labor has become the big factor in determining the cost of producing farm products. It is certain that no immediate problem of general scope is of wider interest or greater importance than that of getting our low-producing acres up to a condition to yield profitable crops. It required a jolt such as the war has produced to make some of our farmers realize how impossible it is to maintain a profitable system of farming on unproductive lands. The men who have fertile land and good equipment are prospering in spite of the labor shortage and general rise in the cost of operating charges, because they can produce a good crop from a minimum of labor, while the man with poorer land is being forced to work harder to wring an almost dry sponge.

In the future we must think more and more in terms of bushels or pounds rather than of acres. The measure of a year's profits depend upon how many bushels or pounds a man's labor can produce, and not upon how many acres he can plow, sow and cultivate, or how many cows he can milk. It costs a whole lot more to employ four acres to grow the same crop that might be grown on one acre. So far as the hazard of weather is concerned, we know that its ill-effects are far greater on poor land than on rich land. It is the same with other things. We know that it costs very much less to produce six hundred pounds of butterfat from one cow than from four.

As soon as we begin to think of bushels and pounds rather than of acres, productive efficiency begins to loom up. We begin at once to put our land in shape to produce larger crops per acre. When we used two acres to do the work of one we thought lightly and feebly of the question of labor charges. Now we see clearly the advantages of producing more to the acre. Now we are faced the right way to see the whole question of farming in its true, economic light. Let us resolve to raise a larger number of bushels or pounds of products from a less number of acres or smaller expenditure of man-power.

Two Blades of Grass

THE desirability of making "two blades of grass grow where one grew before" has, in times past been a much debated question. Many farmers who have in bygone years seen prices for farm products fall to a low and unprofitable level have naturally come to associate this slogan for increased production with the idea of over-production, when given a figurative application. But with shortened hay crops resulting from last season's unfavorable weather conditions in mind, its liberal application has a very different meaning. The majority of Michigan farmers who were so unfortunate as to lose their new seedlings of clover last year would have been glad to increase their hay crop in this ratio. And very many of them could provide the means of accomplishing this desir-

able result in similar future emergencies if they would observe and profit by the object-lessons to be found in their own or nearby communities.

Wherever, a field of alfalfa is seen, and they are to be seen in many widely scattered Michigan communities, the yield of hay has been fully twice the average for the community, except in favored localities where new seedings of clover were good, and even in these cases the comparison will probably hold good for the season, as the alfalfa has started right in to grow another good crop. And one year with true in almost any community where alfalfa is successfully grown. True, this crop requires special preparation of the soil by liming and inoculation in many if not most Michigan soils, but the result quickly justifies the expense, as indeed it would in the production of clover or other legumes as well as alfalfa. Under present conditions of high hay values and a serious impending shortage of clover seed it would pay every farmer in Michigan to study these object lessons in his own community and profit by the experiences of his neighbors in the growing of this great forage plant which has been demonstrated to succeed almost anywhere in Michigan where the proper conditions are supplied.

Building and Equipment Needs

THE increased cost of both labor and materials since the signing of the armistice has not served to stop urban building to any great extent. The serious housing condition in industrial centers, due to enforced cessation of building during the war, has compelled the resumption of home building regardless of cost. Resumption of business activity on a peace-time basis has also called for industrial expansion in many directions, notwithstanding the generally increased cost of manufactured articles. "Business as usual" is more effective as a peace-time program than as a war slogan. The apparent general confidence in the future of business conditions favors a continuation of this program. It seems to be generally conceded on every hand that any future readjustment of values will be gradual rather than sudden, hence the building and industrial activity above noted.

Farm building has been resumed to a very considerable extent though perhaps not in the same proportion as city building because of abnormal need in the latter case, as well as because of the fact that the country has been drained of skilled mechanics through war activities rather than because of the increased cost of building operations. Labor is the predominant factor in the cost of materials as well as of manufactured articles, and a careful analysis of the labor situation seems to clearly indicate that labor costs will continue at a high level for some time to come. From the farmer's standpoint this is not an unmixed evil for the reason that high-paid labor means maximum consumption and a continued high range in values for farm products. It also means that from the standpoint of utility and economy in the handling and saving of crops that needed building and equipment will be just as profitable an investment for farmers under conditions which now obtain, and which seem likely to obtain for a considerable period, as was the case when their cost was very much less than it is at the present time. Indeed, so far as they may contribute to the saving in labor or of crops, they will prove a better investment than when farm labor was more plentiful than is now the case.

It is thus apparent that actual building and equipment needs should be considered just as carefully by every farmer under present conditions as was the case under pre-war condi-

tions, since efficiency in the operation of the farm has become a greater factor in its financial success than it has ever been in the history of American agriculture.

News of the Week

Wednesday, July 2.

WASHINGTON calls on Mexico to punish bandits who recently robbed and murdered American citizens.—The giant British dirigible R-34, which is 634 feet long and carries 12,000,000 cubic feet of gas, starts on her flight across the Atlantic.—Poland pledges to give special protection and religious freedom to her Jewish population.—A rear-end collision on the New York Central near Dunkirk, New York, caused by failure of the breaks to work, resulted in twelve deaths and a score of persons being seriously injured.—Canada's commission on industrial relations give unqualified approval of the right of workmen to organize and to bargain collectively.—The house passes army appropriation bill carrying a total of \$764,000,000.—Forest fires are reported to have done thousands of dollars worth of damage in upper Michigan.

Thursday, July 3.

UKRAINIAN resistance to the Poles is broken and the Lemberg-Halicz-Stanislaw railway is now in Polish hands.—The boys of the 339th who fought in northern Russia, arrive in Detroit.—Dr. Anna Shaw, the aged suffrage leader, dies at the age of seventy-one at Moylan, Pa.—The solidarity of southern China is threatened by hostilities between troops from the provinces of Kwang-Si and Kwang-Tung.—Mexico protests against American troops crossing into that country and the smuggling of arms and ammunition to rebels in northern districts.—America's foreign trade for the first six months of 1919 amounts to \$6,806,000, the largest total in the history of the country.

Friday, July 4.

BOLSHEVIST troops are routed at Tzaritzin in southern Russia.—London is selected as the trial seat of ex-Kaiser Wilhelm of Germany.—The London Times publishes a special Fourth of July edition in which England acknowledges America's great assistance in the war.—Forty students in the military college at Budapest, are executed by order of the Hungarian Soviet government.—British dirigible R-34 passes Newfoundland in a trans-Atlantic flight from Scotland to New York.—Jess Willard loses heavyweight pugilistic championship of the world to Jack Dempsey in three rounds.

Saturday, July 5.

BELGIUM asks to be made a party to the alliance between the United States, England and France.—Great Britain insists that Germany deliver seventy-one Hun officers, including submarine commanders, to be tried by an international court.—The lower house of congress rushes bill providing for the deportation of all undesirable aliens.—A new campaign is to be started in Mexico by the Industrial Workers of the World.—During the first half of 1919 there were fewer business failures in the United States than for any equal period since 1881.

Sunday July 6.

DIPLOMATS predict that the former German emperor will not face trial before a special tribunal, but that a powerful junker organization in Prussia has planned for the avoidance of this trial.—American war ships rush to the aid of the British dirigible R-34, but 170 miles northeast of Boston.—Berlin is hurrying arrangements for the resumption of diplomatic relations with Russia.—The red flag has been hoisted in many places in the Romagna district of Italy where people are revolting because of the high cost of living.—Premier Clemenceau of France starts work on the reconstruction of northern France.—French labor unions call a general strike.

Monday, July 7.

THE British super-dirigible anchors at Roosevelt flying field, Long Island, completing the first trip across the Atlantic with a lighter-than-air machine.—The Italian movement against the high cost of living is spreading from the Romagna district to Emilia and other provinces of central Italy.—The German assembly has introduced a bill for ratification of the peace treaty.—Soldiers of the 339th who have arrived at Camp Custer are mustered out.—Major Allen will succeed Lieutenant Liggett as commander of the "forces on the Rhine."

(Continued on page 46)



Our Wide-Awake Guernsey Breeders

Hold Annual Meeting at Niles

THE summer meeting of the Michigan Guernsey Breeders' Association held at the beautiful farm home of Ballard Brothers, two miles southwest of Niles, on June 14, proved one of the most enthusiastic and successful gatherings ever held by this live and rapidly growing organization. More than three hundred of the leading breeders and farmers of Michigan and northern Indiana being present.

Prominent among the breeders present were many boys who are finding the beautiful Guernseys profitable farm companions. These boys have found calf clubs a great stimulus in encouraging them in their work and increasing their desire to become better breeders and farmers. This is a step in the right direction, and the Guernsey breeders of the state of Michigan are to be congratulated upon their good work in promoting boys' calf clubs in several localities. Some of the boys brought their girls along and were busy explaining how a few good Guernseys would return sufficient profit to provide modern home conveniences and make the life of a farmer's wife more attractive than life in a big city.

New price standards recently set by the Guernsey breed have established values never before approached. At a recent sale in New Jersey a bull calf brought \$25,000 and a cow \$12,500. Such sales have awakened Michigan Guernsey breeders to a realization of the value of the animals in their herds, and are proving an inspiration to young men to get into the game of breeding high-class Guernseys at a time when the country is short of good dairy cattle of all breeds.

The pictures shown herewith prove our assertions that the future holds unusual promise for the man who knows how to breed good Guernseys and who has the nerve to invest in a few really good breeding animals. Never, in the estimation of the writer, were conditions quite so favorable for farmers who have good land and modern dairy conveniences to buy a few good Guernsey cows and a superior sire and gradually develop a herd of choice breeding cattle. The picture in the field near the barns is a good view of Ballard Brothers' herd.

Another view is of the barns. And

we hadn't looked at these barns for a half minute before we could see in our mind's eye how the Ballard boys started out some years ago on a small scale with little money to grow into the dairy business. As their herd increased they added a lean-to to the old barn that their father built some time since 1852. Then an extension was put up, later on another lean-to, then another, until the barn looks like the well-built and substantial structure you see on this page.

This cow barn is a lesson for and an invitation to the farmer to go and do likewise. No need of a big bank account to use in the erection of an immense basement barn with expensive equipment to start in to keep fine Guernseys or any other breed of dairy

cattle. With alfalfa and ensilage the cost of feeding cows is reduced to the lowest possible notch. Scrub cows boarded on over-ripe timothy, June grass, corn meal and bran, do not pay in dollars and cents.

Glen Clark, president of the Berrien County Guernsey Breeders' Association, presided during the afternoon program. The leading speaker was E. A. Onsrud, extension service man of the American Guernsey Cattle Club. E. J. Smalley, president of the Michigan Guernsey Breeders' Association, was present, also Secretary A. M. Brown, of M. A. C., and several county agricultural agents from both states. A fine dinner was served on tables set under the oaks.

The Ballard Brothers consist of two



cattle. It shows how the Ballard boys started in with grit to do the best they could with what they had on hand. And they added thereto from time to time as they could see their way clear to make things a bit more convenient and comfortable. And in so doing they built up the big cow stable as a sort of basement extension and retained the same level in all the stable flooring. The ceilings are high enough, and provision is made by means of commodious ventilators along the side walls to keep the air circulation as good as in any modern stable.

Out in the alfalfa meadow we found hay that would yield two tons the first cutting. Alfalfa on a dairy farm makes a dollar look bigger than fifty cents

members, Harry is the live stock man and Ralph is the fruit manager. There is an apple orchard of about thirty-five acres on the south side of the road on rolling land that is nicely adapted to fruit growing. This apple orchard has produced many thousands of dollars worth of fine apples and the trees are still in their early youth. Trimming and spraying has made these trees almost perfect for their mission in life. They are now low-headed, and those we saw were already well loaded with apples.

Several near-by breeders brought some of their young stock for display, so that there were plenty of Guernseys to look at and admire all around the place. This farm of one hundred and

fifty acres resembles an English estate, with its rolling surface and many large white and burr oak trees scattered around the fields.

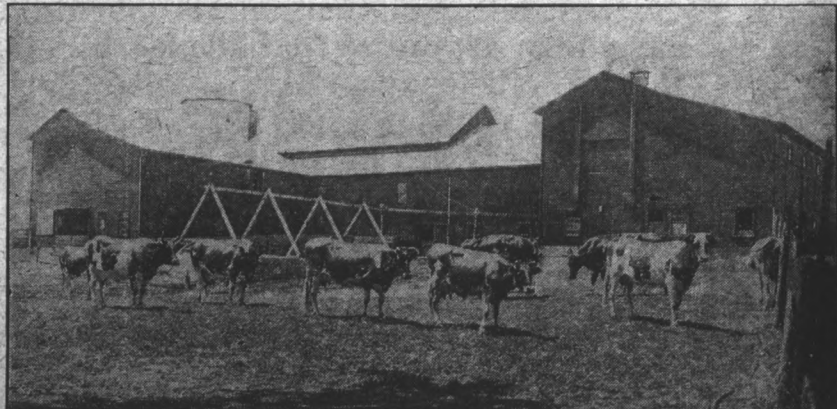
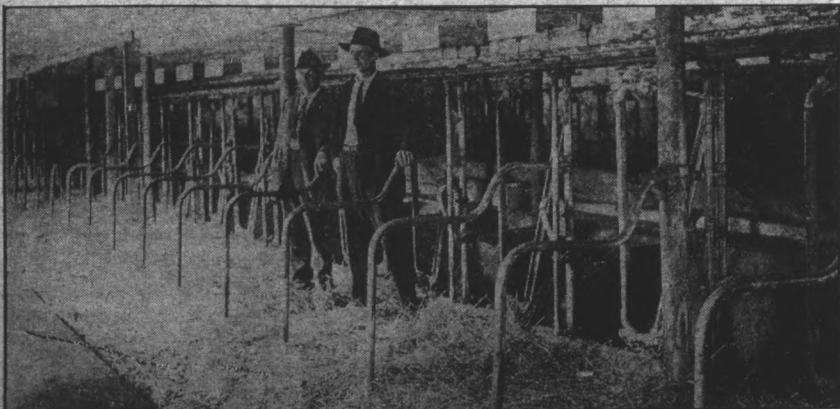
PLANS TO EXPORT PURE-BRED STOCK.

TO work out plans for increasing the exportation of pure-bred breeding stock from the United States to South America, David Harrell and H. P. Morgan, of the Bureau of Markets, will go to South America as representatives of the United States Department of Agriculture. They recently conferred in Chicago with secretaries of various breeding associations. Secretaries representing all breeds of hogs and all but two of cattle attended. Ways and means of stimulating interest among South American stock raisers in importations of pure-bred stock from this country were discussed. It was planned to send a shipment of hogs to South American live stock shows. This plan, it is believed, is one of the best ways of introducing to the South American stock raisers the quality of animals now being grown in the United States.

POTATO SEED INSPECTION.

FOLLOWING the plans agreed upon by the New York State Potato Growers' Association, at its annual meeting last winter, the county farm bureaus in the state are organizing potato growers who desire inspection of the growing crops this season preliminary to offering the tubers for sale as certified seed another season. The work is under the direction of the New York State College of Agriculture, and a charge of three dollars an acre will be made, with the provision that any funds not expended in the inspection service shall be returned to the growers at the end of the season. The service includes two inspections while the crop is growing and a final inspection of the tubers after they are dug.

It is the purpose of these inspections to enable the up-state growers to produce certified seed of high quality in sufficient quantities to supply growers on Long Island, in New Jersey, and southern early potato growing districts.—E. E. R.



The Standard Oil Company (Indiana) and the Automobile Industry

PROBABLY no existing industry serves such a useful purpose in so many ways as the automobile industry, and certainly no industry has had such a meteoric increase in proportions.

Such an increase would have been impossible of accomplishment if a market for moderate priced cars had not been found, and without the Standard Oil Company (Indiana) it would have been impossible to find this market.

When only the rich could afford an automobile the Standard Oil Company (Indiana) had the vision of most everyone driving his own machine.

The Company set out, not to find a way to make gasoline prices higher, but to keep them low in the face of the enormous demands made by the automobilists, which in the average industry would have caused abnormal increases in price.

The efficiency of the Standard Oil Company in making a constantly increasing number of by-products has kept down the price of gasoline and enabled the man of modest means to run an automobile after he got it.

The Standard Oil Company not only makes gasoline to sell at a low price, but to fit the requirements of the modern automobile engine in such a manner as to enable the owner to get out of his car all that the manufacturer designed it to produce.

This is a salient example of the usefulness of the Standard Oil Company not only in contributing to the success of other industries, but in discharging its obligation as a public servant so that all may benefit from its efficiency and by its operations.

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1564

Experience with Everbearers

By Anna W. Gallagher

IN the spring of 1917 the writer planted a small patch of the two best known varieties of everbearing strawberries—Progressive and Superb—about half and half, there being ten rows, about one hundred and fifty feet long, and fifty plants in each row. That is, there were five hundred of the original plants. Only a few died. The vacancies were filled in, later, with runner plants.

The spot selected was a piece of bottom land near a small creek, but well drained. The soil is not rich, being somewhat gravelly. It might be called clay-loam mixed with gravel—not an ideal soil for strawberry culture. But the location helped to offset other disadvantages, because, during a severe drouth, the near-by creek saved the patch from burning up. A garden hose helped, greatly, in keeping the plants alive.

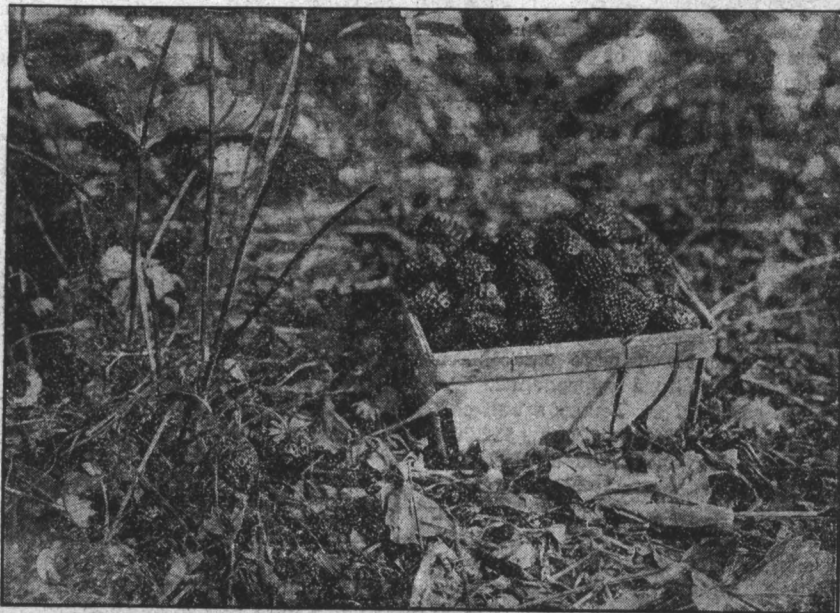
The plants were set in April while the soil was still cold and damp. We never had much success with strawberry plants set out after the soil had become warm and mellow. Every beginner should bear in mind that one of the most important points is this: Plant strawberries as soon as the ground can be worked. And here are a few more points: Procure good, strong plants, of perfect flowering varieties, unless you understand the mating of imperfect varieties. If you prune the roots, don't prune too close

But why use hen manure at all if it is dangerous? We have two very good reasons. First, we have a constant supply at all times. Second, it is, by far, the best fertilizer for small fruits that we have ever used.

Potash may be supplied by using wood ashes. A good way to use wood ashes is to apply broadcast before the plants are set.

As soon as possible, after plants get started, we begin hoeing to keep down weeds, for, after all, this is probably the most important part of strawberry growing. If this work is neglected, the chances are that the patch will go to weeds in a short time. Nothing could be more disastrous. It is safe to assume that more small strawberry patches are destroyed by weeds, the first or second season, than by all other causes combined. We use both wheel-hoe and hand-hoe, also horse-cultivator.

Some growers recommend the hill system for the everbearers, but the writer has never had any success with the hill-method, neither with the everbearing nor the standard once-a-year varieties. Perhaps our soil is not suitable, because it is naturally rather thin. However, the single or double hedge-row will, in every case, give better results, we firmly believe, especially with Progressive. At any rate this has been the writer's experience. Remember, we do not claim that all vari-



eties do better thus planted, but we than too much. This applies to the much prefer it to the hill-method tops, also. When removing the outer leaves, the greater part of the stems should be left intact.

Never set old plants. If you must use plants from an old patch, be sure that you are getting young plants that have never borne a crop. Even then, there is little to be gained except on a small patch for home use.

To return to the original text: As no fertilizer was used before the plants were set we decided to use a top-dressing between the rows and around the plants. If a quantity of well-rotted barnyard manure had been worked into the soil, no other fertilizer would have been needed. However, there being none at hand we decided to substitute a liberal top-dressing of poultry droppings, soon after the plants were set. It is necessary to get this work done as early as possible. There is always danger in using fresh poultry fertilizer among strawberry plants unless great care is used in keeping it from coming into direct contact with the plants. Therefore, we apply it before the runner plants start. After a few good rains it will not injure the young plants, but if the roots happen to come in contact with it frost, during a dry spell they will shrivel and turn brown.

where large berries are wanted.

As a rule, we grow all varieties in wide rows; not "matted" but more or less good, strong runners are placed some distance apart where they are wanted, while the small worthless runners are removed. The first runners are nearly all destroyed. Likewise the fruit buds and blossoms that start just after the plants are set. All blossoms are removed from the everbearing plants up to July 1 or later, according to the weather. During the years 1917-18 the summers were so dry and warm that it was a task to keep newly-set plants from burning up. Therefore, it was not deemed advisable to permit the everbearing plants to exhaust themselves by bearing a crop during the dry weather.

After the drouth ended, about August 15, 1917, we let fruit buds form on half of the patch of everbearers and began picking ripe berries in September. We picked over five bushels of Progressive berries before winter set in; the last berries being picked on November 2 after several hard frosts. Where the berries were protected by the young plants, but if the roots leaves, they were not injured by the frost, to any extent, but of course, where the berries had no covering of

(Continued on page 32)



UNIFORM RAILROAD TARIFF OPPOSED.

FRUIT and vegetable interests in New York state are unanimously opposed to the proposed new railroad tariff covering shipments of perishable products, and known in shipping circles as the "perishable protective tariff." At a meeting held in Rochester on June 11, attended by upwards of one hundred representatives of the fruit and vegetable growers and shippers, it was charged that the proposed tariff, as drafted by the federal railroad administration, is inelastic to local conditions; does not take into consideration the special needs of New York state fruit growers and shippers; curtails adequate service; adds unreasonable burdens on the shipping public; increases cost of services, including icing charges, irrespective of the actual costs for such service, and generally relieves the railroads of responsibilities, which it is held that as public service corporations, they are bound to assume.

While one revision has been made of the original tariff, supposedly in the interest of the shippers, it was the sentiment of the conference that the tariff as a whole is impracticable. As a constructive result of the meeting, the Associated Fruit and Vegetable Industries of New York state was organized for the purpose of opposing the tariff, and securing rates and conditions that will be fair to all the interests engaged in the production of and handling of fruits and vegetables. It was voted to raise \$5,000 at once, with which to finance the fight.

It is the purpose of the combined organization to collect evidence showing the impracticability of applying the uniform tariff. Hearings are to be held at various points throughout the country at which the Interstate Commerce Commission, which has been delegated by the railroad administration to act in the matter, will receive the evidence submitted. The hearing at which New York state producers and shippers will present arguments, will be held in New York City September 2, and includes the New England states, Pennsylvania, West Virginia, Maryland, New Jersey and Delaware.

The International Apple Shippers' Association, New York State Horticultural Society, New York State Vegetable Growers' Association and New York State Association of Farm Bureaus are among the organizations backing this movement, the success of which will mean much to the fruit and vegetable growers, not only of New York but other states.—E. E. R.

EVERY MAN TO HIS OWN TASTE.

You don't know how many occupations there are open to disabled and handicapped men until you see the list of those which have been chosen by the disabled soldiers who are training with the Federal Board of Vocational Education. If the disabled soldier's choice is indicative of the trend there is no need to worry about getting men back to the land. They choose the land by hundreds, and agriculture leads in the courses they ask for. But they don't all want to farm. Here is one taking a course in horology, another in sculpture, and another in chemistry. It may be the influence of the motor corps, but auto mechanics is mighty popular, and the overseas trip has opened the eyes of some to the opportunities in foreign trade.

With such steady application and enthusiasm as these men in training are showing, old timers in the professions they enter must look to their laurels. The main offices of the board are at 200 New Jersey Avenue, Washington, D. C., but disabled men can usually be placed in training in their own home town, or near enough to enable them to see the home folks once in a while.

We Guarantee the Beams not to Bend or Break



-And There's no Time Limit to This Guarantee

WHEN you buy a John Deere Tractor Plow you get full protection against beams bending or breaking throughout the long life of the plow. You are protected by the material in the beams—extra strong, special John Deere steel. You are protected by the simple, binding guarantee of the maker of John Deere Plows. That is one of the many special reasons why you should choose

JOHN DEERE TRACTOR PLOW

Remember—

Genuine John Deere Bottoms—the kind you get when you buy a John Deere Tractor Plow—have a world-wide reputation for good seed beds, good scouring and long wear.

John Deere Quick Detachable Shares—the kind you get when you buy a John Deere Tractor Plow—wear exceptionally well and are easy to keep close-fitting. Loosen one nut to remove the share; tighten the same nut and the share is on tight.

Sizes—

Two-Bottom
Three-Bottom
Four-Bottom

Remember, a tractor plow in operation is subject to hard strains. The tractor does not "give," as horses do. If a beam springs, the plow will no longer do good work. That means a costly delay while the beam is being repaired. If a beam breaks there is a costly delay and the expense of a new beam besides.

The extra strong, guaranteed John Deere beams protect you against delay and expense.

Be sure to consider that important feature when you choose your tractor plow. And keep in mind these other features:

The extra strong beam braces are long lapped and securely joined to the beams with heavy bolts and lock washers. The frame stays rigid. The bottoms keep their proper alignment.

The simple, strong, positive power lift is trouble proof. It doesn't gather trash. Its few parts move only when the bottoms are being raised. There is practically no wear.

In every way you will find that the John Deere Tractor Plow has the downright quality to enable it to keep on doing the best of work year after year with fewest repairs.

You can hitch this plow to any standard tractor. Your John Deere dealer can furnish it to you in two, three or four bottom sizes. You can get it equipped with the type of genuine John Deere bottoms especially adapted to meet your requirements. See your John Deere dealer the first time you are in your town. Write to us for a folder. Ask for folder TP-115.

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is as profitable as Grain Growing

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Land at \$15 to \$30 Per Acre

—Good Grazing Land at Much Less.

Railway and Land Co's. are offering unusual inducements to home-seekers to settle in Western Canada and enjoy her prosperity. Loans made for the purchase of stock or other farming requirements can be had at low interest.

The Governments of the Dominion and Provinces of Manitoba, Saskatchewan and Alberta extend every encouragement to the farmer and ranchman.

You can obtain excellent land at low prices on easy terms, and get high prices for your grain, cattle, sheep and hogs—low taxes (none on improvements), good markets and shipping facilities, free schools, churches, splendid climate and sure crops.

For illustrated literature, maps, description of lands for sale in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., apply to Superintendent of Immigration, Ottawa, Canada, or

M. V. McINNES, 178 Jefferson Avenue, Detroit, Mich.
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Without a
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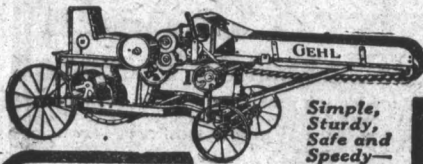
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Write for Catalog A so tell us height of silo, size of engine, size and speed of pulley and we will send you complete information about a Gehl Cutter that will exactly fill your requirements. Constant distributing houses in all sections of the country.

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111 So. Water Street WEST BEND, WIS.

WANTED: Woman to work as maid in office at State Psychopathic Hospital, Ann Arbor, Mich.



some counties they have been working for two or three years so that the total amount would be very much greater. When a young apple orchard is killed as a result of being defoliated by this pest it is hard to estimate the loss. When a clover seeding is destroyed the loss is not only that of the seed planted but the next year's hay crop is gone and the rotation spoiled, to say nothing of the fertility lost because the clover could not be turned under. Many an acre of the lighter soils has been laid bare because the cover crop was eaten. Last year many farmers had to sell all or part of their cows because he did not have the food for them, while others had to buy hay to tide them over. Many a farmer lost from a half to all of his oats, while others managed to save some by cutting them before they were fully ripened. There is no doubt but what grasshoppers have lowered farm values in some localities. In some cases, one in particular, the man had to leave his farm and go to work in town last winter, because the hoppers had eaten nearly everything. People who have not seen these pests at work in large numbers cannot realize the havoc that these critters can do in a short time. In less than a week a field of growing crops can be eaten down so that it looks like a plowed field.

The farmers in the infested district realize that the grasshopper must be put out of business or else they will be, so they have combined in a fight to the finish.

Grasshopper Day.

Each county is preparing to have a "grasshopper day." On this day men in the infested district will turn out and spread the poison on all of the breeding and feeding grounds. In some counties they will meet in some centrally located place and hold a "mixing bee" where the poison bait will be prepared. It will then be taken to different districts where it will be applied along the roadsides and fence rows, as well as in the meadows and pastures. The cut-over stump lands will also receive attention for that is the place where millions of young hoppers breed and later fly over onto the unprotected fields.

The Poison.

The poison used in the grasshopper fight will be the poisoned sawdust bait which is the cheapest known and has proven to be very effective against these pests. This bait is made by mixing a pound of poison, either white arsenic, Paris green, or crude arsenic, in a bushel of sawdust. The sawdust should first be screened to remove the big pieces. Into a gallon of water dissolve three-quarters of a pound of salt and add one-half cup of molasses. Slowly pour this into the poisoned sawdust while the mixture is being stirred. Add enough more water to make a good stiff "mash." This poison can be safely taken in the hands and spread broadcast. It should not be left in piles around the field, but should be well scattered. The best results from the use of this poison are to be expected when it is used late in the afternoon or early in the evening. Thus it will not dry out over night and will be fresh when the hungry hoppers go for it in the morning. If it is put in piles instead of scattering it cattle will eat it for the salt that it contains. When broadcasted as recommended it will settle down on the ground where the cattle cannot get it and experience has shown us that chickens do not care for it. Inasmuch as cattle are apt to eat this bait for the salt it contains it will be best to salt them before the poison is applied.

The greatest benefit of a campaign

like this can be obtained only when all of the farmers in a community, or in a group of communities, work together and spread poison on all of the grasshopper breeding grounds. One farmer using this poison without cooperation will get but temporary relief, and in order to protect his crops he must keep on using it throughout the summer, for the grasshoppers are sure to fly in from other breeding grounds.

NEW CANNING FACTORIES IN MICHIGAN.

THE canning factory is a valuable adjunct to any farming community, in that it helps to stabilize prices by utilizing surplus crops and creating an increased demand for them even when the yield is normal.

At Casnovia, a fireproof cement building is being constructed, which will be used for canning factory, cold storage and warehouse. The building will be one story, 50x156 feet, with basement. The owner is Mr. I. Kracer, formerly of Fort Wayne, Indiana. The investment will be about \$20,000. The citizens of Casnovia and vicinity are assisting financially.

Petoskey's newest industry is a canning factory. Mr. John M. Shields is secretary-treasurer and will have the active management of the enterprise, which has taken the name of the Petoskey Canning Company. We consider Petoskey a good location for a canning factory and we bespeak success for the venture.

The Lake Odessa canning factory will start operating its new plant at Lake Odessa about June 20. Peas will be canned first and will be followed by string beans and sweet corn. This concern plans to pack apples, also pork and beans and will employ from seventy-five to one hundred hands. Walter A. Reed, formerly with the A. J. Brown Seed Company, is general manager.

STATE MUCK FARMERS TO SEE DEMONSTRATION.

MUCK farmers of Michigan, gathered on July 15 at the Woodward Farm, Constantine, St. Joseph county, for their summer meeting, will study one of the largest and most valuable demonstration tracts of muck crops ever arranged in Michigan. Robert Zimmerman, manager of the Woodward Farm, the St. Joseph County Farm Bureau, and the Michigan Agricultural College are cooperating in the arrangements for the meeting and the demonstration.

Among the crops which are shown growing on muck at the St. Joseph county farm are different varieties of oats, barley, soy beans, corn, alfalfa, beets, and spring wheat. All of these crops are subjected to different treatments of fertilizers, and interesting tests on the proper amount of seed to use on muck are also shown. The demonstration, which covers about nine acres, is probably the largest of its kind ever held on a private farm in the state.

"The meeting is to be held in the form of a picnic on the banks of a lake near the Woodward farm," says Ezra Levin, Secretary of the Michigan Muck Farmers' Association and Muck Specialist at M. A. C., "and every man interested in muck farming and the peat lands of the state from an agricultural point of view should plan to be there."

An emery grinder furnishes an efficient, quick means of keeping an edge on farm tools.



Hitting the Hopper

By Don B. Whelan

WE'LL not be put out of business by a crooked-legged insect," the farmers in the northern part of the state said, and so began the preparations for the big campaign which is being waged this year against the grasshoppers. When these pests were laying their eggs last fall the farmers, aided by the county agents were laying their plans for a wholesale slaughter this year. The counties in the infested district have prepared for the campaign and are ready for a concerted action that will create havoc in the ranks of these crop destroyers.

Preparing for the Fight.

Meetings of farmers were held as early as last fall where the whole plan of action was formulated by the various county agents and the specialists from the agricultural college. The boards of supervisors in several counties have appropriated large sums of money to buy poison with which to fight the grasshoppers. Kalkaska has purchased ten tons of poison, Antrim county got seven tons for the infested townships, or at the rate of a ton to each township. Otsego county appropriated one thousand dollars, while Wexford county put up the money for the farmers to buy the poison they want. Other counties that have appropriated money are Benzie, \$500; Crawford, \$300; Missaukee, \$500; Manistee, \$250, and Grand Traverse \$750. The farmers of Emmet, Charlevoix and Cheboygan counties have individually and collectively, purchased poison and are ready for the fight.

Grasshopper Breeding Places.

Land in the northern part of the state, owned by the state of Michigan, is one of the worst breeding places and the state is doing nothing to stop this nuisance. Also the cut-over lands owned by the big lumber companies breed 'hoppers that infest the nearby farmers. Another source of grasshopper infestation is the lands owned by people living outside of the county. These people hold their land for an increase in value but do nothing to improve it. It is certain that if the grasshoppers are allowed free range the land will be of no value at all for the farmers cannot realize any profit from a grasshopper-ridden field. The land constituting the railroad right-of-way also hatches many of these pests which in turn migrate to the nearby fields. If this pest is to be thoroughly subjected the state will have to help in the fight by killing the 'hoppers on their lands. The lumber companies must realize that their cut-over lands, where the hoppers breed, are a public nuisance and that they can help the community and increase the value of their lands by helping the farmers combat this pest. The same can be said of the absent owners. The use of poison and the help of a few section gangs will do much to remedy the breeding places along the railroads. One railroad official stated that, under the administration of the government, they could not buy the poison but that they could lend their sections gangs to apply the poison if it were furnished. He also said that his company would help in any way possible.

Damage Done by Hoppers.

It is impossible to estimate anywhere near the exact amount of damage done by this pest in the state last year. A very conservative estimate would be that the grasshoppers, last year cost the state over \$500,000. In

Your Tractor—and the Oil that heat does not break

You may well be as guarded about the oil used as you were about choosing your tractor. Use the oil that maintains a constant protecting film over pistons and bearings. Use the oil that doesn't break under excessive heat.

Heat does not break Havoline Oil.

One of these three grades of Havoline will meet every requirement on the farm:

HAVOLINE "K"—A heavy, rugged, all-purpose oil. A barrel of this grade on hand fits you for all emergencies. It can be used in trucks, tractors, and all farm machinery.

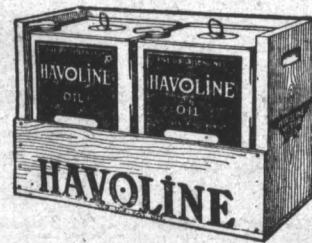
HAVOLINE "B"—For use when a somewhat heavier oil than Havoline "K" is needed.

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See for yourself how you can build this better Combination Outfit and duplicate this remarkable wagon body; send for descriptive literature on this, as well as any of the lines listed below.

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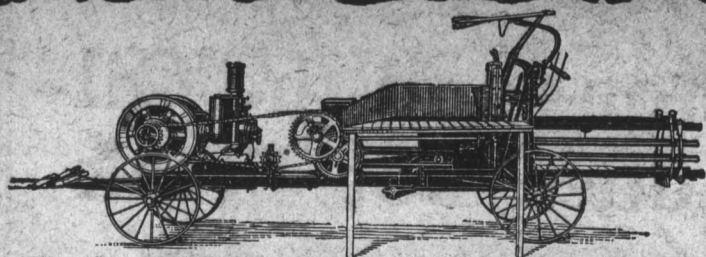
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With any one of the International presses you can get big tonnage, neat and uniform bales; and have the satisfaction of knowing that your press is strong and dependable.

There's an International—horse, motor or power—to suit your exact needs. These presses all make smooth, neat, uniform bales—the kind that look well, sell well, handle well. They are durable, easy running, smooth running and powerful. They are easy to feed, operate and transport.

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The Full Line of International Harvester Quality Machines

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International Harvester Company
of America, Inc.

Chicago

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Our Service Department

RIGHT OF TENANT TO TAKE AWAY STRAW.

I purchased a farm last fall on which was wheat put in by a tenant paying cash rent, nothing said about straw. Can I demand as a matter of law that the straw be left on the place?

In the absence of any restrictions in the lease the tenant is entitled to take away the straw as well as the grain. The crop is his to do with as he pleases. When it is desired to prevent him impoverishing the land by removing the roughage it must be explicitly provided in the lease that all roughage is to be fed on the land and the manure spread on the fields, or the straw and stalks so spread. Even these provisions have in some cases been held to create only a covenant binding the tenant personally and not conferring any title to the roughage in the landlord, not binding on one levying and selling his interest on execution against the tenant. The best method is to provide in the lease that all the roughage shall belong to the lessor, subject to the right of the tenant to feed it up on the land to the stock kept there in the regular course of farming.

JOHN R. ROOD.

DESTROYING CANADA THISTLES IN PERMANENT PASTURE.

What is the best way to eradicate Canada thistles from an old pasture of about sixty acres which is very full of them? It is intended to permanently restore the grass on the land without plowing, because it is too hilly and stony to plow without a great deal of difficulty, and if plowed it would wash badly.

H. G. G.

Canada thistles in a permanent pasture can be kept down so that they do not interfere with the yield of pasture grass materially by mowing them twice during the summer. Mow them first when they are in full bloom before they commence to mature when they are in full vigor. By mowing them then you give the plant a severe shock but if you wait until they are ripe it does not affect the plant as seriously to cut it. If they come up again and make a good growth after the fall rains then they should be mowed again. If you will do this thoroughly for two or three summers in succession you will have gotten the upper hand of Canada thistles and they will gradually die out. Most people stop when they get to be master of the situation but if they persist in cutting them twice each year it would only be a short time before there wouldn't be any Canada thistles left at all.

Canada thistles will themselves gradually run out in a permanent pasture. They grow pretty vigorously for a few years but gradually the June grass gets them. Twenty-five or thirty years ago the territory on the Pere Marquette, north of Port Huron, was literally covered with Canada thistles. I remember going up through there when the right of way of the railroad was one solid mass, seemingly, of these thistles and the pasture lands on either side of the right of way were likewise all covered. Several years after that there were not anywhere near as many thistles, neither on the right of way nor in the surrounding country. I talked with a farmer about this and asked him what they had done to get rid of the Canada thistles. He said nothing, the June grass got them.

Years ago there was a very vigorous growth of Canada thistles in one place on my back pasture. I mowed this twice in one year. The next year they didn't make very much of a growth and we were busy and let them grow.

In one place afterwards they became quite vigorous again but in almost every instance they have gradually become extinct and now you can only occasionally find a thistle. C. C. L.

FEEDING GREEN ALFALFA.

Will it hurt horses to feed them unwilted alfalfa?

R. W.

Green alfalfa will not injure horses if fed in small quantities after they have become accustomed to it. If the alfalfa is very green and rank it is advisable to feed some dry feed to prevent too profuse action of bowels.

L. J. M.

EXPERIENCE WITH EVERBEARERS.

(Continued from page 28).

any kind they soon turned dark in the color.

The other half of the patch was not allowed to bear, except just a few berries. None at all were left on the young growth. These were Superb. This variety is not such a persistent everbearer as the Progressive, but will bear a good crop of fine large berries in the fall of the year and a much larger crop in the spring. In fact the Superb is the greatest yielder we have ever grown. After having tried scores of the once-a-year sorts, we must say that the Superb has the others "backed off the boards." While the quality is not considered quite equal to that of Progressive, the latter being much sweeter, yet the Superb is more firm in texture, larger and more attractive.

During 1917 we were not trying to produce fall berries, as the principal object then was to grow strong plants for a larger plantation the following season.

This was entirely successful. We took up 1,500 plants and left enough in the rows which were about two feet wide or over, to produce 779 quart baskets of as fine berries as anyone in this section had ever seen. This was the 1918 spring crop. As stated above last summer was very dry; and of course, we did not expect any summer or fall berries from this little patch. However, during the very driest part of the summer we picked nearly two bushels of Progressive berries. And this same patch is still in good condition.

KEEP THE CORN GROWING.

(Continued from first page).

cultivated shallow. Frequent shallow cultivations produces the most corn easiest, meaning the greatest profit to the farmer.

Weeds and water are two very important factors in the corn field. The aeration of the soil comes third. Most corn growers have felt that the first and most important reason for cultivation of corn was to get rid of the weeds, while a great many men have felt that cultivation was quite essential to the conservation of moisture. According to the most authentic data now bearing on this subject, the eradication of weeds is about the only excuse for cultivation apart from aeration of the soil. It has been shown by accurate data kept on the weekly moisture content of soils growing corn and tilled in various ways that there is no more moisture in the fields that were well tilled than on fields that simply had the weeds removed without stirring the soil. In other words, the mulch is not so efficient in conserving moisture in the corn field as it is in a fallow field, except perhaps when the corn is small.

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Keeping Up the Pasture

OVERGRAZING during a succession of unfavorable seasons, or sometimes during a single season, is probably the most frequent cause of run-down pastures. Weeds will thrive during a season unfavorable for the growth of grass and when the light pasturage is continually weakened and reduced by over-grazing, will establish themselves in the dying sod. On the other hand, when a rank growth of grass stands ungrazed for a long time there is a tendency for the sod to become weakened as the result of a superabundant top-growth. Weeds are then able to grow and multiply, but under these conditions they probably never become so numerous and troublesome as under the extreme conditions of over-grazing. While in the ordinary use of pastures under-grazing is not likely to occur, yet it is well to know in advance the result of such practice. Stock will not eat weeds unless forced to do so, but will graze more and more heavily on the diminishing patches of clean grass; consequently the weeds are continually favored in their competition with the grass for soil space, and unless means are taken to check them they may presently overrun and ruin the pasture.

The first step toward improving unproductive pastures should be the destruction of weeds. Where the land is level and open enough to allow the use of a mower, all undesirable plants should be cut before they make seed. Or the pasture may be fenced off in several areas, taking the weedier ones first, and the stock kept on an area until the weeds are eaten down. In this practice young cattle or sheep should be used.

As the weeds are being destroyed the growth of the grass itself should be stimulated; and according to the present knowledge of pastures the application of stable manure seems the only certain economical means of doing this. Whenever manure is available, apply it to the pasture in light dressings, covering first the scantiest patches, but eventually covering the whole pasture if possible. Another excellent practice is to reseed the more unthrifty patches and then graze them sparingly until they are again thickly revegetated.

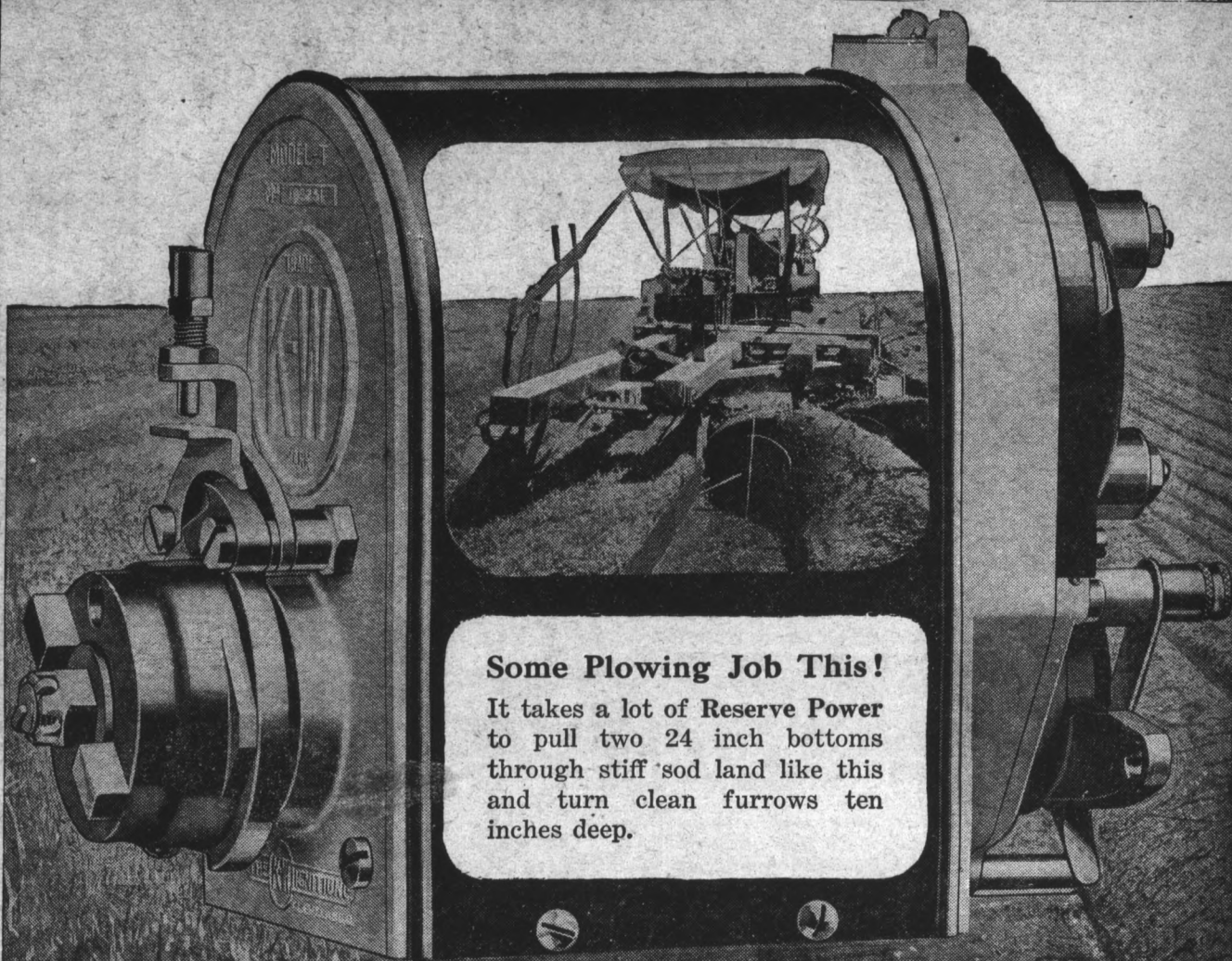
Cultural treatment to improve the growth of pasturage, such as disking and harrowing, cannot be recommended for general conditions. Doubtless there are extreme conditions of root-bound sod where cultural treatment would be beneficial in improving the moisture relations of the plant; but these conditions cannot now be clearly defined, and the operation should proceed cautiously, for by tearing the grass roots more harm than good is liable to result.

Likewise the application of commercial fertilizer to pastures is an extremely dubious practice. There is, of course, a stimulation of plant growth, but at the present high prices for fertilizer no profitable returns may be expected under average conditions. Should a decided shift in the present relative prices of fertilizer and meat occur, doubtless a moderate application of phosphatic material, say two hundred pounds of acid phosphate per acre, would be profitable on most soils.



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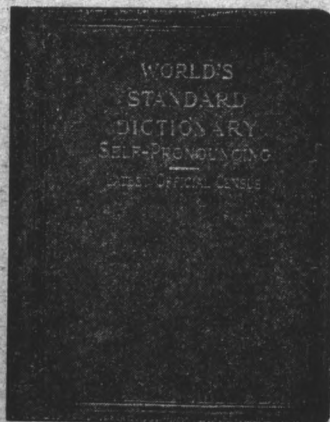


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The Michigan Farmer, Detroit, Mich.

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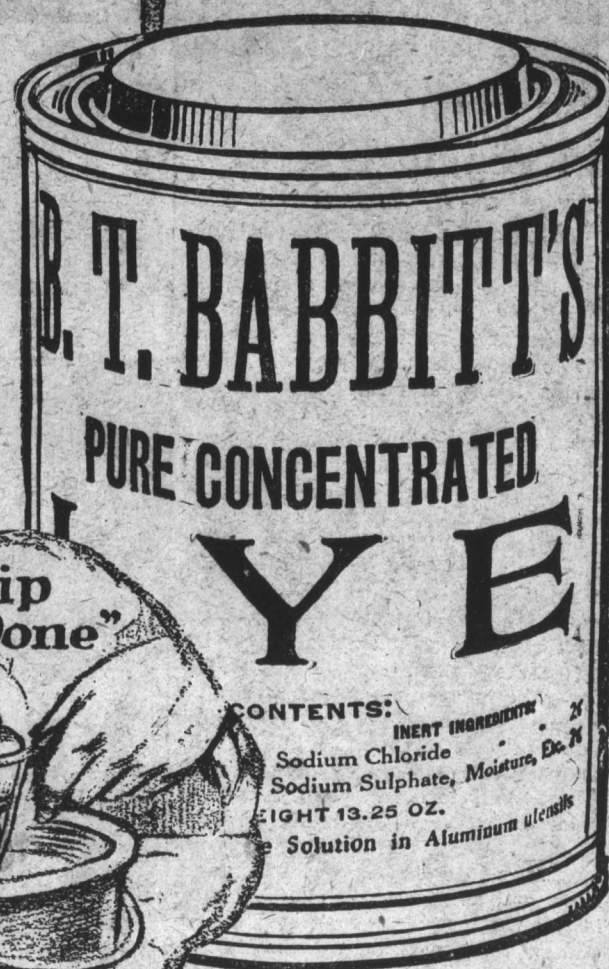
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To 9 gallons of water add half a can of Babbitt's Concentrated Lye and half an ounce of alum. For small quantities of fruit use one gallon of water, 4 tablespoons Babbitt's and a pinch of alum. Place fruit in a wire basket or thin cloth and suspend in the boiling solution for two minutes. Rinse thoroughly in cold water and all the skin will come off.



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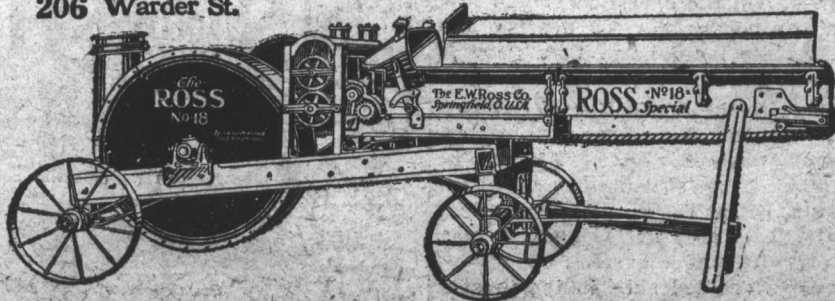
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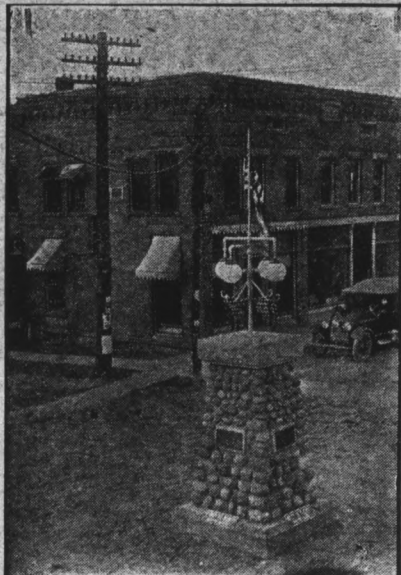
WORLD EVENTS IN PICTURES



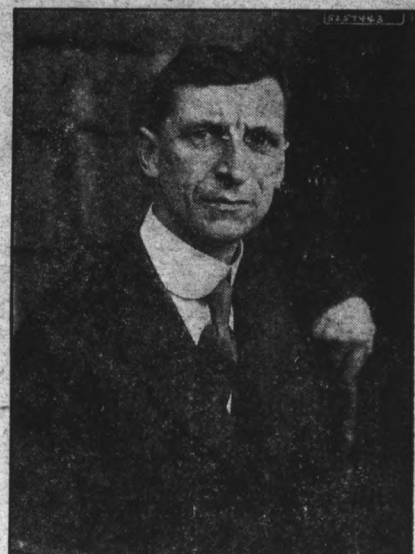
Belgian Countess imprisoned by Germans for aiding mothers to get letters from soldier sons.



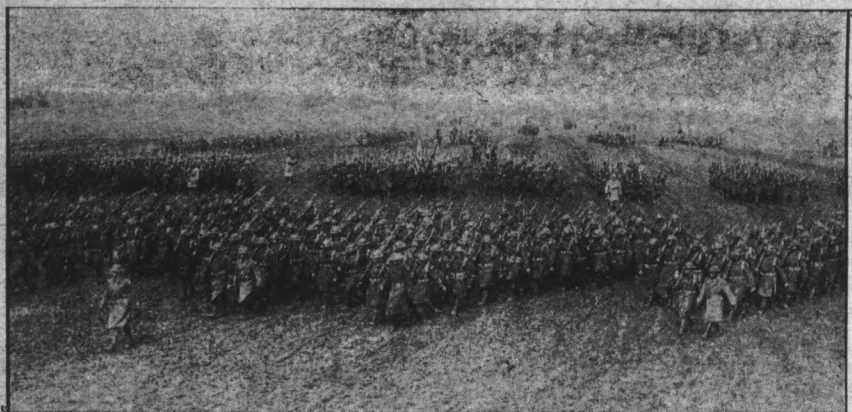
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The Fire Warden

By Robert W. Chambers

(Concluded from last week.)

She touched her mare and galloped
forward, and he followed through the
yellow sunshine, attendant always on
her caprice, ready for any sudden
whim. So when she wheeled to the
left and lifted her mare over a snake-
fence, he was ready to follow; and to-
gether they tore away across a pas-
ture, up a hill all purple with plummy
bunch-grass, and forward to the edge
of a gravel-pit, where she whirled her
mare about, drew bridle, and flung up
a warning hand just in time. His es-
cape was narrower; his horse's hind
hoofs loosened a section of undermin-
ed sod; the animal stumbled, sank
back, strained every muscle, and drag-
ged himself desperately forward;
while behind him the entire edge of
the pit gave way, crashing and clatter-
ing into the depths below.

They were both rather white-faced
when they faced each other.

"Don't take such a risk again," he
said, harshly.

"I won't," she answered, with dry
lips; but she was not thinking of her-
self. Suddenly she became very hum-
ble, guiding her mare alongside his
horse, and in a low voice asked him
to pardon her folly.

And, not thinking of himself, he
scored her for the risk she had taken,
alternately reproaching, arguing, bully-
ing, pleading, after the fashion of men.
And, still shaken by the peril she had
so wilfully sought, he asked her not
to do it again, for his sake—an informal
request that she accepted with
equal informality and a slow droop of
her head.

Never had she received such a thor-
ough, such a satisfying scolding. There
was not one word too much—every
phrase refreshed her; every arbitrary
intonation sang in her ears like music.
And so far not one selfish note had
been struck.

She listened, eyes downcast, face deli-
cately flushed—listened until it pleas-
ed him to make an end, which he did
with amazing lack of skill:

"What do you suppose life would
hold for me with you at the bottom of
that gravel-pit?"

The selfish note rang out, unmistak-
able, imperative—the clearest, sweet-
est note of all to her. But the ques-
tion was no question and required no
answer. Besides, he had said enough
—just enough.

"Let us ride home," she said, realiz-
ing that they were on rather dangerous
ground again—dangerous as the grav-
el-hill.

And a few moments later she caught
a look in his face that disconcerted
and stampeded her. "It was partly
your own fault, Mr. Burleson. Why
does not your friend take away the
mare he has bought and paid for?"

"Partly—my—fault!" he repeated,
wrathfully.

"Can you not let a woman have that
much consolation?" she said, lifting
her gray eyes to his with a little laugh.
"Do you insist on being the only per-
fect embodiment of omniscience?"

He said, rather sulkily, that he didn't
think he was omniscient, and she pre-
tended to doubt it, until the badinage
left him half vexed, half laughing, but
on perfectly safe ground once more.

Indeed, they were already riding over
the village bridge, and he said, "I
want to stop and see Santry's child for
a moment. Will you wait?"

"Yes," she said.

So he dismounted and entered the
weather-battered abode of Santry; and
she looked after him with an expres-
sion on her face that he had never sur-
prised there.

Meanwhile, along the gray village
thoroughfare the good folk peeped out
at her where she sat on the mare, un-
conscious, deep in maiden meditation,

She had done much for her people;
she was doing much. Fiction might
add that they adored her, worshiped
her very footprints!—echoes all of an-
cient legends of a grateful tenantry
that the New World believes in but
never saw.

After a little while Burleson emerg-
ed from Santry's house, gravely return-
ing the effusive adieus of the family.

"You are perfectly welcome," he
said, annoyed; "it is a pleasure to be
able to do anything for children."

And as he mounted he said to Miss
Ellmott, "I've fixed it, I think."

"Fixed her hip?"

"No; arranged for her to go to New
York. They do that sort of thing
there. I see no reason why the child
should not walk."

"Oh, do you think so?" she exclaim-
ed, softly. "You make me very happy,
Mr. Burleson."

He looked her full in the face for
just the space of a second.

"And you make me happy," he said.

She laughed, apparently serene and
self-possessed, and turned up the hill,
he following a fraction of a length be-
hind.

In grassy hollows late dandelions
starred the green with gold, the red
alder's scarlet berries flamed along the
road-side thickets; beyond, against the
sky, acres of dead mulien stalks stood
guard over the hollow scrub.

"Do you know," she said, over her
shoulder, "that there is a rose in bloom
in our garden?"

"Is there?" he asked, without sur-
prise.

"Doesn't it astonish you?" she de-
manded. "Roses don't bloom up here
in October."

"Oh yes, they do," he muttered.

At the gate they dismounted, he si-
lent, preoccupied, she uneasily alert
and outwardly very friendly.

"How warm it is!" she said; "it will
be like a night in June with the moon
up—and that rose in the garden. You
say that you are coming this evening?"

"Of course. It is your last evening."

"Our last evening," she repeated,
thoughtfully. You said—"

"I said that I was going south, too.
I am not sure that I am going."

"I am sorry," she observed, coolly.
And after a moment she handed him
the bridle of her mare, saying, "You
will see that she is forwarded when
your friend asks for her?"

"Yes."

She looked at the mare, then walked
up slowly and put her arms around the
creature's silky neck. "Good-bye," she
said, and kissed her. Turning half de-
fiantly on Burleson, she smiled touch-
ing her wet lashes with her gloved
wrist.

"The Arab lady and the faithful gee-
gee," she said. "I know The Witch
doesn't care, but I can't help loving
her. Are you properly impressed with
my grief?"

There was that in Burleson's eyes
that sobered her; she instinctively
laid her hand on the gate, looking at
him with a face which had suddenly
grown colorless and expressionless.

"Miss Elliott," he said, "will you
marry me?"

The tingling silence lengthened,
broken at intervals by the dull stamp-
ing of the horses.

After a moment she moved leisurely
past him, bending her head as she en-
tered the yard, and closing the gate
slowly behind her. Then she halted,
one gloved hand resting on the closed
gate, and looked at him again.

There is an awkwardness in men
that women like; there is a gaucherie
that women detest. She gazed silently
at this man, considering him with a
serenity that stunned him speechless.

Yet all the while her brain was one
vast confusion, and the tumult of her

own heart held her dumb. Even the man himself appeared as a blurred vision; echoes of lost voices dinned in her ears—the voices of children—of a child whom she had known when she wore muslin frocks to her knees—a boy who might once have been this man before her—this tall, sunburned young man—awkward, insistent, artless—oh, entirely without art in a wooing which alternately exasperated and thrilled her. And now his awkwardness had shattered the magic of the dream and left her staring at reality—Without warning, without the courtesy of a "garde a vous!"

And his answer? He was waiting for his answer. But men are not gods to demand!—not highwaymen to bar the way with a "stand and deliver." And an answer is a precious thing—a gem of untold value. It was hers to give, hers to withhold, hers to defend.

"You will call on us to say good-bye this evening?" she asked, steadying her voice.

A deep color stung his face; he bowed, standing stiff and silent until she had passed through the open door of the veranda. Then, half-blind with his misery, he mounted, wheeled, and galloped away. The Witch clattering stolidly at his stirrup.

Already the primrose light lay over hill and valley; already the delicate purple net of night had snared forest and marsh; and the wild ducks were stringing across the lakes, and the herons had gone to the forest, and plover answered plover from swamp to swamp, plaintive, querulous, in endless reiteration—"Lost! lost! she's lost—she's lost—she's lost!"

But it was the first time in his life that he had so interpreted the wild crying of the killdeer plover.

There was a gown that had been packed at the bottom of a trunk; it was a fluffy, rather shapeless mound of filmy stuff to look at as it lay on the bed. As it hung upon the perfect figure of a girl of twenty it was, in the words of the maid, "a dhream an' a blessed vision, glory be!" It ought to have been; it was brand new.

At dinner, her father coming in on crutches, stared at his daughter—stared as though the apparition of his dead wife had risen to guide him to his chair; and his daughter laughed across the little table—she scarcely knew why—laughed at his surprise, at his little tribute to her beauty—laughed with the quick tears brimming in her eyes.

Then, after a silence, and thinking of her mother, she spoke of Burleson; and after a while of the coming journey, and their new luck which had come up with the new moon in September—a luck which had brought a purchaser for the mare, another for the land—all of it, swamp, timber, barrens—every rod, house, barn, garden, and stock.

Again leaning her bare elbows on the cloth, she asked her father who the man could be that desired such property. But her father shook his head, repeating the name, which was, I believe, Smith. And that, including the check, was all they had ever learned of this investor who had wanted what they did not want, in the nick of time.

"If he thinks there is gas or oil here he is to be pitied," said her father. "I wrote him and warned him."

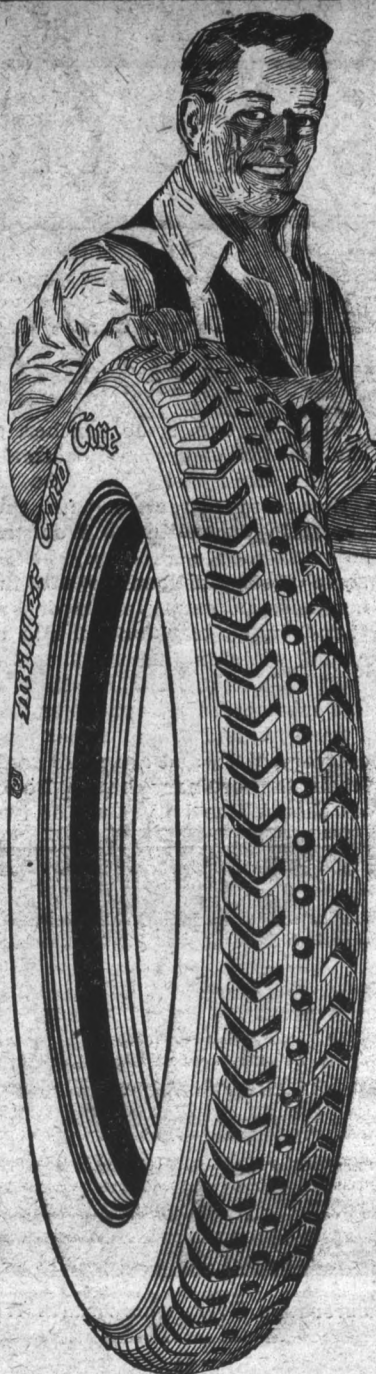
"I think he replied that he knew his own business," said the girl.

"I hope he does; the price is excessive—out of all reason. I trust he knows of something in the land that may justify his investment."

After a moment she said, "Do you really think we may be able to buy a little place in Florida—a few orange-trees and a house?"

His dreamy eyes smiled across at her.

"Thank God," she thought, answering his smile. (Continued on page 39)



"I am penalized if one comes back"

Like an Extra Emergency Brake The Tread That Is Geared-to-the-Road

The emergency brake is almost useless if the car slides on when the wheels are locked. Every motorist has had that experience and knows the dangers, especially in slippery weather.

What is most needed for country driving are the Uniform Miller Tires with the famous tread that is **Geared-to-the-Road**. This principle is just as essential to automobile wheels as to tractor wheels.

Miller's many caterpillar feet lock with the ground so the car can't slip or slide. In motion this scientific tread gives positive traction, full power ahead and safety. And its cog-like principle helps the speeding car to **hold** the road.

Long-Distance Mileage, Tire After Tire

Geared-to-the-Road would make any tire desirable for country driving, but coupled as it is with Uniform Mileage, it makes the Miller doubly valuable to the farmer. Our workers are trained to build tire after tire, not merely some, to a single long-distance standard.

When thousands of farmers are using these championship tires why don't you, too, insist on having them? Have the protection and roadability of the **Geared-to-the-Road Tread**. Have mileage certainty **in every tire**, not luck in some and trouble in others.

THE MILLER RUBBER CO., Dept. F-110 Akron, Ohio

Makers of Miller Red and Gray Inner Tubes—the Team-Mates of Uniform Tires
Also Miller Surgeons Grade Rubber Goods, for Homes as Well as Hospitals

318



During the Month of June The Citizens' Mutual Auto. Insurance Co.

Issued Its 50,000th Policy
(To Mrs. M. K. Upjohn, of Kalamazoo)

Policies Written, June,
2,250 Covering Fire, Theft, Public Liability
1,040 Covering Collision

Claims Paid, June,	
9 Fire	\$4,252.70
23 Theft	4,549.76
8 Personal Injury	1,394.40
22 Property Damage	1,383.03
35 Collision	2,072.33

Total 97	\$13,652.22
Cash Resources, June 30th	\$87,552.50

Insure Today. Call on Local Agent or Write to
W. E. Robb, Howell, Mich.

You Can't Leave Your Car on the Street of Any City
and be Sure of Finding It There When You Return.
A Reputable Public Garage is the Proper Place.



Bee Supplies

Bee Hives, Sections, Comb Foundation, Smokers, etc. Send for catalog. Can supply beginner's outfit either with or without bees. Circular on request. Beeswax wanted.

Berry Baskets

Standard quart, wood berry baskets, and wax-lined paper baskets, 16 quart crates in flat. 200 wax lined paper baskets postpaid for \$1.70 to points within 150 miles of Lansing. Send for price sheet.



M. H. HUNT & SON

Box 525 - Lansing, Michigan

Farms and Farm Lands For Sale

400 Acre Equipped Farm Income Last Year Over \$5000.

Nearly new 12-room house, baths, hot, cold water gas-lighted, cement-floor main barn, big second barn, litter and feed carriers, garage, store houses, all good. Smooth machine-worked fields, wire-fenced pasture, much wood, timber, fruit. On main road, convenient town. Aged owner for quick sale includes 10 cows, long list farm implements, etc. at low price \$8000, easy terms. Details this money-maker page 41 Catalog Bargains 19 States, copy free. STROUT FARM AGENCY, 224 B C Ford Building, Detroit.

Widow Must Sell 267 Acres near

road, 2 horses, 15 cows, 15 young cattle, all tools, hay, oats, corn, potatoes, beans, buckwheat, 2 houses, good barn, running water, woods. Only \$8000. One-half cash. Louis Rabenstein, 628 Security Mutual Bldg, Binghamton, N.Y.

Rich Farm! Possession NOW gets gravel receipts from mile of State road. Liberty Bond, \$300 or Ford Touring Car, balance cash, buys 80-acre farm, 60 plowing, best soil, Central Michigan, fair buildings, main road, near railroad town. Owner 203 N. CEDAR ST., LANSING, MICH.

Rich Michigan Farms. Low prices. Easy terms. STAFFELD BROTHERS, 115 Merrill Building, Saginaw, Michigan

WANTED To hear from owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

IF YOU WANT to sell or exchange your property write me. JOHN J. BLACK, 105th Street, Chippewa Falls, Wis.

DEATH TO FLIES

Hundreds at a Shot

You kill one fly with a mighty swat, while hundreds die at a Hofstra Shot. Keep your home free from disease-spreading, typhoid-carrying flies this summer. Protect health, food and stop annoyance with—

HOFSTRA

Harmless to Humans—NOT a Poison—Simple, Easy to Use

Swatting smears germs and stains; sticky sheets are always mussy; poisons are dangerous. Hofstra is NOT a poison. It is a fine powder that carries chemicals which seal the skin pores through which flies and insects breathe. Can't harm you or your baby.

SURE DEATH TO—

—Flies, Ants, Roaches, Bed Bugs, Garden Bugs, Lice and Mites, Mosquitoes, etc.

Keeps ants and roaches out of the kitchen, milk house or cellar—clears the chicken house, coops and chickens of lice and mites—keeps the garden healthy and free from bugs and worms. Simply spray with the little Hofstra gun wherever bugs bother. Inexpensive, clean—positive in results.

At Grocers' and Druggists' — 15c loaded guns—25c, 50c and \$1.00 Packages.

Ask your grocer or druggist for Hofstra. Be sure you get the genuine, sold in the metal gun or the square yellow package. Refill the gun from package Hofstra and save money.

Trial Loaded Gun 15c Postpaid
If your dealer hasn't Hofstra, don't accept a substitute. Send us his name and 15c and get a trial Hofstra gun postpaid.

HOFSTRA MFG. CO.
403 N. Cheyenne St.
Tulsa, Okla.



Dry Goods, Automobile Tops, Women's Fashions, Pure Foods, Groceries, Men's and Boys' Clothing, Shoes, Tempting Candies—almost anything you need from a Button to a Pipeless Furnace—all at bargain prices in our Midsummer Sale now going on.

Send for Special Sale Catalog

Montgomery Ward & Co.
(Established 1892, Organized as Montgomery Ward & Co. Inc. 1913)

Chicago Kansas City Fort Worth Portland, Ore.

IT LASTS LIKE THE PYRAMIDS
If you could buy barn paint for 50 cents per gallon, it would still cost nearly twice as much to paint your barn with it, as it would cost to paint the same barn with WEATHERWAX Liquid Paint. Write for free color card and prices. Sold by good dealers everywhere, or direct, freight paid, where we have no dealer. Address, THE REILLY COMPANY, Indianapolis, Indiana.

Mount Sinai Hospital School of Nursing
A three years' course in the theory and practice of nursing with the facilities afforded by this modern, fully equipped institution, is offered to qualified young women desirous of entering the Nursing Profession. The curriculum has been carefully planned, emphasizing especially the educational and cultural development of the nurse. The Fall Term commences October 1st. For particulars address Principal of School, 1800 East 105th Street, Cleveland, Ohio.

When writing to advertisers please mention the Michigan Farmer.

"To Love and to Labor is the Sum of Living"—Moore

WOMEN'S SECTION



Rest Rooms for Farm Women

WHAT is the value of a rest-room in the nearest town or village to the farm women in the neighboring communities? It would be difficult to estimate, but I have not the slightest doubt that women who already enjoy these privileges would not part with them for the world. All state they have many times been repaid for the time and money spent in their establishment. The country woman, especially the woman who has young children, knows what it is to get them nicely dressed, all looking spick and span, ready for a drive of anywhere from six to fifteen miles, to the nearest town to do her shopping. The day is hot, the roads are dusty, and when they arrive at their destination, the children are all mussed up, and the mother feels tired, blown about and untidy. How nice it is to know that they can go straight to their rest room, have a wash and tidy up generally, rest a little while, and perhaps make a cup of tea, before they start out to do their shopping and to meet their friends.

Even if one is lucky enough to own an auto, the rest room is none the less valuable, as even in an auto one gets pretty well blown about on a windy day, and, after battling with the elements for even a comparatively short distance, one appreciates being able to get one's hat on straight once more and the stray ends of one's hair pinned up. It is also nice to have a place where one can meet one's friends and have a chat, instead of having to stand in the street, or in some store. Undoubtedly women will come to town much oftener if they know that when they have finished their shopping, they can go to a nice bright cheery room of their own, where they can sit and talk with others, or read a magazine, while waiting for the men to get through with their business. This means a long dreary interval spent sitting in the car or buggy, if there is no rest room, which detracts very considerably from any pleasure which the outing has for the women. Many farm women say they had rather stay at home than stand around.

Rest rooms have a variety of uses. In most places they are social centers, where meetings and entertainments are had. It is very much easier to get a good attendance at a meeting when it is held in a bright comfortable room where the members are at least sure of warmth in winter. Dishes are kept on hand, and as a rule there is a small stove where a kettle can be boiled, so that a light lunch can be served with very little trouble, which is greatly appreciated.

The establishment of a rest room is not a very difficult problem. Grange members, for instance, in some eastern sections, have gotten together and organized for this purpose, securing a room centrally located in the town or city. Rent is paid for this, met by an annual tax. The chamber of commerce and merchants' associations are friendly to this plan, and many rest rooms are entirely supported by these.

The next thing to do is to furnish the room. This need not be expensive. For the ideal rest room let us suggest a couch, some chairs, includ-

ing a rocker or two, some benches, a few shelves for dishes and a small stove. The main idea should be to make the room attractive with the least possible expenditure. Wonders can be performed with empty boxes and some pretty inexpensive muslin. For instance, an empty apple or orange box can be transformed into a wash-stand, while another would make a dresser. A looking-glass, needless to say, is a most essential article, as are also a wash jug and basin. Paper towels cost very little, and are more sanitary than the ordinary kind. Bookshelves should also be put up, or two

or three empty orange boxes might be put together draped with muslin and made to serve the purpose of holding a library. A nice linoleum or congo-leum on the floor will add greatly to the attractiveness of the room, and muslin curtains on windows should not be omitted.

There are women's organizations in every community willing to take care of the rest room, though some permanent organization must stand back of it to see that it is properly equipped, cared for, and of continual and dependable service to the community.

E. W. GAGE.



A Comfortable Room where Farm Women May Rest, Read, Write or Visit.

Choosing Breakfast Foods

NEXT to its pie and chewing-gum, America is famous for its breakfast foods. From the good old days of oatmeal or cornmeal "mush" the varieties of this popular food have increased until today no man knoweth the number thereof. A South Dakota specialist estimated that there were thirty-five brands sold in that state in 1916.

With this bewildering number to choose from, how is the housekeeper to know which one to choose? In the majority of cases the question is settled by selecting the one everybody in the family likes best. Or if no two like the same one, the average American mother keeps everybody's preference on hand and increases her work four-fold by catering to father, Susie and little John. A smaller number, imbued with a sense of thrift, select the breakfast food which they think the cheapest, but are often led into buying the most expensive sort because its price per package is the lowest, making it seemingly the cheapest.

Cereals should be served in every home, and as their place is so important the housekeeper should know how to select them wisely. They are among the best of foods, since they contain all the food principles, carbohydrates, in which they are high, proteins, fats and mineral matters, and very little water. They are lower in protein and fat than meat, but much higher in carbohydrates, and as we need more carbohydrates than either proteins or fats, they thus form a more desirable staple food. The following table will show the calories per pound in the most widely used cereals as compared with meat, fowl, fish, and eggs. No attempt at comparing costs

is done, because prices now are so abnormal and so widely different in localities. The cost of one pound of the food named in your locality will show you which food will give you the most for your money.

Wheat yields 1,568 calories a pound; oats 1,649 calories; corn 1,650; rye 1,551 calories; barley 1,505 calories; rice 1,420 calories; dried beans 1,605 calories; round beef 950 calories; chicken 505 calories; eggs 692 calories; fish 370 calories.

In selecting the food to be served the wise housekeeper wants to know which is best and cheapest. This question each must answer for herself by first determining which is digested without any undesirable after-effects by the members of her family. This will be the cheapest food in the long run. Oatmeal is claimed by all to be the cheapest breakfast food, but if any member of your family can not digest it, it is far from cheap for that individual. In my own family one child has never been able to digest oatmeal. Four weeks of oatmeal breakfasts means two or three trips to a doctor. This naturally takes ten times the money saved in serving oatmeal. For that child a wheat food, even at twice the cost per pound of oatmeal, is much cheaper in the long run.

In determining the price it is always safe to say that uncooked foods are cheaper than the ready-to-eat variety. Especially is this true in the country where the wood or coal range will be going anyway and no extra expense is involved for fuel. City housewives sometimes claim that they spend for gas all they save in buying uncooked foods. This is doubtful, and the extra expense could be saved anyhow by

cooking the cereal in the fireless cooker. Experiments have shown that when oatmeal sufficient to yield 1,000 calories costs four cents, corn flakes sufficient to furnish 1,000 calories costs seven and six-tenths cents and puffed rice twenty-and two-tenths cents.

The time at the disposal of the housewife is also an important factor to reckon with in figuring the cost of anything. The overworked, hurried housewife may save herself dollars and cents by serving the prepared foods, especially if the breakfast contains hot dishes like bacon, sausage, chops and potatoes, or eggs and toast. You must consider your own individual problem and decide what is best for yourself. But in doing so do not be swayed by preconceived prejudices about food. Don't say, "the children like it." Say, rather, "this is best for the children, and they must learn to like it." If the food is nourishing and good and does not distress the child after eating, there is no reason for the mother to burden herself preparing dishes just to please whims.

For the family where all cereals are alike easily digested, the following table from "Feeding the Family" will be a good guide in securing the greatest returns for your money. (The prices are those of 1916):

	Total Calories.	Protein Calories.	Price Package.
Flaked wheat....	2,495	368	13c
Rollod oats	2,475	456	10c
Cracked wheat....	2,325	491	10c
Puffed rice	702	64	10c
Shredded wheat....	1,551	205	13c
Cornflakes	1,080	66	10c
Puffed rice	702	64	10c
Puffed wheat....	690	102	12c

HOME QUERIES.

Household Editor:—I am glad to tell Mrs. G. J. I. that inkstains may be removed with lemon juice and salt. Wet with the lemon juice and sprinkle thickly with salt, then lay the article in the sun. Do this after the article is laundered.—Mrs. A. B.

THE FIRE WARDEN.

(Continued from page 37).

There was no dampness in the air; she aided him to the garden, where he resumed his crutches and hobbled as far as the wonderful bush that bore a single belated rose.

"In the south," he said, under his breath, "there is no lack of these. I think—I think all will be well in the south."

He tired easily, and she helped him back to his study, where young Burleson presently found them, strolling in with his hands in the pockets of his dinner jacket.

His exchange of greetings with Miss Elliott was quietly formal; with her father almost tender. It was one of the things she cared most for in him; and she walked to the veranda, leaving the two men alone—the man and the shadow of a man.

Once she heard laughter in the room behind her; and it surprised her, pacing the veranda there. Yet Burleson always brought a new anecdote to share with her father—and heretofore he had shared these with her, too. But now!—

Yet it was by her own choice she was alone there, pacing the moonlit porches.

The maid—their only servant—brought a decanter; she could hear the ring of the glasses, relics of better times. And now better times were dawning again—brief, perhaps, for her father, yet welcome as Indian summer.

After a long while Burleson came to the door, and she looked up startled.

"Will you sing? Your father has asked it."

(Continued on page 43).

Blessings on the Good Cook

She certainly makes life worth living.

What is money, or position, or popularity, or anything else to any one where food is unobtainable?

To a man in that position any cook would be satisfactory, or the cook could be dispensed with altogether and the food taken without preparation.

But why not appreciate our good cooks in this land of plenty without waiting until we lose them before we come to an understanding of their real value.

Appreciate them enough to provide them with the really good materials with which to work. Encourage them with a little warranted praise occasionally.

Tell them what a splendid meal they prepared and how you enjoyed it, then see to it that they have

Lily White

"The flour the best cooks use"

on hand at all times, and you will be amazed at the goodness of your Breads, Biscuits and Pastries.

A little appreciation and the right kind of materials will make a lot of difference.

Of course a good cook will be able to bake good Bread from the ordinarily good flour, but if you desire something a little better, more light, flakier, with a delicious flavor and splendid color LILY WHITE FLOUR should be used.

Remember, LILY WHITE FLOUR is sold with the understanding that the purchase price will be refunded if it does not give as good OR BETTER satisfaction than any flour you have ever used.

This guarantee is backed up by thirty-five years of successful milling and an investment of more than a million dollars.

Anyway, show your cook you appreciate her by providing her with LILY WHITE FLOUR, "The flour the best cooks use."

VALLEY CITY MILLING COMPANY

GRAND RAPIDS, MICHIGAN.

FIRST OLD DETROIT NATIONAL BANK

MEMBER FEDERAL RESERVE BANK

MICHIGAN'S largest commercial bank, with a capital and surplus of \$7,500,000 offers the highest grade of service to those desiring a Detroit banking connection. Savings and commercial departments.

DETROIT

MICHIGAN FARMER PATTERNS.

No. 2824-2616—A Stylish Costume. Waist 2824 cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 2616 cut in six sizes, 22, 24, 26, 28, 30 and 32 inches waist measure. The skirt measures two yards at the lower edge, with plaits drawn out. It will require, for the entire costume, 6½ yards of 40-inch material. Two separate patterns, 10c for each pattern.

No. 2822-2818—A Smart Sports Costume. Blouse 2822 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, and requires three yards of 36-inch material. Skirt 2818 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 3¾ yards of 36-inch material. Skirt measures about one and two-thirds yards at lower edge. Two separate patterns, 10c for each pattern.

No. 2814—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size 10 requires 4¾ yards of 27-inch material. Price 10c.

No. 2814—Girls' Dress. Cut in four sizes, 8, 10, 12 and 14 years. Size 12 requires 3¾ yards of 36-inch material.



Lowe's



Your barn paint—
how far will a brush full go?

IT'S not so much what a gallon of paint costs that counts. It's what it costs to brush it on, the way it ought to be brushed on—that is the really big cost.

That's how so many of our good farmer friends came to use Lowe's Barn Paint. They found out that it goes farther and costs less to make it go.

Send for proof and barn paint circular. Or talk it over with the Lowe dealer in your town. If none, let us know and we will see that there is one.

The **Lowe Brothers Company**

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PILLING CAPON TOOLS

Simple, convenient and easy to use. Complete illustrated instructions with every set, show how to easily caponize your young cockerels, giving you

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Complete set of reliable, practical Pilling "Easy to Use" Capon Tools, parcel post prepaid **\$2.50**

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By Parcel Post Prepaid. Delivered To You. Guarantee Live Delivery.

Our chicks are from pure bred farm stock that are hatched right, have utility and exhibition quality. S. C. White and Brown Leghorns at 12 cts.; B. C. and S. C. Reds and S. C. Anconas 15 cts.; Barred Rocks, 15 cts.; White Wyandottes and S. C. Black Minorcas 18 cts. Odds and Ends 12 cts. The above prices include our very best grade of chicks. Give us your order and we will do all we can to make you a satisfied customer the same as hundreds of others. Order direct from this ad or send for free catalog.

HUBER'S RELIABLE HATCHERY
EAST HIGH ST., FOSTORIA, OHIO.

400 WHITE LEGHORN Yearling Pullets

These fine S. C. Leghorns with a colony laying record during their first laying season, will make valuable stock for the farmer poultryman the coming year. They will be sold in lots of 6, 12, 25, 50, and 100—August delivery. Write for description, laying record & price.

Fall Chicks for Spring Layers—White and Brown Leghorns; Anconas; Black Minorcas; Barred Rocks; Hatching eggs, all breeds.

Cockerels, Guineas, Ducks, Geese, Turkeys, for fall delivery.

Rabbits—Belgians; New Zealands; Flemish Giants.

Send for explanation of fall chicks and illustrated catalog.

BLOOMINGDALE FARMS ASSOCIATION,
Bloomington, Michigan

Barred Rocks Exclusively. Baby chicks all sold. Thanks to all our customers. Order early for next season. H. H. Pierce, Jerome, Mich.

Barred Rock Eggs 15 for \$1.50, postpaid. 62 hens laid 8887 eggs last year; average 140 eggs. Lewis B. Avery, Saline, Mich.



INSURE

your buildings at lower cost by protecting them with Security Lightning Rods—Insurance rates on property so protected are lower, chances of fire loss are greatly reduced.

Security Lightning Rods Give Guaranteed Protection

They don't merely carry off lightning—but prevent it from striking your buildings at all. Proved efficient by more than 25 years of manufacture and use.

Our Patented Security Water Ground Connection insures permanently moist grounding under all conditions.

Write for free book—Stop Lightning Losses

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LOOK BABY CHICKS \$12 A 100 UP

By Special Delivery Parcel Post, postage paid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabob Hatcheries, Gambler, Ohio.

Our Boys' and Girls' Page

Around the Farm

By E. L. Vincent

IT is wonderful what we may find to interest and help us when out around the farm. Not always do we let the little things that lie in plain sight appeal to us so that any impression of a lasting nature comes from them. If we look at them at all, it is only hastily, with little or no thought of their beauty or purpose.

Not long ago one of the hired men on our farm brought in a peculiar stone. For some time even the older people on the farm did not recognize in it anything of a worth-while nature, and to the boys and girls the singular looking piece of rock had little of interest about it. Then it was grandfather who said, "Why, boys, that is what we used to call a pestle, used by the Indians with a stone mortar to grind their corn into meal. You know, those people once lived right where we now do. Very few such pestles are found these days and you certainly are lucky to have this."

That started a train of thought in this direction and our man of the farm, the son who has lived here now a good many years, brought out a pretty little flint arrow head that had been picked up not far away. So our thoughts were directed back to the early history of the country and the many changes that have come since the red men went their way toward the setting sun.

Now, by keeping our eyes open when we are out around the farm we may find many such interesting things. Not always are these the same in different parts of the country. Every locality has its own peculiar objects of interest. Only a day or two ago I picked up a stone which has been a great traveler. Years ago, so long in the past that nobody knows when it was, that was a bit of rock broken by some terrible upheaval from a larger stone. Caught up by the current of water which then must have coursed down the valley, the fragment was rolled and tumbled and ground against other rocks until at last when the water receded, it was left stranded away out here in the country. To follow the story of rock-making down through the years until we come to that pretty round stone is a thing of deepest interest and very profitable. There are books on geology that will help us very much. They do not cost much and make a valuable addition to one's library.

Then, too, there are peculiar plants, flowers and trees that may be studied with much profit. In some places we may pick up the horns of deer which once lived nearby. To identify some of the bones thus scattered about the farm is often a puzzling thing. That makes me think of a true story of a professor in a high school I know of. He was one of the "knowing" kind of men, never willing to admit that he was or could be mistaken. The boys of one of his classes hatched up a plan to test the knowledge of the professor on animal history. They took the skeleton of a certain animal into class and asked their teacher to identify it. The professor studied on it for some time and then launched upon a learned dissertation tending to prove that the boys had discovered the skeleton of a very rare animal which he gave a name such as no one of them ever had heard of before. It was difficult for the boys to hold in till they were out of the room before they made the welkin ring with laughter, for the bones were simply those of a common house cat!

Not all farm boys could do any better, however, than did this professor. It is wonderful how little we really see as we go along through life. A glimpse, a touch and a go, this is all we feel that we have time for; and that makes our knowledge of the great out-of-doors mostly on the outside, and so worth very little.

Every boy and girl of the farm should know all the trees and plants and flowers that grow near his home. I know some boys who do not intend to live all their lives on the farm, and so they feel that it is not worth while for them to pay much attention to the every-day things about them. This is a mistake, and one for which they will certainly be sorry in later life. It is not very comfortable ever to be compelled to confess to ignorance when a matter that concerns one's old home is uppermost for discussion. "I ought to know what that is, but I have forgotten, if ever I knew." How many times do we hear that from the lips of a man or woman born amid the beauties of the country.

It is fine to begin early to make a collection of the rare and interesting things gathered up about the farm. We may take a big packing box, put some shelves in it, stand it up on end, paper it over or paint it, and turn it into a cabinet for the reception of these things. As we come across them one by one, we ought to try to learn everything we can about them. All right to ask questions, too. Father and mother will like you to do it; and if they cannot answer all you inquire about, they will say, "I do not know, but I will try to find out." So it will be a help to them and to you.

What we have said about the flowers and trees of the farm is just as true of the birds and smaller animals. Everyone who lives on the farm may learn to identify these pretty dwellers of the air and the earth. The books we need, for example, to tell us about the birds and flowers do not cost very much and are all of lasting worth, be our lives cast where they may in the future.

Our Prize Contest

DEAR BOYS AND GIRLS:

In answer to the many letters I am receiving, I want to say that all of our boy and girl readers who wish to may enter these contests and may write upon any or all of the subjects given. The letters may be mailed at any time but not later than the dates given with each subject.

We are receiving hundreds of letters from our boys and girls and as only one can win the prize each week you must not be discouraged if you write a good many letters before you succeed in winning the prize.

The Boy and Girl Club work is under supervision of State Boys' and Girls' Clubs. In an early issue of the Michigan Farmer we will publish an article describing the club work and telling just how to organize a club in your neighborhood.

Sincerely yours,
Editor Boys' and Girls' Dept.

FIRST PRIZE.

Out-of-door Games I Like the Best.
I like the game of base ball about the best of any game I know of.

We had a ball game at our school. There were only five of us girls to play against six boys. So we coaxed our teacher to play with us. This was

at noon hour and it had just quit raining a few hours before, so our playground was very wet and muddy.

We girls thought we were having a great time because we had made seven scores and the boys had only made three.

While our teacher was making a home-run she slipped and fell down in the mud. So this accident spoiled our game for this day.

Another of our favorite games at school is ten-stop.—Myrlie Booher, Ewart, Mich. Age sixteen years.

HONORABLE MENTION.

The Out-of-door Games I Like the Best.

The out-of-door games I like the best are redlight, steps, tap the ice box, hide-and-go-seek, cats and mice, prison goal, two bye goal, basket ball and base ball. I like these games because you have to run in them. And they are easy to learn to play. Most of the games I have down on this list are quite exciting. Perhaps you don't know how to play cats and mice. I will tell you. The children who are playing choose a captain then the captain divides them into halves. The captain tells one half to go some place and hide and not to peek. The other half stays with the captain. Then the captain chooses three or four to be cats. After that is done they call the others from their hiding place. They come and run around the half that is with the captain. When the mice come too close to the cats the cats run and catch them. After they are all caught by the cats they go and stand by the captain. And the other half that were cats become mice and go and hide.—Evelyn Webber, Leslie, Mich. Age eleven years.

HONORABLE MENTION.

The Games I Like Best.

The games I like best are base ball and dog and deer. I like them because there is lots of running in them and you also get lots of exercise.

I like to bat as I can always hit the ball and I like to run from one base to the other. I like to pitch so I can throw the ball hard, but I do not like to catch as I am afraid of getting hurt, because I have been hurt many times with a ball.

In dog and deer there is lots of running and when the dog comes you got to get a hiking, if you do not, he will catch you.—Alpheus Norman, Harrietta, Mich. Age ten years.

Michigan stands first among all the states in war garden work, according to data gathered at Washington. Michigan leads in the results attained, both by the home garden clubs and by the canning clubs organized to work with the gardeners.

Our Prize Contest

TO the boy or girl writing the best letter, of less than 250 words on each of the following we will give a cash prize of \$1.

Subject of letter to be mailed by July 14.

"The last day of school."

Subject of letter to be mailed by July 21:

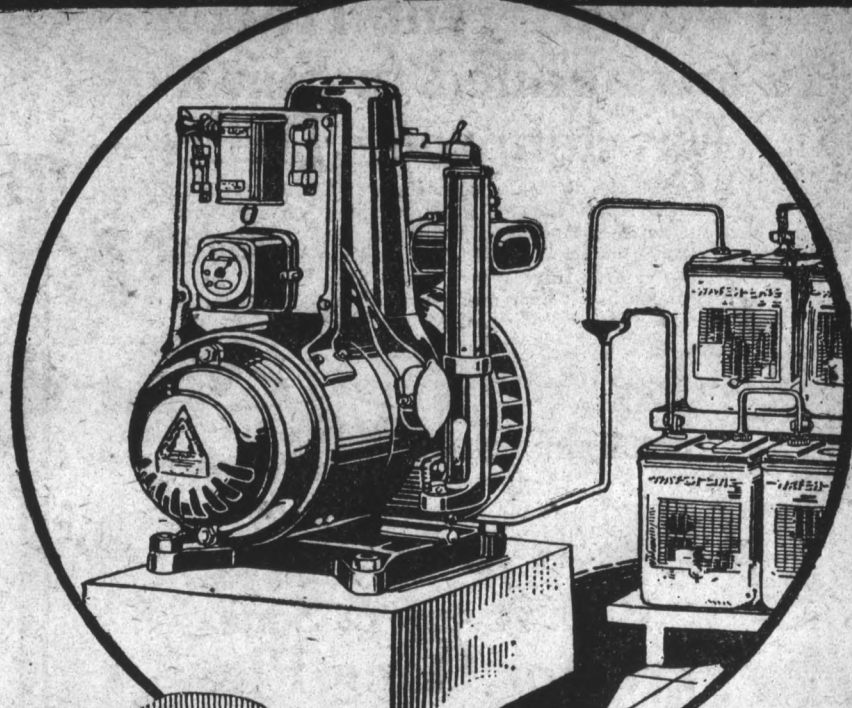
"Fishing and swimming."

Subject of letter to be mailed by July 28:

"Our garden."

Write neatly with ink on one side of the sheet only. Give your age, full name and address.

Address your letters to The Boys' and Girls' Dept., Michigan Farmer, Detroit, Mich.



DELCO-LIGHT

The Complete Electric Light and Power Plant

IF you could "wish" for the kind of lighting plant you want—you would wish for one—

That is air-cooled, so you would have no water to carry—

That runs on Kerosene,—a cheap fuel—

That has a simple oiling system, one place to oil—

That has a suction mixing valve, eliminating carburetor adjustments—

That has a specially designed, rugged storage battery with thick plates and Rubber separators, that make for long life. DELCO-LIGHT meets all these requirements.

It is air-cooled, runs on Kerosene, has one place to oil, a simple mixing valve, a thick plate storage battery, with Rubber separators.

Over 70,000 satisfied users testify that Delco-Light "PAYS FOR ITSELF" in time and labor saved. A complete sales organization covers the country. Your needs will receive prompt attention.

"There's a Delco-Light man near you."

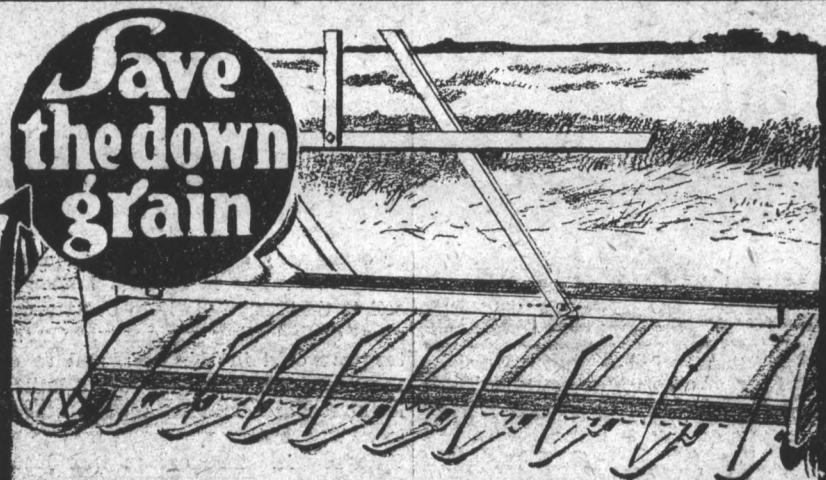
Write for this illustrated Bulletin, telling how Delco-Light "Pays For Itself."

Users tell how DELCO-LIGHT pays for itself

THE DOMESTIC ENGINEERING CO. Makers of DELCO-LIGHT PRODUCTS DAYTON, OHIO

Distributors:

M. L. LASLEY, 23 Elizabeth St., East, Detroit, Mich.
Pringle-Matthews Co., 18 Fulton St., West, Grand Rapids, Mich.



GUARANTEED TO SAVE 95 PER CENT OF ALL DOWN GRAIN

The Anderson Grain Saving Device is a necessity that no farmer can afford to do without. It will absolutely pick up at least 95% of any and all fallen down grain in any field that a binder can work in. Ten guards, as shown in the cut above, are a complete set. They are so made that they can be easily attached to the platform of any binder.

Price \$25.00 per set.

Send Today for Free Folder

Ask your dealer for the Anderson Grain Saving Device. If he does not handle them order direct from the

LACLEDE IRON WORKS, Inc.
1315 Chestnut Street St. Louis, Mo.

When writing to advertisers please mention The Michigan Farmer.

POULTRY

Buff Leghorns, and White Leghorns. Buy our July and August chicks for spring layers. Great laying strains. Dr. WILLIAM SMITH, Petersburg, Mich.

July Chicks Sold

Order for August delivery. 25 for \$4.25, 50 for \$8. 100 for \$16. Pure bred Rose and Single Comb Reds and Barred Plymouth Rocks prepaid by parcel post. Circular free. Interlakes Farm, Box 39, Lawrence, Michigan.

Blue CUSTOM HATCHING Hens

Fifteen dozen eggs incubated and chicks boxed and shipped prepaid \$5.15. Send eggs fresh well packed prepaid. Order July & August chicks now. Many varieties send for circulars. Crescent Egg Company, Allegan, Mich.

CHICKS AND PULLETS

Barron strain. From high producing hens that are bred right and handled right. All eggs from my own hens. Let us have at least three weeks to fill your order. Prices reasonable. Write for circular. HOLLY COVE FARMS, R. R. 1, Holland, Mich.

30,000 Fine, Husky Baby Chicks For July sent safely everywhere by mail. White Leghorns, \$12.00 a 100; \$6.25 for 50; Anconas, \$14.00 a 100; \$6.25 for 50. Order direct. Prompt shipment. Strong, vigorous stock of grand laying strains. Full satisfaction guaranteed. Free catalogue. W. Van Appledorn, R. 7, Holland, Mich.

Barred Rock Chicks and eggs from healthy heavy layers. Price reduced. Catalog free. T. O. SMITH, Route G, Churubusco, Indiana

Baby Chicks Best grade S. O. White Leghorn \$19 per 100 postpaid, live arrival guaranteed. 50 same rate. Triangle Poultry Co. Clinton, Mo.

CUT PRICES—Baby Chix. Low Prices on Eggs—Varities, Bar Rocks, S. O. Wh. Leghorns, Reds, W. Wyandottes, Buff & Wh. Orpingtons. Special Sale Offer. Goshen Poultry Farms, R. 19, Goshen, Ind.

Leghorn chix hatched in July and Aug. make good layers. July and Aug. del. of day old chix W. & Br. Leg. \$12 per 100; R. I. Reds, Brd. & W. Rks. \$13 per 100; Buff Rks. & Orp. \$15 per 100; by parcel post, 2 wk. old chix \$35 per 100; 4 wk. \$45 per 100. Airedale pups. Sunny Side Poultry Farms & Hatchery, Blanchester, O.

Barred Rocks egg contest winners, eggs from strain with records to 250 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

Laybilt S.C.W. Leghorns

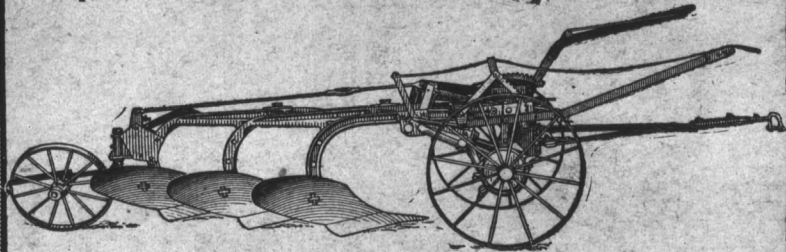
Special price for July day-old chicks \$13 per hundred. Hatched every week.

V. A. MORSE, Ionia, Michigan

Additional Poultry Ads. on Page 47

Two Different Tractor Plows Failed to Suit Mr. Johnson. THEN—

Mr. E. S. Johnson owns and operates a 420-acre farm near Boone, Iowa. Last year he bought a tractor plow of well-known make, which did not measure up to his expectations. Being a man who takes pride in his work, he bought another plow of different make. Result, the same. Having been twice disappointed, Mr. Johnson was very much in a "show me" frame of mind when Miller & Son, implement dealers of Boone, asked him to try out



B. F. Avery & Sons Tractor Gang Plow

When Mr. Johnson put this plow to work—but let him tell his own story:

Boone, Iowa, April 21, 1919.

B. F. Avery & Sons Plow Co., Omaha, Neb.

Dear Sirs: This spring I bought one of your three-bottom tractor gang plows from Miller & Son, of Boone, and my experience with it has been so satisfactory that I am writing to tell you about it.

My 420-acre farm is made up of several types of soil—some of them the kind that makes hard going for any plow, especially after a spell of wet weather. Before trying the Avery I had owned two other makes of tractor plows. They didn't come up to my idea of a tractor plow at all and I disposed of them; so, naturally I was a little bit skeptical about tractor plows.

When I put the Avery to work there had been only three clear days after nearly three weeks of wet weather. I started in a field of timothy sod underlaid in places by gumbo, in other places by sand, then waxy black soil. In spite of these hard conditions the work of the plow was perfect. At one place, at the bottom of a draw, the wheels of the tractor went in over 18 inches. I backed up, easily raised the plow bottoms with the levers and pulled through. If I had been using either of the other two plows, I would have had to dig it out with a spade.

I was surprised that a brand new plow, without a land polish on the bottoms, would go through this sticky mess. You have a fine plow. So have I.

Yours truly,

E. S. JOHNSON.

Don't buy a tractor plow until you examine this one.
If there is no B. F. Avery dealer near you, write

Founded
1825

B. F. AVERY AND SONS

Incorporated
1877

LOUISVILLE, KENTUCKY

Stocks Carried at Toledo and Saginaw



The Perfect Salt for All Purposes on the Farm.

For use in salting meats—salting butter, stock feeding, cooking for the table and for all other purposes where salt is used on the farm.

**COLONIAL
SPECIAL FARMER'S
SALT**

is the quickest dissolving and highest grade salt produced. If it should happen that your dealer is not handling our salt, write us.

THE COLONIAL SALT COMPANY

AKRON, OHIO

Chicago, Ill.

Buffalo, N. Y.

Boston, Mass.

Atlanta, Ga.

The Road to a Good Dairy

It Takes Time and Good, Hard, Patient Work

By E. L. Vincent

SOME things cannot be crowded too hard or they will burst, and building up a good dairy is one of them. It takes time. It costs. It brings heartaches and it brings joys. No use to hurry, no use to worry; just keep pegging away and don't think you can ever get to the top of the ladder, for "there ain't no sich thing."

At the time we came on the farm, I had an idea that it was a matter of a few years at most to work up a dairy business that would satisfy every ambition. That might have been so if it had not been for the fact that ambition is a pretty tough proposition to wrestle with. Once get it started and there is no knowing where it may land a fellow. It grows upon the things you give it to eat. It changes with the passing of the years. The first cows we had were pretty good cows, and seemed likely to be about what we would like to keep for a long time; but it was not long before they lost their grip entirely on me. I wanted something better; and that has been the story of all the years that lie between the then-time and the now-time and I suppose it will be so long as I live. I never shall see what I call the best cow in the world.

Our first cows were just such as the neighbors kept then. Few cared for the thoroughbred stock, so we all had mixed herds of very average cows. In all the country round there were not a score of registered cattle. If we had wanted to ever so bad we could not have bought high-grade cows; and it was well we were so easily satisfied. But the time came when we had big dreams of better cows. I began by investing in a better bull. That animal cost me several years of time and set me back I do not know how far, for I never got a single thing from him that was any good. It hurts to have such a disappointment as that. More than one man has quit just there and called it a bad job. The thing to do, is not to be discouraged, but to gather up as quickly as possible and go on, and keep going on until you win, and be sure that you will win. Grit always wins. Time may bring some gray hairs, but as long as there are no wrinkles on a fellow's brains, he is all right, and will keep growing.

Then, too, we came to places where we had to make sacrifices. In the beginning we had no creamery near us or other way of disposing of our milk except to make it up into butter and sell it that way. To help out we got a nice, deep-setting creamery. Our water was cold in the well, and to cool the milk down still more we built an ice-house and laid in a good store of ice. The butter we made was fine, if I do say it. The cream was just as sweet and pure; and wife took all possible pains to have the churning done right and on time. But we did not think we were making as much butter as we should. So I got a little bit of a point of view to strive for the best tester to see just what was the com-

parative value of our cows, so far as richness of milk was concerned. This was a device with two tubes of glass with a graded scale at one side. We filled these with two cows' milk and let them stand till the cream had risen and then noted the result. Two more were then tested and in that way we got some idea of the goodness of our milk.

Then came in the sacrifice. To see the cows go from the farm takes some courage, especially if there are boys and girls that love them. We do not like to part with favorite cows; and then, too, the price was so low. I sold very good cows then for \$35 to \$40 each. We thought it great when we could sell one of those average cows for \$50. And what did we sell for? Not for the money particularly. Not because we had too many cows, but simply and solely that we might have better cows. It cost me \$50 to buy a little calf of the breed I had chosen. I tell you, that made me squirm. I know fifty dollars seems a pretty small price now for a good calf, but remember that this was years ago, when it seemed more like throwing money away to pay it out for better stock than it does today.

Now, that has been the story of the years since; and I am persuaded it is the road every man must travel who sets out to build up a good dairy business. I have kept selling off and getting what I hoped would be better. Today there are a number of outlets for milk. A creamery near us takes it all at a better price now than we ever received before, thanks to the Dairy-men's League. Our cows test well up toward the top as compared with the rest of the cows of the neighborhood. And we have cows that sustain their milk flow well; and yet, there are better things on ahead.

Is it really worth while for a farmer, any farmer, it matters not who never to be content with present attainments, but to keep on building up, constantly laying the foundation for better things? When we get good cows, why not be satisfied with them and settle down to enjoy them and reap the fruits of our labors? Simply because with a real dairy farmer there is no such thing as standing still.

That means stagnation, and stagnation means death, death to hopes, death to dreams, death to all desire to make the world better. We hear a great deal in our day about keeping the young folks on the farm. Many plans for doing it are suggested. None, it seems to me, is more effective than to keep growing, in every way. Young folks enjoy the building-up process. It charms them. They feel an interest in everything that helps to make the farm richer and more productive or its stock finer and more to be desired by all who know what good stock is. It certainly is profitable, from every point of view to strive for the best possible just as long as we live.



Our Cows Test up Toward the Top as Compared with the cows of the Neighborhood and Sustain their Milk Flow Well.

Mention The Michigan Farmer When Writing to Advertisers

MANAGEMENT OF DUCKLINGS.

Will you please tell me what I can do for my ducklings? I have lost all but thirty-five out of 104. They are fed moistened bran with a little rolled oats, grit and charcoal and have plenty of fresh water before them at all times. They also have free range. They eat heartily but look droopy and their wings stand away from body. Some of them act weak and crawl along in a sitting position as they do not seem able to stand on their feet, tipping backward and forward when attempting to walk. They do not grow in size or weight and most of the three and four-weeks-old ducklings are no larger than the newly hatched. I find from two to six dead ones every day. Will you please give me a good balanced ration and not too expensive? Would a small orchard about sixty by sixty feet be large enough to keep one hundred ducklings in?

Lenawee Co. Mrs. F. A. M.

When ducklings are weak in the legs it is usually due to overfeeding with concentrated food and a lack of green food in the mash. One ration recommended for ducks consists of bran two parts, corn meal one part. Then add five per cent of beef scrap to the mixture and a little fine grit. Plenty of green food, such as clover or green rye, helps to balance up the ration and keep the young birds healthy. James Rankin, who had great success with ducks, recommends the following ration for ducklings: Corn meal, one part; bran, four parts with enough low-grade flour to hold the mixture together; also five per cent of coarse sand. On the third day green cut rye and a little beef scrap is added to the mash. This is used five times each day for a few weeks and then the feeding is reduced to three times per day. The bran is gradually reduced and the meal increased until the ration is about three-fourths meal when the birds are eight weeks old and the beef scrap is increased to about ten per cent.

A fattening ration recommended for use from the eight to the eleventh week of age consists of corn meal, three parts; low-grade flour, one part; beef scrap, three-fourths part; green stuff, one part. This ration is used three times each day. We do not know of a satisfactory ration for ducklings that is very cheap at the present price of mill feeds and it is necessary to rear them very carefully and study the markets in order to make much profit from them.

The small orchard, sixty by sixty feet, is hardly large enough to keep one hundred ducklings penned in unless they are given unusually good care and an abundance of fresh green feed. One breeder of some experience keeps his ducks in yards twenty-four by one hundred feet and allows forty ducks to a yard. This gives forty ducks an area of 2,400 feet, or about sixty square feet per duck. With one hundred ducks in a yard sixty by sixty, they would have an area of 3,600 square feet, or thirty-six square feet per duck. Of course, young growing stock do not need quite as much room as old birds but the young grow so fast that they really need plenty of room, and if they are crowded the yards will soon be bare and unsanitary. Of course, the quality of the green food growing in the yard, the kind of soil and the drainage would all be factors in determining how many ducks could use a certain limited area without injury to their health and growth. We would wish to give the one hundred ducklings a yard about twice as large as the sixty by sixty orchard.

THE FIRE WARDEN.

(Continued from page 39.)

"Won't you ask me, too, Mr. Burlison?"

"Yes."

"But I want to show you my rose first. Will you come?—it is just a step."

He walked out into the moonlight

with her; they stood silently before the bush which had so capriciously bloomed.

"Now—I will sing for you, Mr. Burlison," she said amiably. And they returned to the house, finding not a word to say on the way.

The piano was in decent tune; she sat down, nodding across at her father, and touched a chord or two.

"The same song—the one your mother cared for," murmured her father.

And she looked at Burlison dreamily, then turned, musing with bent head, sounding a note, a tentative chord. And then she sang.

A dropping chord, lingering like fragrance in the room, a silence, and she rose, looking at her father. But he, dim eyes brooding, lay back unconscious of all save memories awakened by her song. And presently she moved across the room to the veranda, stepping out into the moonlit garden—knowing perfectly well what she was doing, though her heart was beating like a trip-hammer, and she heard the quick step on the gravel behind her.

She was busy with the long stem of the rose when he came up; she broke it short and straightened up, smiling a little greeting, for she could not have spoken for her life.

"Will you marry me?" he asked, under his breath.

Then the slow, clear words came, "I cannot."

"I love you," he said, as though he had not heard her. "There is nothing for me in life without you; from the moment you came into my life there was nothing else, nothing in heaven or earth but you—your loveliness, your beauty, your hair, your hands, the echo of your voice haunting me, the memory of your every step, your smile, the turn of your head—all that I love in you—and all that I worship—your sweetness, your loyalty, your bravery, your honor. Give me all this to guard, to adore—try to love me; forget my faults, forgive all that I lack. I know—I know what I am—what little I have to offer—but it is all that I am, all that I have. Constance! Constance! Must you refuse?"

"Did I refuse?" she faltered. "I don't know why I did."

With bare arm bent back and hand pressed over the hand that held her waist imprisoned, she looked up into his eyes. Then their lips met.

"Say it," he whispered.

"Say it? Ay, I do say it: I love you—I love you. I said it years ago—when you were a boy and I wore muslin gowns above my knees. Did you think I had not guessed it? And you told father tonight—you told him, because I never heard him laugh that way before. And you are Jack—my boy that I loved when I was ten—my boy lover? Ah, Jack, I was never deceived."

He drew her closer and lifted her flushed face. "I told your father—yes. And I told him that we would go south with him."

"You—you dared assume that—before I had consented!" she cried, exasperated.

"Why—why, I couldn't contemplate anything else."

Half laughing, half angry, she strained to release his arm, then desisted, breathless, gray eyes meeting his.

"No other man," she breathed—"no other man—" There was a silence, then her arms crept up closer, encircling his neck. "There is no other man," she sighed.

THE END.

Labor spent by the farmer in sharpening his tools and implements earns a thousand per cent interest, declares Prof. H. H. Musselman, of the Michigan Agricultural College. The average farmer is inclined to go along with dull edges, little realizing the tremendous amount of extra labor he is making himself.

Barrett Everlastic Roofings

For all your buildings

The Barrett Company, largest manufacturers of roofing materials in the world, brought out these Everlastic Roofings to meet the need for practical, durable and artistic roofings for steep-roofed buildings at low cost.

Among the Everlastic Roofings described below, you will find types suitable for every building on the farm, from your home, on which you naturally want a roof with a little color and "class," to the humblest shed or chicken-coop, where serviceability is the main consideration.

Everlastic "Rubber" Roofing—
A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Nails and cement with each roll.

Everlastic Slate-Surfaced Roofing—
A high-grade roll roofing, surfaced with genuine crushed slate in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

Everlastic Multi-Shingles (4-in One)—
Made of high-grade felt thoroughly water-proofed and surfaced with crushed slate in beautiful natural slate colors, either red or green. Laid in strips of four shingles in one at far less cost in labor and time than for wooden shingles. Gives you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Needs no painting.

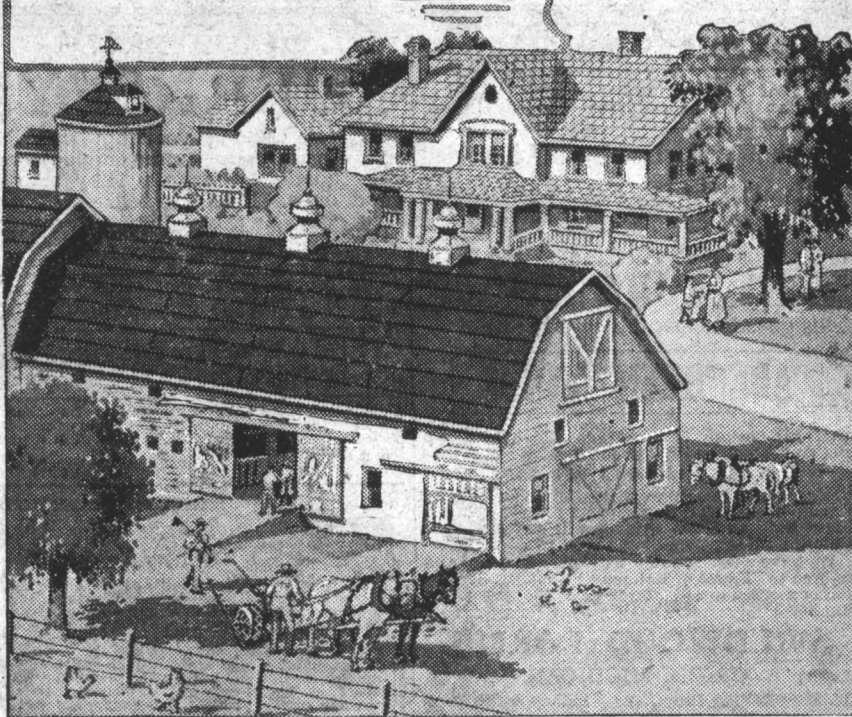
Everlastic Tylike Shingles—
Made of the same durable slate-surfaced (red or green) material as Everlastic Multi-Shingles but cut into individual shingles, 8x12 1/4 inches. Laid like wooden shingles but cost less per year of service. Need no painting.

Write for free booklets today.

The Barrett Company

New York Chicago Philadelphia Boston St. Louis
Cleveland Cincinnati Pittsburgh Detroit Birmingham
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Reid's MILK COOLER
Get one now. Save the usual sour milk losses. Drives out animal odors and garlicky flavor. By far the most efficient and easily cleaned cooler made. Prompt shipment of orders.
Write for prices at once or ask your dealer.
A. R. REID CREAMERY AND DAIRY SUPPLY CO.
69th St. and Haverford Ave. Philadelphia, Pa.

RUSTY AUTOS, STOVES and SCREENS
MADE NEW
Contains six high grade useful articles: one can of the wonderful 6-5-4 Black Lusta; 1 can of best Auto and Furniture Polish; 1 Can Soap Paste—removes grease from hands, or cloths, without water; 1 Pkg. of fine Metal Polish; 1 Pkg. of quick Glass Cleaner; 1 Pkg. of specially prepared Polishing Waste. Become our agent at once. Hurry your name and address before your territory is taken. Sells at sight to every auto and household. Send \$1 for complete outfit prepaid.
CROSBY 6-5-4 PRODUCTS CO.,
Factory: Trenton, Mich., (Near Detroit.)

Binder Twine Standard 500 ft. to the lb.
\$20.50 per 100 pounds, Carload lots 1/2 cent less per pound. Order now.
Write for Circular
Louis Losse, Dep. V, Milwaukee, Wis.
Mention The Michigan Farmer When Writing Advertisers

WANTED Farm home for good 12 year old boy. Place where he can at least earn board. Only good Christian home. Address Box 8712, Michigan Farmer, Detroit, Michigan.

MOLINE CORN BINDER



The Moline Line of Implements

Plows (steel and chilled)
Harrow
Planters
Cultivators
Grain Drills
Line Sowers
Mowers
Hay Rakes
Hay Loaders
Hay Stackers
Grain Binders
Corn Binders
Pile Scales
Spreaders
Wagons
Moline-Universal Tractors
Stephens Salient Six
Automobiles

Forty per cent of the feeding value of the corn crop is contained in the stalks. Don't just skim the corn field this year, but cut it and bind it into bundles the sensible way with a Moline Corn Binder, and save time.

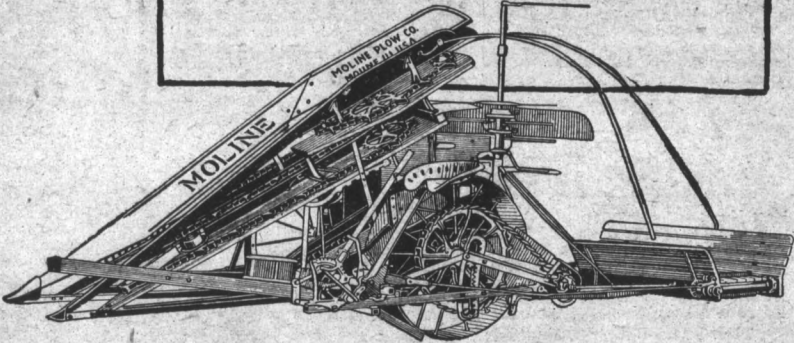
This corn binder has many years of "make good" behind it and was the first successfully to handle long, short or tangled corn. It possesses every known mechanical improvement and is built to last.

The Moline Corn Binder runs so easy and does such good work because it has the lightest running main wheel on the market and throughout self-aligning and anti-friction roller and ball bearings take up end thrust and lighten draft. The whole machine is in perfect balance and can be quickly adjusted for long or short corn. The cutting device is reliable and durable and the binding mechanism time tried and true. The power lift bundle carrier delivers bundles neatly and out of the way on next round.

Moline Corn Binder drives easier, lasts longer and causes less trouble than others, with a great saving of effort on the part of both man and team.

A hitch for the Moline-Universal Tractor can be furnished so that one man has complete control of both tractor and implement.

See your Moline Dealer now so that you can get your Moline Binder in plenty of time, or write us for full information.



MOLINE PLOW CO., MOLINE, ILL.

MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865

BREEDERS' DIRECTORY

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

A bull calf, sired by our imported "EDGAR of DALMENY"

recently sold in Scotland at the Perth Bull Sale for the record price of 2,100 guineas, or \$10,584.00 in our money. This goes to show the quality of the

ABERDEEN ANGUS

that Mr. Scripps is breeding. He enjoys seeing good stock on "Wildwood" and believes that THE BEST IS NONE TOO GOOD.

"Edgar of Dalmeny" won the Michigan Grand Championship last September at the Michigan State Fair and was a winner in his class at the Chicago International last December.

We have a few females with calves at foot and re-bred to "Edgar of Dalmeny" that Mr. Scripps has consented to sell to reduce the fast growing herd.

Write To

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop., Sidney Smith, Supt.

WOODCOTE ANGUS

Established in 1900.

TRIO-ERICAS and BLACKBIRDS (Blackcaps).

The herd (tested annually) is absolutely free from tuberculosis.

A few bulls (no females) for sale

WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus Bred cows, heifers and bull calves of good breeding. GEO. HATHAWAY & SON, Ovid, Mich.

FOR SALE Six registered Aberdeen Angus Bulls, one year old. Prices reasonable. LANG BROS., Davison, Michigan.

Registered Guernseys

Choice May Rose Bull Calves—at prices you can afford to pay. J. M. WILLIAMS, North Adams, Mich.

BALLARD FARM GUERNSEYS

May Rose and other popular strains. Advanced Registry. Accredited List. A few choice young bull calves. All older bulls sold. Ballard Bros., R. F. D. 4 Niles, Michigan.

REGISTERED

GUERNSEYS

Just two young yearling bulls left, ready for service. Come and look them over quick, or write. They are the good ones. Priced to sell.

AVONDALE STOCK FARM, WAYNE, MICH.

Guernsey Pure Bred Bull Calves from one to two months old \$50 each "registered." WALTER PHIPPS FARM, 30 Alfred St. Detroit, Mich.

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

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



7000 to 9000 Lbs. Of Milk Yearly.

Quality of production and persistency of milking during long periods are well-known characteristics of Holsteins. Dropping her first calf at about two years old, the average cow, if well cared for, will produce from 5000 to 8000 lbs. of milk in ten months, and she will increase the production every year until at maturity she will give from 10,000 to 20,000 lbs. per year. If fed to their ability to digest and assimilate food, most Holsteins will exceed this production.

If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

HOLSTEIN FRIESIAN ASSOCIATION OF AMERICA Box 164, Brattleboro, Vt.

The Traverse Herd

We have what you want in BULL CALVES, the large fine growthy type, guaranteed right in every way. They are from high producing A.R. O. ancestors, Dam's records up to 80 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL Traverse City, Mich.

THE HOLSTEINS

At Maple Avenue Stock Farm are under Government supervision. The entire herd have just been tuberculin tested and not one reactor. A good place to buy that bull you are looking for, and I have two very fine, richly bred, and splendid individuals ready for any amount of service. I want to answer any question you may ask about them. L. E. CONNELL, Fayette, Ohio



Lillie Farmstead Notes

A MAN connected with the department of agriculture at Washington one time conceived the idea that the only practical reason for cultivating corn was to kill the weeds. I received at that time a direct communication from the department asking me to make an experiment in a small way, of course, by simply keeping the weeds out of a patch of corn. This was to be done with a hoe. The ground was not to be stirred up as it ordinarily is in cultivating, but every weed was to be cut off. The idea was that it was not necessary to stir the ground, simply prevent the weeds from growing up and choking the corn and use the supply of moisture in the soil.

At the time I had no faith in the proposition. It was contrary to my idea of benefits to be derived from cultivation because I was brought up in a country where the soil contains a good per cent of clay and it is liable to pack down so that crops cannot grow and do their best unless it is loosened up. The man of the department who conceived this idea had much to do with the looser, more porous soil that didn't pack with heavy rains. One time when I was at Washington I called on Dr. Spillman, who was then connected with the department of agriculture and this subject came up for discussion. Dr. Spillman told me that he had warned the man who was putting out this non-tillage propaganda that he was acting too hastily, that he must not judge all kinds of soil by the soil that he had experimented with. Now that practically settled the whole question. Some of the alluvial soil of Illinois and the Red River valley and in the most fertile part of the corn belt would probably raise splendid crops of corn without any cultivation, only sufficient to keep down the weeds. That kind of soil does not lose its moisture by capillary attraction like heavier soils after a crust is formed by heavy rains. But when this theory came to be applied to our conditions it wouldn't work. The ground settled down so hard before the summer was over that the corn stopped growing, it dried up in the hot weather, it couldn't live in this compact soil, hence cultivation of a heavy soil means more than it does on sandy and alluvial soil. It is just as necessary to destroy the weeds on the heavy soil as it is on the other but in addition to that you must loosen up the soil so that the air can get in so the moisture can be absorbed when it rains and to form an earth mulch so that there will not be loss of moisture from evaporation by capillary attraction.

Tillage, then, for intertillage crops on hardwood, upland soils means more than destroying weeds. We might put this as the main reason for tillage and yet it is doubtful if even that is so. Loosening the soil is very important and it can only be done by thorough tillage. Again, tillage aids chemical action, and this will help supply at least the mineral matter to all soils and is especially important in heavy soils. When the earth by means of tillage tools is disturbed and particles come in contact with each other that never were in contact before chemical action takes place. Potash and phosphorus are made water soluble by this chemical action. Also, tillage increases bacterial activity. None of us know as yet the full significance of bacteria in converting inert plant food into soluble plant food so that it may be used by the plants. I can remember in



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AGENTS wanted in unoccupied territory. Write us for prices and terms.

International Agricultural Corporation

Cincinnati Works: 612 Gwynne Bldg., Cincinnati, Ohio

"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.

\$75 gets 1 mo. old gdson Maplecrest Korn. Heng. is 27 lb. dam of Johan Heng. Lad. is 18.48 lb. dam of Cal. Jane Paul A. Dam my best milker. Terms, M. L. McLAULIN, Redford, Michigan.

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.

NO more bull calves to offer until next fall. Place your order for one from next fall's crop. My herd is on the state and federal accredited herd list. A. F. LOOMIS, Owosso, Mich.

Holstein Bull dropped May 25-19, a beauty, ½ white, dam 21.44. Price \$100 del. & reg. Write for photo and breeding. J. Robt. Hicks, St. Johns, Mich.

Registered Holstein Friesian Bull calves from 5 to 7 mo. old at \$75. each. 30 lb. Pontiac breeding. About evenly marked. B. B. Reavey, Akron, 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. CLARKE, Vassar, Mich.

"Winwood Herd"

REGISTERED Holstein - Friesian Cattle

Sire in Service FLINT MAPLECREST BOY

His sire is Maplecrest Korndyke Hengerveld. His three nearest dams each over 30 lbs. of butter in 7 days. His dam and granddam both made over 1232 lbs. of butter in one year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vassar Bell, 30.57 lbs. of butter in 7 days and 121 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have bull calves from 2 weeks to 12 months old. From A. R. O. dams and sired by Flint Maplecrest Boy, which we will sell at a dairy farmers' price breeding considered. Just think 40 more cows to freshen which means more bull calves. Let us know your wants. We will make terms on approved notes.

JOHN H. WINN, Inc. Lock Box 249, Roscommon Mich. Reference Roscommon State Bank.

REGISTERED heifer and bull calves, of the best R. breeding in Holsteins for sale. Special price on 2 heifers and bull. C. H. GIDDINGS, Gobleville, Mich.

studying organic chemistry, hearing the late Dr. Robert Kedzie say with emphasis, "that a well-tilled field is a vast niter bed." That is, by cultivating a field during the growing season nitrogen is made available. At that time we did not know as much about bacteria in the soil as we do now, and Dr. Kedzie attributed the accumulation of available nitrogen through tillage largely to chemical action. In all probability much of this was due to the action of the bacteria in the soil. At any rate, we know that tillage stimulates chemical and bacterial action and makes plant food available that was not available before, and last, but not least—tillage on our heavy soils conserves moisture by means of the earth mulch. A corn field should be cultivated after every heavy rain as soon as it is dry enough to work, even though there is not a weed in sight because if the surface soil is left in this compact condition the subsoil moisture will escape in large quantities by capillary attraction and this moisture will be sorely needed by the growing plant before the season is over.

Hence, we can give as the reasons for thoroughly cultivating corn:

1. To destroy weeds.
2. To loosen the heavy soil to admit air and moisture.
3. To increase bacterial activity.
4. To aid chemical action.
5. To conserve moisture.

C. C. L.

VETERINARY.

Unthrifty Colt.—I have a filly eleven months old that has a good appetite, has not shed yet, is growing some, but is very thin. Have given her worm remedies, condition powder, and also changed feed, but nothing I have done seems to help her. Sometimes she shows lameness in one quarter, then in another. I thought she might be troubled with lice, but I find none on her. F. E. B., Mesiek, Mich.—Give her 15 drops fluid extract nux vomica, 2 drs. tincture gentian, 2 drs. tincture cinchona and 1 dr. Fowler's solution at a dose two or three times a day. In addition to feeding her grass, give her all the oats and wheat bran she will eat. Give her half a teaspoonful of salt daily.

Infectious Abortion.—I have a three-year-old cow which aborted a month or six weeks ago. I suspected this had happened, though I did not know for certain, until I found the calf in pasture lot a few days ago. Then I remembered she had increased in milk flow some time previous with no apparent cause at the time. She gave no evidence of ill health or of injury and has been in good flesh continuously. Is there any way of determining if this case is contagious abortion? Would it not have shown up in the rest of the herd by this time? What would be the wisest steps to take in this case? She gives nine quarts of milk daily, came fresh last November, and was due to freshen next October. F. E. F., Norvell, Mich.—All things considered, you had better breed her again; however, she may possibly not carry her next calf full period. Disposing of aborters is not going to materially lessen the number of miscarriages in a herd, for in stocking up again you are likely to purchase diseased heifers or cows. If you have, or can segregate her from the balance of herd for a few weeks do so.

Bunch on Knee.—I have two Jersey cows, both have bunches on knees. Can you tell me what is the cause and give remedy. I might add that these bunches are soft and cause no lameness. O. D. H., Climax, Mich.—Doubtless the bunches are the result of a bruise, or injury of some kind. Apply equal parts of tincture iodine and spirits of camphor once a day.

Rheumatism.—Two of my cows are stiff and sore; they move much like a foundered horse; the mother of these two cows was in same condition six years ago. A. V., Coopersville, Mich.—It appears that your cows come honestly by their soreness, and as this seems to be an hereditary ailment their recovery is somewhat doubtful. Give each cow 30 grs. of potassium iodide and 2 drs. of acetate of potash at a dose twice a day. Painting the infected joints with tincture of iodine once a day will have a good effect. It is perhaps needless for me to say they should have good care, sheltered during cold storms, and kept in a dry place.

The REEKDALE HERD

have sold the cow adv. and have for sale a 2-yr. old daughter of a 25 lb. cow, dark in color and due to freshen Oct. 15, 1919 to 27 lb. grandson of Maplecrest Korndyke Hengerveld. Also a yearling daughter of a 28 lb. son of Maplecrest Korndyke Hengerveld.

Arthur C. Reek, Imlay City, Mich.

DENBROOK FARM
HOLSTEIN BULL CALVES

FOR SALE

From Advanced Registry Cows.

MRS. GARVIN DENBY,
Farmington, Michigan

Choice Grade Holstein Heifers We have six beautiful grade Holstein heifers, perfectly marked, 3 past 2 years old and bred, 3, fifteen months old, large enough to breed. These heifers are about perfect and are priced right. The Jennings Farms, Bailey, Mich., R. F. D. No. 1

Polled Durham Cows, young bulls and heifers. O. row. Come and see me. Frank Bartlett, Dryden, Mich.

JERSEY BULLS

Ready for service FOR SALE
WATERMAN & WATERMAN, Ann Arbor, Mich.

BUTTER BRED JERSEY BULLS FOR SALE
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.

Maple Lane R. of M. Jersey herd. Bull and heifer calves sired by a nephew the new World's Champion, Sophie's Agnes. Also R. C. Red eggs and chicks. IRVIN FOX, Allegan, Mich.

LILLIE Farmstead Jerseys. Young bulls ready for service from R. of M. cows. A few bred heifers and cows. COLON C. LILLIE, Coopersville, Mich.

For Sale Jersey Bull, Goldie Foxhall Lad No. 170446, Sire Pops Foxhall No. 129549 Dam Goldie Sophia No. 352783, this bull is solid color, black tongue and switch, dropped Mar. 10th, 1918, an extra fine individual, good enough that I will ship him C. O. D. Also a few bull calves. Address NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

The Wildwood Jersey Farm.
Bulls for sale by Majesty's Oxford, Fox 134214 and Eminent Lady's Majesty 150934, and out of R. of M. Majesty dams. ALVIN BALDEN, Capac, Mich.

For Sale Registered Jersey bulls ready for service and bull calves.
SMITH & PARKER, R. 4, Howell, Mich.

HEREFORDS

8 bulls from 7 to 10 months old, Prince Donald and Farmer breeding for sale.

ALLEN BROS., Paw Paw, Mich.

Harwood's White Faces

Owing to labor shortage will sell one half my herd, consisting of 120 head of Reg. Herefords, yearling and two year old heifers, cows with calf at side, rebred to ton bull. Ten short yearling bulls. Priced right for quick sale.

JAY HARWOOD, -- Ionia, 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 494027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. EARL C. MCARTY, Sec'y. H. B. Ass'n., Bad Axe, Mich.

BIDWELL SHORTHORNS

For Beef and Milk

Registered bulls, cows and heifers. Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Herd under state and federal supervision. 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.

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

Richland Stock Farm
SHORTHORNS

HOME OF THE MICH. CHAMPIONS
We offer for sale a few good dual purpose cows with calves at foot. Also two three year old bulls suitable for range purposes. We invite inspection. C. H. PRESCOTT & SONS,
Office at Tawas City, Mich. Herds at Prescott, Mich.

Shorthorns Scotch and Scotch Topped cows and heifers, priced right. Come and see them or write W. B. McQUILLAN, R. 7, Howell, Mich.

Milking Shorthorns Clay bred young bulls 3 to 10 months old.
DAVIDSON & HALL, Tecumseh, Mich.

Scotch Topped Cows For Sale. Bred by the Mich. Agr. College.
M. V. Butler, Williamston, Mich.

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton, model type, by the Ocala Co. Shorthorn Breeders Ass. John Schmidt, Sec. Reed City, Mich.

Shorthorns New list, 27 bulls; 23 females. Feb. list all sold. Central Mich. Shorthorn Breeders' Assn., Oscar Skinner, Sec'y., Gowen, Mich.

The Kent Co. Shorthorn Breeders have both males and females for sale. Ask about them.
L. E. LEONARD Sec., Oaledonia, Mich.

Milking Shorthorns of best Bates breeding and O. I. C. sires. Bulls for sale 1 mo. to 1 year old.
E. H. KURTZ, Mason, Mich.

SCOTCH and Scotch Top Shorthorns. Young bulls for sale. Price right for quick sale. H. E. Hartwell, Williamston, Mich.

Bates Shorthorns Three extra fine cows for sale.
J. B. Hummel, Mason, Mich.

BROWN SWISS BULL

wanted Reg. and fit to head a herd of Reg. cows must be old enough for light service and free from all diseases: would like to buy a few females. Give description and lowest cash price in first letter. For sale pair of Reg. black Percheron mares 4 years old.
T. H. Love, Howell, Michigan. R. F. D. No. 3

HOGS

Registered Berkshire Boars: ready for service. A few gilts and sows bred for May and June farrow. Also spring pigs. CHASE STOCK FARM, Marlette, Mich.

FOR SALE Fine Purebred Berkshire Pigs, both sex. Only a few left.
Fairman Farms, Plymouth, Michigan

Attention Breeders and Farmers Now is the time to buy that Duroc Boar for full service. We have some Corkers. March pigs will weigh 100 lbs. July 1st. Inspection Solicited. Prices very reasonable.
RUSH BROS., Oakwood Farm, Romeo, Michigan.

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It paid this man to use one of our boars it will pay you.

We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich.
HERBERT W. MUMFORD, owner.
J. BRUCE HENDERSON, Manager.

DENBROOK FARM

Duroc-Jersey Pigs For Sale

SIRE—Brookwater Satisfaction 5th 143729
DAM—Brookwater Lucy Wonder 28th 332502
Price \$20.00 to \$25.00

MRS. GARVIN DENBY,
Farmington, Michigan

SEVERAL GOOD

Duroc sows bred to Orion's Fancy King. Boar pigs ready for service.
NEWTON BARNHART, St. Johns, Mich.

DUROC JERSEYS

Fall pigs either sex also spring pigs pairs not skin. Sired by the Grand Champion and Junior Champion boars.
E. J. DRODT, R. 1, Monroe, Mich.

DUROC-JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

DUROC JERSEYS

Will sell bred sows and gilts August 7th. Ask for catalogue. CAREY U. EDMUNDS, Hastings, Mich.

DUROC gilts bred for August and September farrow, sired by Orion Cherry King Col. 2nd. Write for description and prices. W. C. TAYLOR, Milan, Mich.

8734 Hampshires recorded from Jan. 1 to Apr. 1, '19. Did you get one? Boar pigs only for sale now.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

Originators of the Famous O. I. C. Hogs

Breed The Best

THE WORLD NEEDS LARGE FAT HOGS

Why lose money feeding and feeding scrub hogs? Two of our O. I. C. Hogs Weighed 2806 Pounds. We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments U. S. Government Inspected

We have bred the O. I. C. Hogs since 1863 and have never lost a hog with cholera or any other contagious disease.

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THE WORLD'S CHAMPION

big type O. I. C. S. Stock of all ages for sale. Herd headed by Calloway Edd, the World's Champion O. I. C. boar assisted by O. C. Schoelmaster, Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, O. C. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Orandell's prize hogs, Cass City, Michigan.

Shadowland Farm

O. I. C.'s

Bred Gilts 200 to 300 lbs. from prize winning stock. A few fall yearlings and 2 yr. old sows, big type, growthy boars of all ages, guaranteed as breeders. Everything shipped C. O. D. Express paid and registered in buyer's name. J. CARL JEWETT, Mason, Mich.

O. I. C.'s. Big type serviceable boars and gilts bred for July and August farrow.
G. P. Andrews, Dansville, Mich.

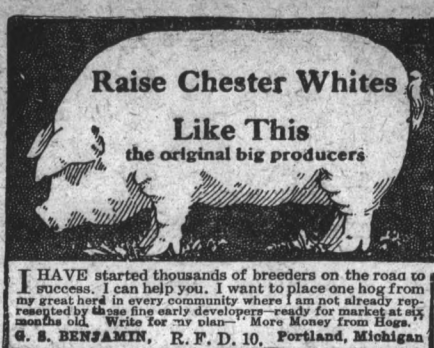
O. I. C. For Sale—Spring Pig's
H. W. MANN, DANVILLE, MICHIGAN.

O. I. C.'s. Bred gilts all sold. Plenty of spring pigs good enough to ship C. O. D.
F. C. BURGESS, R. 3, Mason, Mich.

O. I. C.'s 2 Choice Yearlings Boars and Spring pigs.
Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C.'s One very good yearling boar, and this spring pigs to offer, registered free. 1/4 mile west of Depot, Citizens Farm 124.
OTTO B. SCHULZE, Nashville, Mich.

For 25 Years We have been breeding Big Type Poland Chinas hogs of the most approved blood lines. Our new herd boar "Michigan Buster" is a mighty good son of the great "Giant Buster" dam "Mow's Miss Queen 2." Some breeding! Litter of 14. Years offering some sows bred for fall farrow.
J. C. BUTLER, Portland, Mich.



Raise Chester Whites
Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.
G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Big Type Poland Chinas—A litter by Gerstdale Jones B (Carter); one by Gerstdale King (Gerst); and a nice bunch of pigs by Mammoth Ben 31859. The stretchy, growthy, smooth, well marked pigs we like to see. Am pricing them for immediate delivery. Would be pleased to have you come see them, pick your pig and take him home with you. They sure will bear your inspection. Both boars and sows for sale. 8 miles straight north of Lake Odessa; 5 1/2 miles from Saranac; 8 miles from Ionia. "First come first served." WESLEY HILL, R. 6, Ionia, Michigan.

LARGEST Type P. C. in Mich. Nothing at present. Spring pigs too young to ship. Have 60 the best I ever raised which I will offer later. Come and see two greatest boars in state: L's Big Orange 231847 and Lord Olansman 330207. W. E. LIVINGSTON, Parma, Mich.

THE OLD FASHIONED SPOTTED CHINA HOGS. Gilts due to farrow JUNE OR JULY—\$100 up. Spring pigs \$25 weaning time.
J. W. WILLIAMS, North Adams, Mich.

L. S. P. C. Boars all sold. A few nice gilts bred for fall farrow.
H. O. SWARTZ, Schoolcraft, Michigan.

Big Type Poland Chinas with quality. Bred for pigs. Ask any questions about my breeders. G. A. BAUMGARDNER, R. 2, Middleville, Michigan.

Big Type Poland-Chinas pigs, sired by C. A. King Joe 290831, by King Joe 251257; Monster Big Bob 327623, by Luken's Big Bob 251777; Buster Half Ton 286225, by Great Big Half Ton 261243. Out of sows, whose pedigree, individuality and quality are of equal merit as my herd boars. Can furnish pairs and trios, not skin.
O. A. BOONE, Blanchard, Mich.

MICH. Champion herd of Big Type P. C. Nothing for sale but fall pigs; orders booked for spring pigs.
E. R. LEONARD, St. Louis, Mich.

Big Type P. C. boars all sold. Nothing now until fall. I thank my customers for their patronage. Spring pigs coming fine. C. E. GARNANT, Eaton Rapids, Mich.

Large Type P. C. Nothing for sale now. Will be in market with better than ever this fall. If interested counts.
W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C. gilts, bred for August and September farrow.
A. A. WOOD & SON, Saline, Mich.

Big Type P. C. Choice bred sows from Iowas greatest Big herds, the big bone prolific kind with size and quality.
E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland's all sold out, nothing for sale at present. Booking orders for spring pigs. Thanking my customers. L. L. Chamberlain, Marcellus, Mich.

Mammoth Poland Chinas all sold. General Jones No. 317249, son of Gerstdale Jones heads our herd. Clyde Weaver, Ceresco, Mich.

Big Type P. C. Will have better males than ever for fall trade, gilt in season.
JOHN D. WILEY, Schoolcraft, Mich.

HORSES

Pure Bred

Belgian Draft Horses

We have some extra good Belgian Stallions for sale, coming three and four years old. They are heavy, of good conformation and sound. You can see their sires and dams. They are raised in Michigan and acclimated. We have no agents on the road for which you or we would have to pay. You cannot buy them any better nor cheaper in the world. Our studs and mares carry the best blood Belgium has produced. We prove this by their pedigrees. We invite you to see our stock before buying. You can see them any day of the week except Sunday. Write for particulars and catalog to the OWOSSO SUGAR COMPANY, Prairie Farm, Alicia, Mich.

BREEDERS OF PERCHERONS

Important, (Wt. 2350) Sire of one & two yr. olds. Sevier a ton son with 14 in. bone at two years in service. Mares as good. Young stock for sale.
Chas. Osgood & Sons, Mendon, Michigan.

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

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

7-Yr.-Old Grade Clyde Mare, due to foal in July, weight 1,700 lbs.
F. W. Kennedy, Plymouth, Mich., Phone 250 F. 14.

SHEEP

TO THE KIDS

Over 300 have written me about the sheep I am giving away. I would like to send one to each of you but two is my limit. Three disinterested judges are picking the winners. If you are not one of the lucky kids, why not save your money and buy one next December. I will contract to buy the produce back at a splendid price.
KOPE-KON FARMS, S. L. Wing, Proprietor
Coldwater, Michigan

BUY A SHEEP

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write COMFORT A. TYLER, Secretary, 22 Woodland Ave., Detroit, Mich.

For Shropshire Yearling Rams write or ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Shropshires Am offering 16 yearling rams and 8 yearling ewes of Senator Bibby breeding.
O. J. THOMPSON, Rockford, Mich.

FOR SALE—34 Ewes and 38 Lambs. Inquire of H. E. PETERS, South Lyon, Michigan

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, July 10.

WHEAT.

Weather conditions have been favorable for ripening the winter wheat in the northern states. In Indiana the yield will be materially reduced by smut while lodging has been extensive in Iowa and Kansas and in Nebraska considerable rust has been reported. New wheat sold in Chicago Monday at \$2.29 per bushel. A year ago No. 2 red wheat was quoted on the local market at \$2.28 per bushel. The U. S. visible supply decreased 1,972,000 bu. the past week. Great Britain is buying less grain than a year ago. Present Detroit prices are:

No. 2 red	\$2.25
No. 2 mixed	2.23
No. 2 white	2.23

CORN.

Active buying by both domestic and foreign agents forced corn to a new high level for the season early this week. Manufacturers are anxious for the grain, lest they fail to secure ample quantities to fill existing orders. Europe is also buying here and South American grain is not coming to this country, but is going to Europe. Crop news is generally favorable, although in many sections complaints are made. Wet weather in sections of Minnesota, Iowa and Missouri has prevented cultivation. The crop is late and backward in Kansas and army worms have done some damage in western and southern districts. Prices advanced nearly a nickel at the opening this week. The visible supply decreased 239,000 bushels in the past seven days. One year ago No. 3 corn was quoted here at \$1.65 per bushel. Present Chicago prices are: No. 2 mixed \$1.86@1.93; No. 2 yellow \$1.97@2; September \$1.95%; December \$1.61%. Detroit quotations are advanced as follows:

No. 3 corn	\$1.95
No. 3 yellow	1.97
No. 4 yellow	1.95
No. 5 yellow	1.92
No. 3 white	2.00

OATS.

While oats have advanced, the margin has been proportionately narrower than for corn. In the southern states where threshing has started, the returns are said to be disappointing to farmers. The visible supply shows an increase of nearly a million bushels the past week. This aided the bears in keeping prices from following corn too closely. One year ago standard oats were quoted on the local market at 83c per bushel. Chicago is now paying 74 1/4 @ 75 1/4 for No. 2 white. Detroit prices are:

No. 2 white	75
No. 3 white	74 1/2
No. 4 white	73 1/2

RYE.

A bumper crop of this cereal is about ready for harvest. The market is higher than a week ago, the local quotation for cash No. 2 being \$1.45 per bushel.

BEANS.

Government reports on the quantity of beans planted in Michigan and Colorado show a much smaller acreage than was devoted to this crop a year ago. Planting has been completed and the growth, especially in Michigan fields, is generally very good. A slight improvement is observed in the local market with 10c added to the price of immediate and prompt shipment, it now being \$7.25 per cwt. In New York the best pea and medium grades are offered freely at \$7.50, while many sales are made at 10@15c below this figure. At Chicago the demand and supply are comparatively light. Prices hold steady with choice to fancy pea beans, hand-picked, quoted at \$7.25 @ 7.50, and red kidneys at \$11@11.50.

SEEDS.

Prices are high and strong as follows: Prime red clover \$28; October \$27; timothy \$5.40.

FEEDS.

Market firm. Local quotations are: Bran \$43; standard middlings \$50@

52; fine middlings \$55; coarse corn meal \$73; cracked corn \$75.50@76; corn and oat chop \$58 per ton in 100-pound sacks to jobbers.

HAY.

The market is quiet and easy at lower quotations as follows: No. 1 timothy \$34.50@35; standard timothy \$33.50@34; light mixed \$33.50@34; No. 2 timothy \$32.50@33; No. 1 mixed \$32@33; No. 1 clover \$28@30.

Pittsburgh.—Receipts have been in excess of the local demand, and prices are rapidly declining. Clover hay is almost unsalable. Quotations are, No. 1 timothy \$37.50@38; No. 1 light mixed \$33.50@35; No. 1 clover mixed \$28 @ 29; No. 1 clover \$25@26.

CHEESE.

Competition for stocks of cheese to satisfy current demand and speculative interest has forced prices upward. Michigan flats are quoted at Detroit at 32c; daisies 33c; brick 31 1/4c. In New York whole milk current make specials are quoted at 31 1/4 @ 32 1/4c; do average run 30 1/4 @ 31 1/4c. The Philadelphia trade is paying 31 1/4 @ 33c for full milk offerings.

BUTTER.

Butter is quoted higher in all markets. At Detroit quotations are mark-

ed up to 48 1/4 @ 50c for fresh creamery. Chicago prices are also up to 46 @ 50 1/4c. In New York a stronger tone is reported with the range from 50 @ 54c. The Philadelphia trade rules higher at 53c for western creamery extra.

EGGS.

The markets are firm to higher, with the margin between good and poor lots rapidly widening. At Detroit prices are firm with fresh candled current receipts at 41c; do firsts in new cases 43c; extra firsts candled and graded in new cases at 44 1/2c. In Chicago the market is steady, with firsts at 40 @ 41c; ordinary firsts 38 @ 39c; storage packed 42 1/4 @ 42 1/2c. In New York an irregular trade is reported, with nearby western stock at 50 @ 60c. Philadelphia trade is firm with western stock quoted at \$14.40@15 a case.

POTATOES.

The commercial crop of the northern potato growing states shows an excellent stand although the acreage is reported to be less than that of last year. During the hot weather the plants grew too much to stalk in Wisconsin, while heavy rains caused some seed rotting in Minnesota. The old potato market is over, at least sales are so few that it is difficult to secure satisfactory quotations. The last sales

in Detroit were at \$1@1.50 per 150-lb. sack for Michigan U. S. grade No. 1.

WOOL.

All kinds of wool have been selling at top prices since the termination of the government auction sales. Speculative activity has been keen, and buying active in western primary centers. Buyers seem confident that prices will hold firm at present levels, and make further advances. Three-eighths blood fleeces have changed hands in Boston at 68c and much of this grade is being held at 72@73c. Choice selection fine delaine has sold there as high as 85c, with other fine delaines at 80@82c. Some Michigan quarter-blood sold in Boston at 66c a pound. Michigan wools especially the early bought clips, are in good demand at the above point.

CANNED GOODS.

While the canned goods market has experienced a little dullness during the holiday season, the general condition of the trade is strong, with supplies none too large to meet a firm and steady demand. Peas are in good demand and inquiries for corn are in evidence. Prices for dried fruits are firmly held.

DETROIT CITY MARKET.

Berries, make up a considerable portion of the offerings on the city markets. Red raspberries are selling at \$16 per bushel; black do \$9@10; cabbage \$2; cherries \$9@9.50; gooseberries \$7.50; currants \$7.50@8; green peas \$3 per bu; eggs 48c per dozen; butter 60c per pound; dressed veal 25 @ 26c; live chickens 33@34c.

GRAND RAPIDS.

Wheat and rye harvesting was in progress in Kent and adjoining counties last week, though a little wheat was cut the last day of June. This week it will become general and indications are an excellent yield of both cereals. Timothy hay crop will not be as large as anticipated. Old meadows are reported light. Although of excellent length the grass was thin. From twenty acres one farmer reports getting only sixteen loads. Seedmen are anxious about the forthcoming crop of clover seed. They have advices that on account of light hay crop, and prevailing high prices, most farmers will cut their rowen for hay rather than let it stand for clover seed. Oats and barley are heading on short straw. Beans are reported to have germinated well and sugar beets and buckwheat are making rapid growth. More rain is needed for crops in large areas in this section, especially for corn and potatoes.

NEWS OF THE WEEK.

(Continued from page 26).

Tuesday, July 8.

THE United States Ambassador to Japan is authorized to make a study of political conditions in Siberia and European Russia to advise this government on the desirability of recognizing the Kolchak government at Omsk.—Austria gives up the idea of a union with Germany.—Fighting continues in east Galicia between Poles and Ukrainians.—An anarchist plot to attack Rome is foiled by the arrest of the conspirators.—The German federal committee approves ratification of the peace treaty.—President Wilson completes his message to congress.—Secretary Lansing has been recalled from France.—A clash between French and Italian forces in Milan, Italy, develops a grave situation.—The exportation of wheat and flour will be facilitated by requiring that jobbers and millers may ship these products under a general license.

FLOODED WITH STAMPS.

A flood of unwelcome postage stamps has recently threatened to swamp Miss Bertha Hollister, State Seed Analyst at East Lansing. It has been the custom in the past for farmers who send in samples of seed for testing to pay their twenty-five cent fee in postage stamps. A change in the state accounting system made it impossible for Miss Hollister to handle stamps any longer, however, and she insists that in the future fees be paid by check, money order or draft.

Live Stock Market Service

Reports for Thursday, July 10th

BUFFALO.

On this market pigs sold today at \$21.50@22; mixed hogs \$23.75; lambs brought \$18.50 and calves \$23.50.

DETROIT

Cattle.

Receipts 1,602. Canners steady; all other grades 50c higher than Wednesday and \$1.50 higher than last week's close. Best heavy steers \$14.00@15.00 Best handy wt bu steers... 12.50@13.50 Mixed steers and heifers... 12.00@12.50 Handy light butchers.... 11.00@11.50 Light butchers 9.50@10.50 Best cows 10.00@10.50 Butcher cows 8.50@ 9.00 Cutters 7.00@ 7.50 Canners 6.50 Best heavy bulls 10.50 Bologna bulls 8.50@ 9.00 Stock bulls 8.00@ 8.50 Feeders 10.00@11.00 Stockers 8.00@ 9.00 Milkers and springers... \$ 65@ 100

Veal Calves.

Market steady to strong. Best \$22.00@23.50 Others 12.00@14.00

Sheep and Lambs.

Receipts 577. Market steady. Best dry-fed lambs \$ 17.50 Fair lambs 15.00@16.00 Light to common 12.00@14.00 Fair to good sheep 7.50@ 8.00 Culls 4.00@ 6.00

Hogs.

Receipts 2,080. Good grades strong to 10c higher. Pigs steady. Pigs \$ 21.00 Mixed 22.75@23.00

CHICAGO.

Hogs.

Estimated receipts today are 35,000; holdover 5,950. Market is principally strong to 10c higher, packers' grades showing more gain. Bulk of sales at \$21.40@22.70; tops \$23.85; heavy 250 lbs up, medium, good and choice \$22@22.70; medium 200 to 250 lbs, medium, good and choice \$21.85@22.75; light 150 to 200 lbs, common, medium, good and choice \$21.75@22.85; light lights 130 to 150 lbs, common, medium, good and choice \$20@22.50; heavy packing sows 250 lbs up, smooth \$21.10@21.75; Packing sows 200 lbs up, rough \$20.50 @ 21; pigs 130 lbs down, medium, good and choice \$18.50@20.

Cattle.

Estimated receipts today are 13,000; beef steers and yearlings the most advance on. Top grades of butcher stock strong to 25c higher; calves steady.

Beef steers, medium and heavy weight 1100 lbs up, choice and prime at \$16.25 @ 17.25; do medium and good \$13 @ 16.25; do common \$11.35@13.50; light weight 1100 lbs down, good and choice \$14.50@16.50; do common and medium \$7.40@14.50; butcher cattle, heifers, common, medium, good and choice at \$8.25@14.75; cows, common, medium, good and choice \$8@13; bulls, bologna and beef \$9@12.25; canners and cutters, cows and heifers \$6.75@8; do canner steers \$7.15@10.40; veal calves, light and handy weight, medium, good and choice \$18.50@19; feeder steers, common, medium, good and choice at \$9.50@13.50; stocker steers, common, medium, good and choice \$8.25@11.75; do cows and heifers, common, medium, good and choice \$7.50@9.50; do calves, common, medium, good and choice \$8.25@11.

Sheep and Lambs.

Estimated receipts today are 16,000; market steady to strong. Lambs 84 lbs down, medium, good, choice and prime \$14.75@17.25; do 85 lbs up, medium, good, choice and prime \$9@14.25; spring lambs, medium, good, choice and prime \$10.50@14.25; ewes medium, good and choice \$7@9.25; do cull and common \$3@6.50; breeding ewes, full mouths to yearlings \$7.50@13.50; feeder lambs, medium, good and choice \$10.75@12.50.

BUFFALO.

Monday, July 7, 1919.

Cattle.

Receipts five cars; market steady; prime heavy steers \$15@16.25; best shipping steers \$14@14.50; medium shipping steers \$13@13.50; best yearlings, 950 to 1000 lbs, \$14@15; light yearlings good quality \$12@13.50; light yearlings at \$12.50@13.50; best handy steers \$12.50@13.50; fair to good kind \$12@12.50; handy steers and heifers mixed \$11.50@12; western heifers \$12@12.50; best fat cows \$11@11.50; butchering cows \$9@10; cutters \$7@8.50; canners \$5@6.50; fancy bulls \$11@11.50; butchering bulls \$9 @ 10; common bulls \$7@8; feeders at \$9.50@11.50; stockers \$7.50@10; milkers and springers \$65@150.

Hogs.

Receipts 10 cars; market is steady. Heavy and yorkers \$23.50@23.85; pigs \$22@22.25.

Sheep and Lambs.

Receipts two cars; market steady. Top lambs \$18.50; yearlings \$10@14.50; wethers \$9@9.50; ewes \$7.50@8.50.

Calves.

Steady at \$7@23.50.

LAW GIVES FARMERS RIGHT TO BARGAIN.

GOVERNOR LOWDEN, of Illinois, has signed the bill that is supposed to permit the farmers, dairymen and others allied with agriculture to enter into "collective bargaining."

A statement was issued from the executive office saying that there might be some constitutional objection to it, but that this should be determined by the courts. The bill was supposed to have been shot at State's Attorney Hoyne by Illinois dairy interests.

Former Governor Deneen is now engaged in defending some of the dairymen under conspiracy section of the criminal laws of Illinois. The bill that becomes a law, as is quietly understood, tends to legitimize any "collective bargains" that have been made prior to July 1.

Statement of Governor.

The situation seemed to be sufficiently important to warrant the following statement from the executive office, the opinion of the attorney general having been that the law was unconstitutional.

"The policy expressed in this bill, in my opinion, is sound. To deprive the farmers of the right of collective bargaining is to deprive them, in effect, of all right of bargaining. If the individual farmer must act alone in the sale of his products he is compelled to take whatever price is offered. He therefore is not in a position to deal equally with the great concerns with which he must do business.

Farmer Like Other Toller.

"The farmer is dealing largely with the product of his own toil. Therefore, to admit the principle of collective bargaining as applied to men employed in other industries and to deny it to the farmer is unjust discrimination."

NEW YORK PRODUCE MARKET.

Butter.—There has been a strong downward tendency to the market this week and butter values have fallen fully two cents. The production of butter continues large and local buying seems to be curtailed. While some speculators continue to buy intermittently, that trade is not sufficient to keep values up. The general situation can be summed up as being a too great supply of butter and a limited demand. It is thought that the flush of production is over and that the present wave of hot weather with the attendant flies, will soon cause a decided shrinkage in production. All conservative dealers are looking for a further decline in butter prices. Established quotations at the close Friday were as follows: Extras 49½¢ @ 49½¢; higher scoring than extras 50¢ @ 50½¢; firsts 48¢ @ 49¢; seconds 46¢ @ 47½¢.

Cheese.—The cheese market shows practically no change from that of last week, although Wisconsin advices indicate an advance in price in the west. The New York market has been firm, with possibly a fraction of a cent advance, but demand has been limited. Considerable quantities of cheese are accumulating in local warehouses, but there is no greater accumulation than were present a year ago. The recent hot weather is materially affecting the quality of cheese being received at present. Quotations are as follows: Common to fair 29¢ @ 30½¢; average run 31¢ @ 31½¢; specials 32¢ @ 32½¢.

Eggs.—The egg market is practically demoralized. The supply is very large and the quality is decidedly poor. There is a scarcity of really high quality eggs. There is some export demand but it is not strong enough to affect the quotation. General demand is below normal. Established quotations are as follows: Firsts 43¢ @ 46¢; extra firsts 47¢ @ 50¢; extras 51¢ @ 52¢.

Poultry.—The poultry market has held steady in spite of some irregularity. Receipts have been liberal and the week has been short because of the holiday. Demand is somewhat curtailed because of the exit of many people to summer resorts. However, there is an active demand from the resorts for all kinds of poultry. Established quotations are as follows: Broilers 45¢ @ 50¢; fowls 35¢; old roosters 24¢; ducks 30¢; geese 20¢.

The Very Life of Paint



As white lead gives to paint its body, so it gets its life from linseed oil, which has the peculiar quality of absorbing oxygen from the air and becoming hard. Some oils evaporate and others remain greasy. If adulterated linseed oil is used, paint either crumbles quickly or fails to dry properly.

Linseed oil alone will not stand exposure to the weather. It requires a pigment which will unite with it and protect it from over oxidation. No other paint pigment unites with linseed oil like white lead nor remains united so long.

Mix dry white lead with water, add linseed oil and shake well. You would naturally expect the heavy white lead to settle to the bottom and the oil to float on the water, but instead the white lead expels the water, absorbs the oil and the water may be poured off. What better quality can a paint pigment possess than that it repels water and attracts linseed oil?

You can buy substitutes for pure linseed oil and Carter White Lead at lower prices, but you cannot save money by doing so.

On request we will gladly send you a list of reliable brands of pure linseed oil and give you any further information you may need to secure a first-class job of painting.

CARTER WHITE LEAD CO.

12053 So. Peoria Street

CHICAGO, ILLINOIS

Ring Neck Pheasants

Lay 40 to 50 eggs each per year. Why raise chickens to eat when these are much more profitable and raised as easily? Weigh 3 pounds at six months, and bring \$1 a pound in the market. Set the eggs under chickens—feed and care for the young the way you would chickens. Are economical as they only require one-half as much food. Are very hardy and not subject to disease. Best eating bird in America. Eggs guaranteed from vigorous healthy, unrelated stock.

\$ 6.00 for 15 Eggs
35.00 for 100 Eggs

Genuine Wild Mallard Ducks

Lay 50 to 60 eggs per year. We guarantee our breeding stock to be the best in the country as they are entirely wild trapped Mallards and not the coarse semi-wild strain.

\$ 5.00 for 15 Eggs
25.00 for 100 Eggs

This is just the time to set these eggs as the birds will mature by early fall. Send your order in at once with check or money order and we will make immediate shipment.

Bloomfield Farms

1714 Penobscot Bldg.
Detroit, Mich.



POULTRY

Baby Chicks: S. C. White and Brown Leghorns. Good laying strains of large white eggs. Guaranteed to reach you in first class condition by parcel. Catalogue with price list free. **WOLVERINE HATCHERY, R. 2, Zeeland, Mich.**

Fowler's Buff Rocks Cockerels \$4 up. Utility eggs for hatching \$2.00 for 15. **R. B. FOWLER, Hartford, Mich.**

For sale "Buy the Best" eggs for hatching from 200 F egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. **H. B. PROCTOR, Grand Haven, Mich.**

Rhode Island Whites for eggs and meat; 15 eggs \$2.50, 30 eggs \$4.00. Chicks for sale. **H. H. JUMP, Jackson, Mich.**

R.C. Brown LEGHORNS, M. Pekin Ducks, W. Chicks, Geese. Place orders early for young stock. **Mrs. Claudia Betts, Hillsdale, Mich.**

S. C. W. Leghorn Breeding Cockerels. April hatched, from stock that produced the winners in 1918 state demonstration contest. Order quick if you want them. \$5 each; 2 for \$9. **Sunnybrook Poultry Farm, Hillsdale, Mich.**

S. C. Brown Leghorns. Heavy laying strain. Cocks, cockerels and yearling hens for sale. **Floyd Robertson, R. 1, Lexington, Ind.**

Snowy White Rocks Fishel Strain, dandy layers. Eggs \$1.50-15; \$4.50; \$7-100. All prepaid. **Mrs. Earl Dehnhoff, Vanburen, Ohio.**

S. C. B. Minorcas. Eggs from pen 1, \$3.00 per 15; from pen 2, \$2.00 per 15. Incubator eggs \$1.00 per hundred. **R. W. MILLS, Saline, Mich.**

Silver, Golden & White Wyandottes from fine quality stock. Eggs by P. post prepaid \$3.00 per 15, \$5.00 per 30, \$8.00 per 50. **C. W. Browning, R. 2, Portland, Mich.**

Fistula & Poll Evil
Approximately 10,000 cases are successfully treated each year with **Fleming's Fistoform**. No experience necessary; easy and simple; just a little attention every 5th day. Price \$2.40 a bottle (two tax paid)—money refunded if it fails. Send for free copy of **FLEMING'S VEST-POCKET VETERINARY ADVISER** valuable for its information upon diseases of horses and cattle. 197 pages, 67 illustrations. Write today. **Fleming Bros., Chemists, 282 Union Street, Chicago, Ill.**

Mr. POULTRY FARMER:

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

GEO. R. ELDRIDGE CO.
494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment.

EGGS

We will pay \$5.00 per dozen delivered here for strictly fancy new laid eggs. Shipments via express direct from farmers. This price good for one week ending July 12th. Watch our price each week. **AMERICAN BUTTER & CHEESE CO.**
Detroit, Michigan.

Holmes, Stowe Co., 445 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank, Bradstreet. **Detroit, Mich. Cad. 2878.**

HAY Ship To The Old Reliable House **Daniel McCaffrey's Sons,**
623-625 Wabash Bldg., Pittsburgh Pa.

WANTED thoroughbred Scotch Collie Pup-pies: male or female; give description, age and price in first letter. **Mt. Clemens Kennels, 22 Grand Ave., Mt. Clemens, Mich.**

Some Special Clubbing Offers

No. 1.

Michigan Farmer\$1.00
Cloverland Magazine 1.00
Power Farming 1.00

Regular price, one year.....\$3.00

OUR PRICE ONLY \$2.10

No. 2.

Michigan Farmer\$1.00
Hoard's Dairyman 1.00
Woman's Magazine 1.00

Regular price, one year.....\$3.00

OUR PRICE ONLY \$2.50

No. 3.

Michigan Farmer\$1.00
Swine Breeders' Journal..... .50
Today's Housewife 1.00

Regular price, one year.....\$2.50

OUR PRICE ONLY \$1.85

No. 4.

Michigan Farmer\$1.00
People's Home Journal 1.00
American Boy 2.00

Regular price, one year.....\$4.00

OUR PRICE ONLY \$3.15

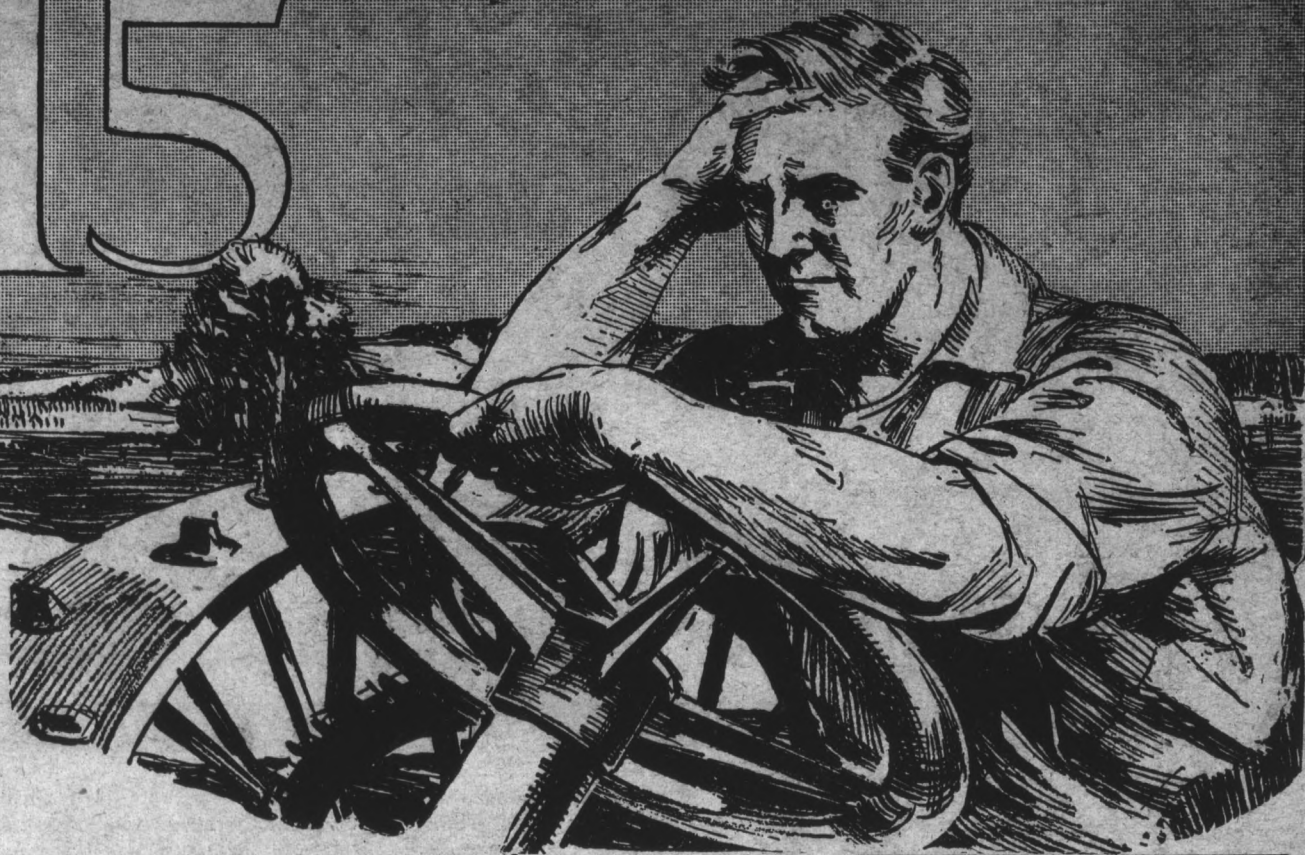
No. 5.

Michigan Farmer\$1.00
McCall's Magazine 1.00

Regular price, one year.....\$2.00

OUR PRICE ONLY \$1.55

from 3 to 15



Correct

AUTOMOBILE Lubrication

How to read the Chart

The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "E"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A." "Arc" means Gargoyle Mobiloil Arctic, etc. The recommendations cover all models of both passenger and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

AUTOMOBILES	1919 Models		1918 Models		1917 Models		1916 Models		1915 Models	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Allen	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Auburn (4 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Auburn (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Auburn (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-30B) (Tector-H)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Autocar (4 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Biacore	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Buick	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Cadillac (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Case	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Chalmers	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-30)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-30)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Chandler Six	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Chevrolet	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (F.A.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Cole	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Cunningham	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Dart	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model C)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (1 and 1 1/2 ton)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Dodge Brothers	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Dort	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Federal	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model S-X)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Federal (special)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Fi	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Franklin	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Grant	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model 12)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Haynes	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Hudson	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Super Six	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Hupmobile	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Kelly Springfield	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
King	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Commercial	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Kiesel Kar	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model 12)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Lexington	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Lippard Stewart	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model M)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Locomobile	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
McFarlan	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Madison	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Marmion	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Maxwell	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Mercury	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (22-70)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Mitchell	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Moline-Knight	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Monroe	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model M)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model S)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Nash	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (Model 671)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
National	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Nelson	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Oakland	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Oldsmobile (4 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Overland	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Packard	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Commercial	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Paige (4 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-30)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-30-39)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6-40)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Paige (Com'l)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Patterson	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Pedersen	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Pontiac	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Pierce Arrow	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Com'l	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Pratt	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Regal	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Renault (French)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Reo	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Riker	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Saxon	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Selden	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Simplex Crane	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Stearns-Knight	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Studebaker	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Valve (4 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (1 and 1 1/2 ton)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
White (4 ton)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
White (Sixteen Valve)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Willis-Knight	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Willis Six	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Willis	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc

The Average Tractor — how Long should it last?

Why tractor manufacturers answer, "From three to fifteen years"

TRACTOR manufacturers reckon the life of the average tractor to be anywhere from three to fifteen years.

Why?

Partly because some working conditions are harder than others.

But mainly because the owner's care in operation differs so greatly.

One manufacturer puts it this way: "Some of our tractors have run through four seasons and have done an immense amount of work without a dollar's worth of repairs. The tractor is efficient in proportion to the efficiency of the operator."

Another says, "The life of the tractor depends largely upon the operator. A tractor that in one operator's hands might be in good working condition at the end of 5 or 6 years, might in the hands of another operator be ready for junk in two years." The life of the average tractor cannot today be accurately reckoned largely because the care and lubrication of tractors is not uniform

But this much is plain: Purchasers of the better makes of tractors who are giving their machines proper mechanical attention and scientific lubrication count confidently on from 5 to 7 years of service.

A quick inspection before use shows them that the tractor is ready for work. Careful operation is a habit with them. The correct grade of Gargoyle Mobiloils—used by the large majority of tractor manufacturers at the tractor demonstrations—insures their engines against undue wear, excessive heat, power loss.

These tractor manufacturers knew the real answer to the question, "How long should a tractor last?"

Gargoyle Mobiloils are put up in 1- and 5-gallon sealed cans, in 15-, 30- and 55-gallon steel drums, and in wood half-barrels and barrels.

Write for "Correct Lubrication" booklet containing complete automobile and tractor chart, and other valuable data.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safer to purchase in original packages. Look for the red Gargoyle on the container.

VACUUM OIL COMPANY, New York, U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: New York Philadelphia Detroit Minneapolis Kansas City, Kan. Boston Pittsburgh Chicago Indianapolis Des Moines

Correct

TRACTOR Lubrication

How to read the Chart

The four grades of Gargoyle Mobiloils for tractor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "BB"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloils that should be used.

This chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Tractor Lubrication.

TRACTORS	1919 Models		1918 Models		1917 Models		1916 Models		1915 Models	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Albaugh-Dover (Square Turn)	BB	A	BB	A	BB	A	BB	A	BB	A
All-Chalmers	BB	A	BB	A	BB	A	BB	A	BB	A
All Work	BB	A	BB	A	BB	A	BB	A	BB	A
Appleton	BB	A	BB	A	BB	A	BB	A	BB	A
Aultman-Taylor	BB	A	BB	A	BB	A	BB	A	BB	A
" (15-30)	BB	A	BB	A	BB	A	BB	A	BB	A
" (15-30) (Waukegan)	BB	A	BB	A	BB	A	BB	A	BB	A
Avery	BB	A	BB	A	BB	A	BB	A	BB	A
" (6-10 H.P.)	BB	A	BB	A	BB	A	BB	A	BB	A
" (Louisville)	BB	A	BB	A	BB	A	BB	A	BB	A
Bates Steel Mule	BB	A	BB	A	BB	A	BB	A	BB	A
Bean Tractor-Pull	BB	A	BB	A	BB	A	BB	A	BB	A
Big Bull	BB	A	BB	A	BB	A	BB	A	BB	A
Buckeye (Ohio)	BB	A	BB	A	BB	A	BB	A	BB	A
Case	BB	A	BB	A	BB	A	BB	A	BB	A
" (9-18)	BB	A	BB	A	BB	A	BB	A	BB	A
" (12-20)	BB	A	BB	A	BB	A	BB	A	BB	A
" (20-40)	BB	A	BB	A	BB	A	BB	A	BB	A
Cleveland	BB	A	BB	A	BB	A	BB	A	BB	A
Columbia	BB	A	BB	A	BB	A	BB	A	BB	A
Common Sense	BB	A	BB	A	BB	A	BB	A	BB	A
C. O. D.	BB	A	BB	A	BB	A	BB	A	BB	A
Craig	BB	A	BB	A	BB	A	BB	A	BB	A
Creeping Grip	BB	A	BB	A	BB	A	BB	A	BB	A
Emerson-Brantingham (E.B.)	BB	A	BB	A	BB	A	BB	A	BB	A
" (Big Four)	BB	A	BB	A	BB	A	BB	A	BB	A
Flow City	BB	A	BB	A	BB	A	BB	A	BB	A
" (Heavy Duty)	BB	A	BB	A	BB	A	BB	A	BB	A
Fordson	BB	A	BB	A	BB	A	BB	A	BB	A
Gale Pull (Rumely Co.)	BB	A	BB	A	BB	A	BB	A	BB	A
Gale Belt	BB	A	BB	A	BB	A	BB	A	BB	A
Happy Farmer	BB	A	BB	A	BB	A	BB	A	BB	A
" (Model B)	BB	A	BB	A	BB	A	BB	A	BB	A
Hart Parr	BB	A	BB	A	BB	A	BB	A	BB	A
Heider	BB	A	BB	A	BB	A	BB	A	BB	A
Henderson	BB	A	BB	A	BB	A	BB	A	BB	A
Holla	BB	A	BB	A	BB	A	BB	A	BB	A
Hot Catapult	BB	A	BB	A	BB	A	BB	A	BB	A
" (Model 40)	BB	A	BB	A	BB	A	BB	A	BB	A
" (Model 12)	BB	A	BB	A	BB	A	BB	A	BB	A
Illinois	BB	A	BB	A	BB	A	BB	A	BB	A
Indiana	BB	A	BB	A	BB	A	BB	A	BB	A
" C. C. Frazier	BB	A	BB	A	BB	A	BB	A	BB	A
Lincoln	BB	A	BB	A	BB	A	BB	A	BB	A
" C. Cross	BB	A	BB	A	BB	A	BB	A	BB	A
Lansing	BB	A	BB	A	BB	A	BB	A	BB	A
Liberty	BB	A	BB	A	BB	A	BB	A	BB	A
Lightfoot	BB	A	BB	A	BB	A	BB	A	BB	A
Linningspool	BB	A	BB	A	BB	A	BB	A	BB	A
Lloyd	BB	A	BB	A	BB	A	BB	A	BB	A
" (9-10) (I. H. Co.)	BB	A	BB	A	BB	A	BB	A	BB	A
Moline Universal	BB	A	BB	A	BB	A	BB	A	BB	A
Mission	BB	A	BB	A	BB	A	BB	A	BB	A
Merrill	BB	A	BB	A	BB	A	BB	A	BB	A
" (20-12)	BB	A	BB	A	BB	A	BB	A	BB	A
" (20-15)	BB	A	BB	A	BB	A	BB	A	BB	A
New Age	BB	A	BB	A	BB	A	BB	A	BB	A
Old Pull (14-20, 16-30)	BB	A	BB	A	BB	A	BB	A	BB	A
" (20-40) (Rumely Co.)	BB	A	BB	A	BB	A	BB	A	BB	A
" (12-20, 14-30) (Rumely Co.)	BB	A	BB	A	BB	A	BB	A	BB	A
" (Rumely Co.)	BB	A	BB	A	BB	A	BB	A	BB	A
Harrett	BB	A	BB	A	BB	A	BB	A	BB	A
Henderson	BB	A	BB	A	BB	A	BB	A	BB	A
Howe	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A	BB	A
Howman	BB	A	BB	A	BB	A	BB	A		