

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

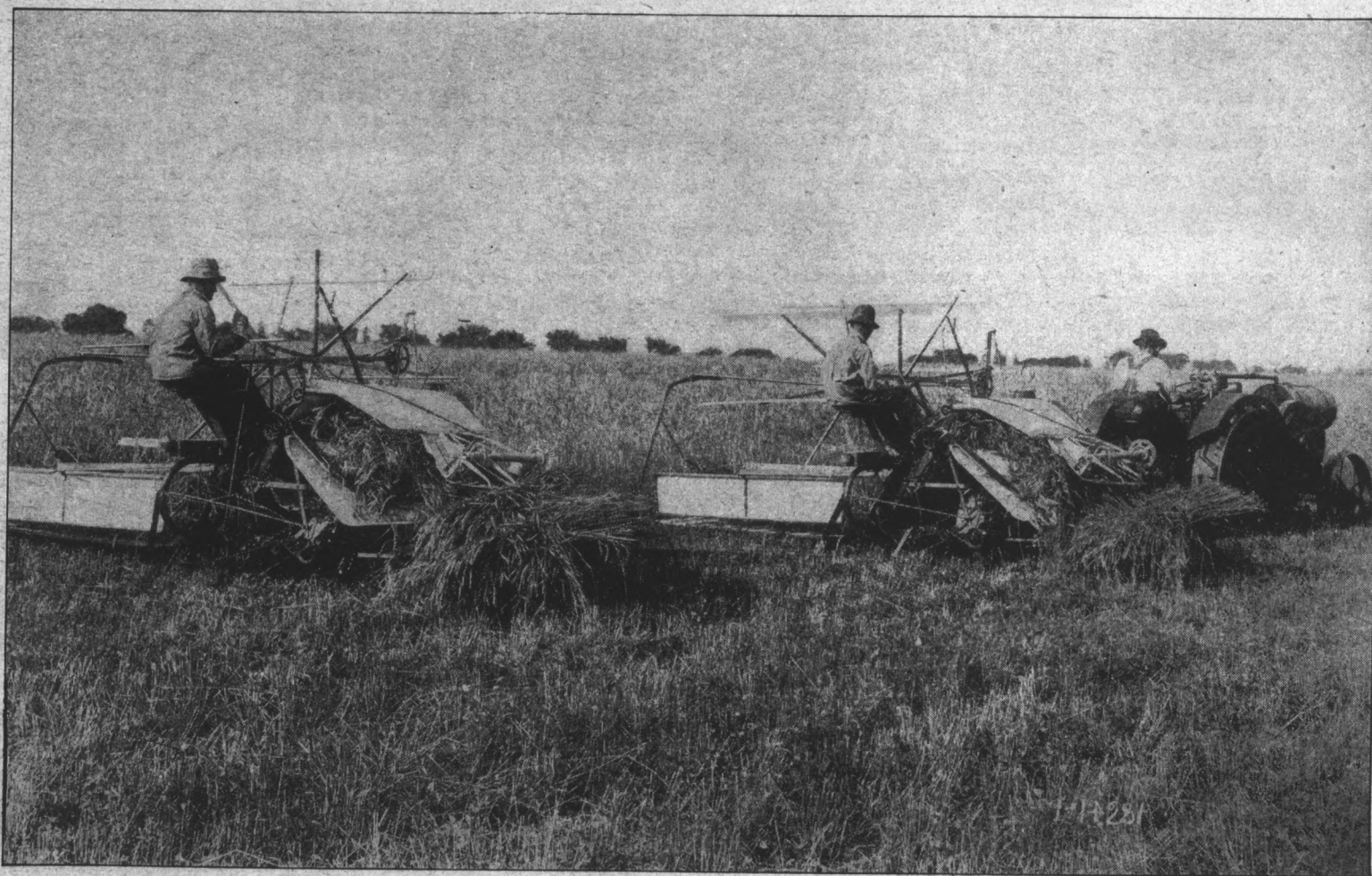
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In the Harvest Fields.

WHILE all eyes are turned toward the farm, the men who are sweating in the harvest fields cannot lose themselves in the study of the food problem. These are the days of vital work. The American farmer is cutting food for hungry millions. An anxious time is this harvest; it is a time when one must weigh the risk of a few days against the risk of months and secure the crops as quickly as possible. A few days delay may result in damage from shattered and overripe grain and destruction from storms. The fortunate possessors of luxuriant fields of small grain will feel a satisfaction when these crops are secure from the weather.

The Michigan Farmer

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VOLUME CLIII. NUMBER THREE

DETROIT, JULY 19, 1919

CURRENT COMMENT

Marketing the Wheat Crop

WHETHER to sell the wheat as soon as it is threshed or hold it for marketing at a more convenient season, is a question which must be decided by many Michigan farmers in the near future. Last year, under the guaranteed price, there was a very general inclination to market the grain as soon as it was threshed since there appeared to be no object in holding it for later marketing. The situation developed unexpected phases, however, and long since the prevailing market values of wheat soared above the guaranteed price, greatly to the advantage of speculative buyers and to the comparatively few farmers who had not marketed their last year's crop.

With this year's abundant wheat crop now assured, there is a general disbelief among market students that wheat will go above the guaranteed price and command a substantial premium during the ensuing year, owing to the fact that it seems to be quite certain that a moderate surplus at least will be left as a carry-over at the end of the present wheat crop marketing season. It must, however, be remembered that another crop will be growing and the trend of the market during the latter part of the marketing season will depend to not a little extent on the condition of the then growing crop, provided always that the Grain Corporation does not use the power which it will possess through the ability to name a resale price on wheat products, which will tend to hold the price down to the guaranteed figure. It will be remembered, however, that with its large holdings of wheat, the government did not succeed in maintaining a level price throughout the past year, and it is entirely within the possibilities that this may occur again, although it does not seem to be as probable as was the case with last year's crop.

It is probable that transportation and storage facilities will be taxed to the limit in the handling of this year's wheat crop, and that they may prove a limiting factor in moving the grain marketward. The fact, however, that the guaranteed price will hold until May 31, 1920, and that the producer may benefit by any carrying charge which may be granted to holders of wheat by the Grain Corporation, will eliminate the possibility of loss from holding the grain for any period that may be necessary or be thought expedient.

A factor which may cause some confusion in the marketing of this year's

wheat crop, is the fact that the contracts which will be entered into by the Grain Corporation with millers and wheat dealers provide for the purchase of grain on the United States standard grades now in force. The requirements of these grades are fully explained in another column of this issue and should be studied by every farmer who has wheat to sell in order that he may be prepared to judge whether the buyer grades his grain fairly on its delivery to market. In case he is not satisfied with the buyer's grading at the time of selling, he can insist on the preservation of a sample by the dealer purchasing same, together with data regarding the grading given and the price paid for the grain, the amount purchased, the date, etc. Copy of this data should be kept by the seller in case of dispute, and sample of the grain should also be kept by him in order to enable him to get an inspection on same by one of the state's licensed inspectors whose names are given in the article on grading which will be found elsewhere in this issue. If, however, a careful study of these rules is made, the fair minded seller and buyer will, in the majority of cases, have no difficulty in agreement with regard to the grading of the wheat offered for sale.

Cooperative Crop Reports

A PROPOSED plan for cooperation between the state and federal crop reporting service to the end that the accuracy of the service might be bettered and an increased degree of service rendered to the agricultural interests of the state, was outlined in these columns early last winter. The plan then advanced has been consummated and from this time on the United States Department of Agriculture and the Michigan Department of State, will cooperate in the matter of crop reporting service. Arrangements have been made to secure by telegraph from Washington, monthly reports concerning crop conditions and crop production as a whole, as well as for individual states whose crops compete in the central markets with those grown in Michigan. This information will be made available to every farmer in the state, both through official bulletins and through the press of the state. Plans are also under way to furnish more complete data regarding live stock production and ultimately, if the plan works out as well as has been the case in Wisconsin, Ohio and other states where similar service has been inaugurated, more comprehensive acreage statistics will be secured in order to reduce the factor of error in the crop estimates made.

This cooperative service will base its findings upon the reports of nearly three thousand persons, mostly farmers who are now making monthly reports concerning crop and live stock conditions in the state. In addition to these reports which are compiled by statisticians, there will be special reports from trained field agents who spend most of their time traveling through the state making personal observations. This will give a far better and more dependable service in the state than has ever been previously enjoyed, and a much more accurate source of information regarding actual crop conditions than can possibly be maintained by private interests. Such reports are of great value to farmers of the state, since they will tend to prevent the operation of speculative interests in price manipulation, and will minimize the influence of conflicting and misleading reports which might be put out by speculative interests with a view of influencing the market.

This benefit in addition to the direct benefit of being kept informed to crop prospects and prices outside of their own neighborhood is unquestionably

great. Michigan's official crop reports will be doubly valuable from this date on account of their greater accuracy and dependability due to the cooperation of the two bureaus formerly issuing independent reports.

Get Ready for the Fairs

WITH the Fair season rapidly approaching, every farmer who has products of special quality should thoughtfully consider the possibility of increasing the educational value of his state and county fairs by the entering of those products for exhibition. It is not too early to prepare for this contingency. Under present conditions every farmer should have a renewed interest in both his state, district and county fairs.

With farm products of all kinds selling at a much higher range of values than ever before, a study of breeds and types of live stock, of varieties and strains of seeds, of farm machinery and equipment, and in fact, every factor of farm success, is more important than ever before. There is no better place to study these factors of farm success than at the State Fair, nor is there any more profitable way for any farmer and his family to take a needed vacation from the strenuous season's labor than in spending a day or several days at that educational exhibit. And any farmer who enters his products for exhibit at the State Fair will have an added interest in that great agricultural show from an educational standpoint. While he will reap a greater benefit than others from such an exhibit, his efforts will add something to the educational value of the fair for other farmers. Having prepared an exhibit for the State Fair the same can be used to advantage in promoting an interest in and the success of the local fairs in his own section of the state.

The time has arrived when the farmers of Michigan should look upon the agricultural fairs as their own institutions, and help to make them better and of greater value from an educational standpoint. Object lessons are the greatest educators in the world, and a general interest in making exhibits at our agricultural fairs would make the comparative value of those exhibits more pronounced and of greatly increased value to the agriculture of the state.

Automobile Driver's Licenses

ON August 14 the law requiring everyone operating an automobile to have a driver's license will go into effect. In order to facilitate the issuing of these licenses and avoid unnecessary delay on the date when licenses are required plans have already been completed for filing of applications in advance of the date required, although licenses will not be issued until the date when the law goes into effect. These licenses are issued by the Secretary of State but every application must be presented for approval to the sheriff or deputy sheriff of the county in which the applicant resides or to the chief of police of the city in which he resides.

It is the duty of the sheriff, deputy sheriff or chief of police as the case may be, to personally examine each applicant to ascertain if such persons are properly fit to operate a motor car. These officers are specially named in the law, and the attorney-general has given an opinion that no officers, except those specially named, are authorized to approve these applications.

Application blanks may be secured at the office of the county clerk, chief of police, sheriff, deputy sheriff and at most garages. Every question in the application blank must be answered and the application must be subscribed and sworn to before an officer au-

thorized to administer oaths. The application must then be presented to the proper official for approval as above noted, then filed with the Secretary of State at Lansing, Mich. Applications will be received by the Secretary of State at any time and licenses will be issued immediately after the law goes into effect. Licenses will not be issued unless applicant is over fourteen years old and persons already registered as chauffeurs do not require an operator's license, nor will an operator's license permit a person to drive a motor vehicle for hire or as the employee of the owner thereof. Such persons must register as chauffeurs and pay the registration fee of \$2.00 for that purpose. A fee of fifty cents must accompany the application for an automobile operator's license. This should be preferably in the form of a certified check, draft, express or postal order. A circular already sent out by the Secretary of State notes that postage stamps will not be accepted in lieu of this fee. Every owner of an automobile should take steps at once to secure an operator's license for himself and also for such other members of his family as may desire to drive his car, as these licenses may be required by any peace officer after the law goes into effect after August 14. These licenses should always be carried when driving a car. In case of loss or destruction of licenses a duplicate may be obtained by filing with the Secretary of State an affidavit setting forth such fact, accompanied by a fee of twenty-five cents. This law entails some trouble on the part of automobile owners but this will be more than compensated for by the increased factor of safety resulting from the requirement of such licenses and the possible penalty of having them revoked for cause.

The Outlook for Rye

MICHIGAN has an unusually large acreage of rye this year and a prospect of an unusual yield which will make this

always important crop in Michigan a more important factor than ever before during the coming season. This grain not being protected by any guaranteed price, will be a more important consideration from the marketing standpoint than is the case with wheat. The fact that this grain is now bringing a fair price, present quotations of local markets being 1.60 per bushel, will doubtless lead to heavy marketing of the grain as soon as threshing begins and a probable consequent drop in market quotations. It will be well, however, for the rye grower to take stock of other conditions before selling this grain at a great sacrifice. At the range of last season's hog values, rye will be worth the present price as a hog feed, and so far as it can be profitably utilized as a feed grain under present market conditions for corn it will be profitable to make such use of it instead of selling at present value. With No. 3 yellow corn quoted at 2.00 per bushel and December futures quoted around 1.65, there should be a feeling of reasonable security regarding the rye market which should prevent growers from selling this grain at greatly reduced prices. There is likely to be a very considerable export demand for rye with the renewal of foreign trade under peace conditions as rye is almost universally used as a bread grain in European countries and the carry-over from last year is light. When this grain falls below the probable level of feed prices, it will continue to be good property for the holder with a prospect that foreign demand will pay a liberal carrying charge for later marketing. As between selling wheat at the guaranteed price and rye at values below prevailing quotations, the choice for the grower of both grains should be easy of determination.



Summer on the Dairy Farm

*Good Dairymen are Far Rarer Birds
Than Poets.—Lester J. Meredith*

THE misty morning air, noontday heat, balmy evenings, murmuring brooks, soft breezes, luxuriant herbage and lowing herds are phrases for poets, not dairy farmers, to conjure with. The man who provides means for contending against the hot, blistering sun, flies, drouth, stagnant water, declining milk yields and loss of flesh condition finds more prose than poetry in the management of dairy cattle during the summer months. Farmers have learned to care for cows better in the winter than in the summer.

Pasture at its best is the ideal of the dairy farmer. With their great capacity for handling large quantities of bulky and succulent feed and a correspondingly insatiable appetite for tender green grass and herbage to supply the demands of their digestive systems, dairy cattle find the pasture a paradise in June, when the grass is lush and tender, before the flies get bad; then the cow may fill herself in an hour and lie down in luxurious contentment until her digestive organs are ready for another feed. If such conditions could only last for several months our summer feeding troubles would be over. At this time very little can be done to increase the yield of milk by feeding grain, for experiments have shown that grain can be fed only at a loss if pastures are good. If we are to figure out a profit under these circumstances it can be done only by calculating the saving of grass and the added fertility.

Keep Up the Milk Flow.

The time when dairy cattle can profitably be turned into the pasture and allowed to shift for themselves unheeded for any length of time has passed. Six weeks, often less, covers the time of really first-class pasturage; so, except in a few specially favored sections it will not do to depend on pasture for the late summer milk supply. Understocking alone does not greatly help this matter.

Experience has proved that a steady, well sustained flow of milk and the steady growth of young animals can only be secured by a uniformly abundant feed supply. Even under the best of conditions pastures vary so much in stock carrying capacity at times during the summer that plans must be made to supplement the grass crop. Those who have tried it out have come to the conclusion that feeding grain and by-product feedstuffs is not a satisfactory way of supplementing poor pasture. At best it is expensive and there is evident a lack of bulk and succulence. As soon as we begin to feed grain in the barn, the cows assume the provoking habit of lying down most of the day close around the pasture gate, awaiting the time when they may go to the barn, fighting flies and each other, and growing gaunt and hungry. The cow that has used up her day in this fashion is not going to give a pailful of milk at night, even if we do feed her ten or fifteen cents' worth of grain a day.

To maintain a cheap and satisfactory flow of milk pastures must be supplemented with some cheap, bulky food as well as grain. Dairy farmers are finding the silo of incalculable value in avoiding summer losses. Silage feeding in many localities has reduced milk losses and solved the problem of maintaining the cattle in a thrifty, flesh gaining condition during the summer. During recent years thousands of dairy farmers have avoided losses which formerly amounted to from

twenty to thirty per cent and the expenses for silage were repaid two times over in the actual saving of flesh condition and growth of the animals. The summer silo marks the elimination of drouth losses from the accounts of the dairy farm. With silage at hand one may rely on pasture simply to supply its crop of feed as a contribution to the ration which is completed whenever necessary by additional feed. More uniformly profitable milk yields and growth of young stock are thus secured in spite of the eccentricities of the weather. With the losses from drouth eliminated every possible pound of feed is made into milk, growth and fat.

In many sections it is a debatable question whether we can afford to de-

summer silo. For dairy farming has enough duties that must be performed every day in the year without adding thereto the cutting of a green crop. If the farmer has a silo he may hope

when Sunday comes to put his basketful of silage in the manger and then go to church instead of to the field to haul green forage for his cattle.

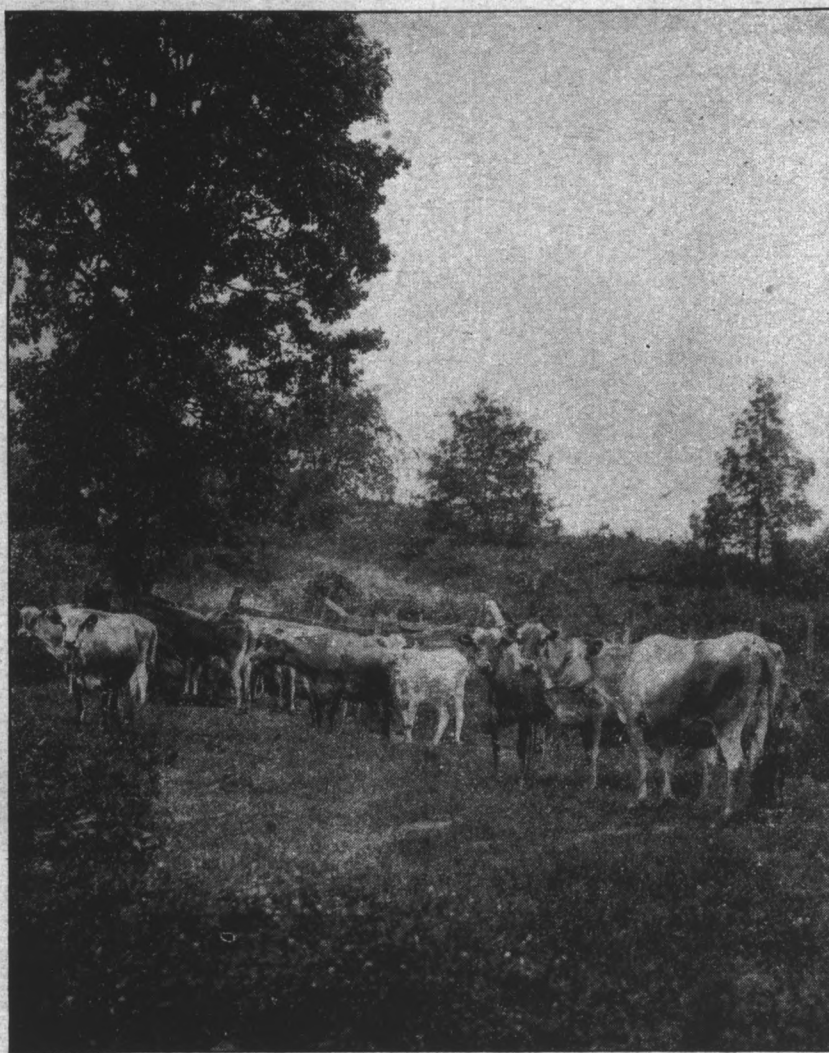
Next to feed, water has the greatest influence upon the flow of milk and the health of the cattle. Cows should have as much water as they will drink during the summer. The supply should always be pure. The drinking of impure water not only has a deleterious effect upon the milk, but it leads to parasitic infection which lowers the cow's vitality and lessens the flow of milk. If the water in the pasture can-

small that it can hardly be seen, and if these get into the milk they may increase more than one thousand fold within twenty-four hours. A little milk left in the seams, or about the rim of the pails and cans harbors thousands of bacteria, and their injurious effect is sure to be great if the conditions are favorable for their development.

There seems to be a general tendency on the part of dairymen to neglect sanitary conditions about the premises during the summer. While the work in the field is pressing, the gutters are allowed to become full of manure, the alleys scattered with litter, the windows and walls dirty and covered with cobwebs and a general air of neglect is apparent. Special effort should be made to keep manure cleaned up about the stables and yards during warm weather. Manure piles are an ideal place for flies and bacteria to thrive and multiply. It is impossible to produce high-grade milk under filthy surroundings. Cows that are kept under such conditions will wade through the manure and get their legs plastered with it during rainy weather. It pays to clean up the yards early in the season and destroy the breeding places of flies and vermin. Lime spread liberally in the yards and stable will keep down foul odors and make life less comfortable for flies and vermin. Sawdust is an excellent absorbent to use in the gutters while the cows are being kept on grass and other succulent foods.

The work of handling the milk so that it will keep until ready for shipment or delivery to the creamery, factory or condensary is greatly simplified if one has an abundance of ice at hand. The milk should be removed from the stable at once, the cans put in a tank of cold water, and the temperature reduced as quickly as possible by frequent stirring. This removes the animal heat without exposing the milk to the air which even under the most ideal conditions is sure to have more or less bacterial dirt floating in it. Cold and cleanliness are the agents that must be employed in making high-grade milk during the summer.

After providing an abundant supply of bulky, succulent feed and clean and sanitary surroundings the next problem is handling the herd so that the losses from flies during July, August and September will be minimized. Anything we may do to alleviate the suffering of the stock during this period will be amply repaid us in the increased flow of milk and gains in flesh condition. One pint of blood from each cow daily is the heavy toll demanded by flies during their period of greatest activity. Such losses and suffering mean that they cannot produce profitably at the pail. In nearly all dairy localities flies cut down milk receipts from thirty to forty per cent. No dairy farmer can afford to stand such losses. Keeping the cows in darkened stables during the heat of the day and spraying them with fly repellents greatly reduces their suffering. A spraying material made up of fish oil one hundred parts, oil of tar fifty parts and crude carbolic acid one part, applied every other day will give excellent results. A number of the commercial dips and sprays will produce equally good results. It is imperative that we use some form of fly repellent if we get best results from the cows during fly time. Young calves should be kept in a darkened stable during the day and turned out in the pasture at night for exercise during fly time.



vote high-priced land to grazing purposes. Such land gives greater returns in grain and forage crops than when kept in pastures, which save trouble and labor to be sure, and furnish a good reason in many cases for continuing them. On many farms a very good scheme is to plan for a succession of green soiling crops to be fed from late in May until frosts come in the fall. Such crops as rye, alfalfa, oats and peas, and corn, all standard farm crops, sowed and planted at intervals during the spring and summer, will furnish an abundant supply of bulky and succulent feed for the cattle. By growing more of these crops than are needed for soiling purposes the balance may be cut and cured for winter feeding and one will be assured of an abundant supply for summer feeding. The disadvantage of this system of summer feeding is the matter of labor. It means a lot of extra work that may be avoided by the use of the

not be procured from a clean spring or running stream it should come from a deep well that is not subject to surface drainage. The same principles apply to the quality of the water used for washing dairy utensils. Impure water used for washing utensils is a frequent cause of bad-flavored milk. Of the inorganic foods perhaps the only one that needs to be supplied is common salt. The other constituents are present in sufficient quantities in the food and water.

No one thing will do as much toward insuring a high grade of milk during the summer months as keeping the utensils clean and sanitary. Milk may be produced in any ordinary farm from healthy, well-fed cows and drawn in a cleanly manner, but the good effects of such care will be wasted unless it is extended to the utensils. The various kinds of bacteria are unusually active in warm weather. Many thousand may be concealed in a crevice so



News of the Agricultural World

WOOL FRAUD CHARGES ARE ANSWERED.

CHARGES made recently by Milo D. Campbell, member of President Wilson's agricultural advisory committee, that the government was defrauded of millions in its war purchase of wool, were declared "ridiculous" by A. W. Elliott, chief of the War Department's wool section and representative of the army on the wool section of the defunct war industries board.

In a statement approved by the War Department, Mr. Elliott, answered the Campbell charges in detail.

Mr. Campbell, in an open letter made public by the National Board of Farm Organizations, sought to show that the wool dealers bought wool from growers in a greasy state, paying sixty-five to sixty-seven cents per pound, and afterward sold the same wool to the government as scoured wool, billing it to the government at \$1.30 to \$1.85 a pound, and receiving payment from the government at this figure. The Campbell charge was that the difference between sixty-five and sixty-seven cents a pound and the \$1.30 and \$1.85 a pound was profit pocketed by the wool dealers.

"Charge Without Foundation."

"This charge," says Mr. Elliott, "is utterly without foundation and is really so ridiculous that it hardly merits any attention. During the period of wool control the government bought 675,000,000 pounds.

"Of this amount something less than 300,000 pounds consisted of the 1918 domestic clip and domestic pulled wool. Of this entire amount purchased about 85,000,000 pounds were bought in the scoured state, most of it coming from South Africa and South America. Of the 85,000,000 pounds bought as scoured wool and billed to the government as such already more than 70,000,000 pounds have been sold and delivered to manufacturers without a single complaint.

"Including the 85,000,000 pounds of scoured wool the entire 675,000,000 pounds bought by the War Department averaged less than seventy-two cents a pound all around, which again shows how ridiculous is the charge that the government paid wool dealers \$1.30 to \$1.85 a pound.

"Taking \$1.57 as the average of the two extremes of \$1.30 and \$1.85 the 300,000,000 pounds of the domestic 1918 clip would have amounted to \$471,000,000, whereas the government paid out for the entire purchase of 675,000,000 pounds of wool only \$479,000,000."

Favor to Dealers Denied.

To the Campbell charge that the wool section of the war industries board was "packed" in the interests of the wool dealers, Mr. Elliott says that the real power of the war industries board was lodged in its wool section proper, which consisted of one wool grower, one representative of the army and one of the navy. The advisory wool committee, which assisted the wool section, but was without power to act, consisted of one grower, one wool dealer and one wool manufacturer.

Regarding the charge that exorbitant prices were fixed, Mr. Elliott says:

"On April 25, 1918, the price of the domestic 1918 clip was, after consultation with representatives of the wool growers, fixed by the price-fixing committee of the war industries board on a basis of prices prevailing June 30,

1917. This was slightly lower, but not materially lower, than the price of wool prevailing in the open market on April 25, and there was three times the average price prevailing in the United States during the three years preceding the outbreak of the European war."

VEGETABLE GROWERS' CONVENTION.

THE Vegetable Growers' Association of America will hold its annual meeting at Detroit, Michigan, on September 9-12. This organization is composed of many of the leading vegetable growers of the United States and Canada. The attendance usually exceeds five hundred and it is expected that this year there will be a larger number than ever before. There will be a trade exhibit, an educational exhibit, and a small vegetable exhibit. Time will be taken to visit points of special interest to the delegates in and around Detroit. There will be special features this year looking to the pleasure and entertainment of the delegates. Vegetable growers who can possibly arrange to attend this meeting will find that it will be a pleasure, profit and satisfaction to them.

Anyone wishing a copy of the program, which will be issued later, or wishing any other information relative to the convention, should write to Samuel W. Severance, secretary, Louisville, Kentucky, or to C. W. Waid, Chairman of the Convention Committee, East Lansing, Michigan.

NEW YORK FRUIT CROP REPORT DISCOURAGING.

ORCHARD fruit crops in New York state, this year, will be small. This is the conclusion of all who have investigated crop conditions. Unseasonable weather in April, fungus diseases and insects have all aided materially in reducing the yield, and injuring the quality of fruit remaining on the trees.

In his annual report on fruit crop conditions, just issued, Secretary Edward C. Gillett, of the New York State Horticultural Society, gives figures showing that not in years have prospects been so poor for a fruit crop in the state as this summer. Basing the per centage upon a ten-year average, fall apples will be a forty-one per cent crop; winter apples, thirty-four; cherries, twenty-four; pears, thirty-five; plums, thirty-eight; peaches, fifty; quinces, seventy. The grape crop promises to be large, Columbia county reporting a 122 per cent yield; Chautauqua, ninety; Dutchess, ninety-two; Ulster, ninety-one; Orange, 100, and

Yates, which includes the Lake Keuka grape belt, eighty; the state average being eighty-seven per cent.

Hudson valley fruit prospects are much better than those of western New York. The Ontario Lake fruit district, comprising the counties of Wayne, Monroe, Niagara and Orleans, averages twenty-eight per cent. Genesee, Ontario, Yates, Seneca and Cayuga, extensive orchard counties, average only twenty-five per cent. The Hudson valley average is fifty-six per cent.

The state crop report shows sixty-two per cent bean acreage, but according to Secretary Gillett, the larger commercial bean growing counties have an acreage of only forty per cent. A one hundred per cent acreage of potatoes has been planted, and an eighty per cent cabbage acreage is reported.

A hail storm visited the Lake Keuka grape district on July 10, destroying grapes, small fruits and other crops estimated to be worth \$250,000. The pear crop in Wayne county was also badly damaged by hail on the same day.—E. E. R.

CORN BORER SPREADING.

THE European corn borer has already infested districts in five counties in New York state, Schenectady, Montgomery, Schoharie, Saratoga and Dutchess, and is apparently spreading over a wide extent of country although the State Department of Agriculture has been making a systematic effort to collect and burn the corn stubble and other vegetation which the borer infests. Many tons of stubble were saturated with oil and burned.

Little actual work can be done at this time to keep the dangerous pest in check, but extensive plans are being made by the state officials for fall work in war of extermination against the borer.

Commissioner of Agriculture Chas. S. Wilson has arranged a conference of commissioners of agriculture of the corn producing states, to be held at Albany, some time in August, for the purpose of discussing the question of control of the pest, which is threatening the corn crop of the entire country. Commissioner Wilson says there is no effective means of destruction except the collection and burning of the stalks and stubble, and this is expensive. E. E. R.

STATE FARMERS' CLUB PICNIC.

MICHIGAN Farmers' Clubs annual picnic will be held at M. A. C. August 21. A trip about the grounds and farm at 10.30, and a picnic dinner

at 12:00 o'clock. The program will commence at 2:00 p. m., consisting of music, readings and speeches. Everyone invited, whether members of clubs or not. This is a farmer's day at the farm college and great good can come from these getting together of farmers all over the state. President Kedzie will talk to us about things he wants the farmer to know, and will provide other speakers for the occasion. Come everybody.

JULY CROP CONDITIONS.

BOUNTIFUL farm crops this year are indicated in the Department of Agriculture's forecasts, based on conditions existing the first of the month. Winter wheat and rye, now being harvested, showed the largest production ever attained. Record crops of sweet potatoes, tobacco, and rice also were predicted and the production of spring wheat, corn, oats, barley, white potatoes, and hay is expected to be larger than the average for the five years 1913 to 1917.

The value of the wheat, corn and oats crops combined amounts to \$8,340,622,000 based on farm prices for July 1. The value of corn is \$4,768,470,000; wheat, \$2,577,420,000 and oats \$994,727,000.

The prospective output of wheat is placed at 1,161,000,000 bushels. Winter wheat showed a loss of 54,000,000 bushels, and spring wheat 21,000,000 bushels. The winter wheat crop, nevertheless, will be the largest ever grown.

Corn production was forecast at 2,815,000,000 bushels, 132,000,000 bushels larger than last year's crop.

White potatoes production will be smaller than last year, but the sweet potato crop promises to be a record one.

The oats crop is slightly smaller than last year, but larger than the five-year average.

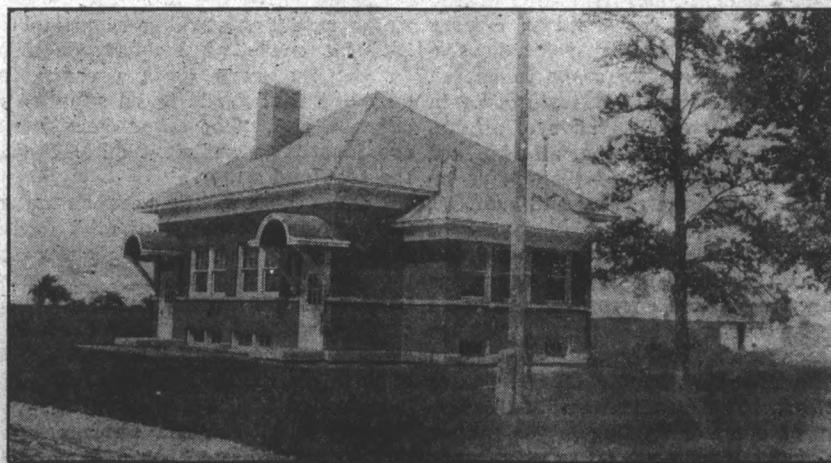
The production forecasts of the country's principal farm crops estimated on the condition of the crops July 1, follow:

Winter wheat	839,000,000
Spring wheat	322,000,000
Corn	2,815,000,000
All wheat	1,161,000,000
Oats	1,403,000,000
Barley	251,000,000
Rye	103,000,000
White potatoes	391,000,000
Hay, tons	116,000,000
Apples, (total)	156,000,000
Apples, barrels, (commercial)	24,000,000
Peaches	50,000,000

The condition of the crops on July 1, and the crop acreages not previously announced, follow:

	Pr. Ct.
Winter wheat	89.0
Spring wheat	80.9
Oats	87.0
Barley	87.4
Rye	85.7
White potatoes	87.6
Hay	91.1
Apples	56.6
Peaches	69.0

Plant diseases and other conditions made heavy inroads during June on prospective wheat and oats production. The forecast shows a loss of 75,000,000 bushels of wheat since the June estimate and a reduction of 43,000,000 bushels in the prospective oats crop. High temperatures caused deterioration in the condition of winter wheat in some sections, while disease increased in central districts. The heat also affected spring wheat in some parts of the belt where black rust has appeared and somewhat damaged the crop.



One of the Many Model Rural Schools of Northern Michigan.



Lightening the Farmer's Financial Load

By Earle W. Gage

WHEN we consider that the American farmer produces more than ten billion dollars worth of produce annually, we soon appreciate that there are few slackers in the farm ranks. City folks believe that men who produce so much must be making money. But there is also another side to the farmer's ledger—his debit column. Our twelve million farmers owe \$6,040,000,000 and each year they must pay a tribute of about \$510,000,000 in interest charges on this enormous debt. And this makes a large hole in the profit on the ten billion production. Farmers must borrow money, since they are the country's leading business men, but actual statistics show that our farmers pay on an average for the whole country eight and a half per cent interest and commission for renewals of their loans. Is it any wonder that the Federal Farm Loan system is spreading like fire, with an average interest charge of five and a half per cent? If all our farmers were borrowing money through this channel, the saving in commission and renewals would, with interest saving included, mean an annual saving to them of approximately \$250,000,000 per year. And they would be doing business with themselves, building up their own financial system, rather than making disinterested parties, who have little concern regarding the future welfare of American agriculture, wealthy and independent.

Many have wondered that the American farmer, our greatest producer, has not long since become our capitalistic class. America is the only continent in the world where large agricultural holdings are held, where the land-owning folk are not the capitalists. In Germany, in Great Britain, in Denmark, in France, and even in Japan, to own land is tantamount to owning wealth; to be a farmer is to belong to the most powerful class in the country. Why is it with out agricultural leadership, that we do not likewise enjoy this same position as farmers of America?

When we endeavor to answer this question we at once find ourselves in the center of the most vexing and complex of the reconstruction problems; problems that have seriously menaced our agriculture since the close of the Civil War. We face the problems of farm credits and farm markets. No class of men in the United States pays a higher rate of interest for the money he borrows than the farmer, and he receives barely forty per cent of the market price of his produce.

And these questions must receive more careful consideration at the hands of our farmers, since as Americans, we have come to appreciate that we are no longer a segregated people, bound up like a ball of twine within our own personalities, but that we must face a world audience. Farmers of Europe, because of their loan systems, have for a generation been able to borrow money upon the same basis as business and industrial concerns; American farmers have paid nearly twice as much, and then secure only inadequate financial aid from those mildly interested in fostering agriculture. The wonder is that we have any agricultural industry remaining after half a century of such experience.

But the Federal Farm Loan system, now operating in practically every

community of the country, through its nearly four thousand national farm loan associations, has poured millions of dollars into our farmers' individual business, and is blazing the trail that shall reach half way to the end of our agricultural problem. We now require a federal market system, to aid our farmers to secure more than forty per cent of the selling price of their prod-

ucts. Until we secure this system, we shall labor under a handicap. There are two or three good reasons why farmers must awake. The reconstruction of war-torn Europe will find our farmers in open competition with the experienced farmers of those nations. At the peace table our greatest industry—agriculture—is unrepresented. Although our farmers supplied the food that ended the war—the rations which beat the Huns—our greatest industry is without a spokesman, and the ultimate outcome is in the air. The lawyers, industrial leaders, railroads and commerce are fairly well represented, but we cannot now foresee what agriculture's part is to be in the future destinies of the world. I say, for this obviously clear reason, our farmers should at once get together upon some reconstruction legislation

marketing facilities, for the present decadence of agriculture. I say decadence in the term that agriculture is not now a growingly popular industry. Right now there are two persons in the city and town to one upon the land. Our urban population has increased in the United States thirty-four per cent in the past decade. Our rural population has increased by eleven per cent, which was materially lowered by the rush to the cities and towns after war baby money. Ten per cent of our total national population reside in three of our large cities; sixty per cent lives in small towns, and but thirty per cent reside out in the open country, upon our farms, and are producers of food and clothing. Yet we meet men every little while who can not for their lives see why we should have had a food and clothing shortage, why they should

not buy these articles at 1893 prices, they cannot see why our farmers should not rest content to carry a six billion dollar mortgage load and be satisfied with forty cents on the dollar of their production.

There are in certain sections banks that have given the farmers of their communities very helpful lifts; there are more banks that have done otherwise. Of the 7,613 national banks, the book records of 1,247 showed extortionate rates charged farmers for loans. These same banks were charging the city merchant, manufacturer, store keeper, railroad operator and promoter anywhere from four to six per cent; they were charging the farmer at the same time anywhere from eighteen to sixty per cent interest. The highest rates charged were in Texas, Oklahoma, North Dakota, Georgia and Alabama, although twelve per cent was considered very moderate in the Rocky Mountain section. In other words, if the farm boy desired to become a merchant, he could go to his banker and obtain desirable loans at from four to six per cent. But if he happened to take to the trail of the plow, and desired to stick upon the home farm, it would make a difference with the banker, and his loans would cost several times more in interest. I did not make up these figures to fit my story, but took them from sworn statements of national bank examiners.

We need not wonder that our boys and girls have gone to the city skyscraper, there to perch themselves upon a high stool for the balance of their lives, there to make an uncertain success.

For every dollar loaned on farms, six dollars are loaned on city real estate. Which loan justified itself in the past four years? For every \$2.50 loaned on farm lands, \$97.50 is loaned on factories. From whom do the factories secure their raw material? But ten per cent of the loans of the country are on farm lands. The railroads of the country employ 2,500,000 men—the farms 12,500,000. The railroads support 10,000,000 people; the farms 40,000,000, and feed not alone the 110,000,000 of this country, but many millions abroad. Nevertheless, through the regular channels our farmers can borrow not to exceed one dollar for every ten the railroad can.

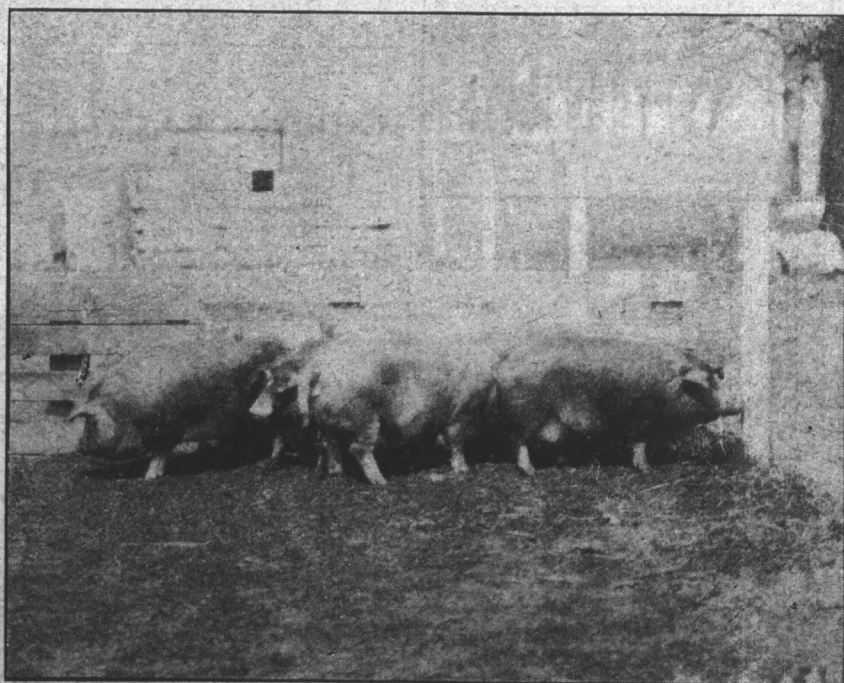
We have, according to most dependable figures, 2,354,676 farmers living on rented lands because for all the time our country has stood, up to the passage of the Federal Farm Loan Act, these men could not borrow adequate capital to purchase land of their own. Nevertheless, when the government took over the railroads, it was found that one-sixth of the railroad property of the country was in the hands of the receiver.

The one-third of the population residing upon the farms of the country produce more than ten billion dollars of wealth every twelve months. The 7,000,000 people engaged in manufacturing add \$20,000,000,000 to the nation's wealth, and draw one-half of this wealth from the farmer, and take credit for all of it. Factory output is based upon farm production. The factory absolutely could not turn a wheel without the farmer.

These are a few reasons why the Federal Farm Loan system has ad-
(Continued on page 74).



With Loans at Low Interest the Farmer Can Afford Every Convenience



And Enjoy Larger Profits by Keeping the Best Live Stock.



East National Pike,
Richmond, Ind., Treated
with "Tarvia-B" 1917

How Tarvia saves road money and increases farm values—

IF you owned a whole county and were administering it as one big plantation, the first thing you would do, as a keen business manager, would be to provide a system of good roads.

Otherwise the bulk of your property would be unproductive!

Yet as tax-payers who have the "say" about roads, we let millions of acres of good farming land stand idle because the crops can't get to market profitably.

We waste millions of dollars a year in dragging light loads through mud and sand and over steep grades.

We waste millions in uneconomical cross-roads schools because bad roads make central schools inaccessible.

We waste millions in horse flesh and gasoline, broken wheels and worn-out vehicles.

We waste millions more in building railroads that are only half-used because bad roads cut off the tributary back-country many months of the year.

The Federal Government has proved that good roads pay for themselves—

The Federal Government recently took certain counties before and after the making of big bond issues that modernized the road systems, and in a wonderful report proved that in one county the people saved the whole investment in the first year by the reduction of hauling costs alone!

This report proved that the increase in land values from \$7.00 to \$35.00 per acre was enough to pay for the roads several times over. It proved that the increased taxes were a mere drop in the bucket to the increased productiveness and prosperity and ability to pay.

Tarvia reduces road expenses

Good roads are not as expensive as they used to be. The plain macadam that used to require incessant renewal and attention is giving way to Tarvia-macadam that requires very little maintenance, that is free from dust and mud, that is not damaged by frost, that defies the grinding driving-wheels of the modern automobile and motor truck.

Many counties are now Tarviated from end to end on all their important thoroughfares. They find that it pays.

These clean modern Tarvia roads cost less than plain macadam in the end. They actually save "road money" because of their low up-keep cost; they increase farm values and they give easy traction to big loads and swift motor cars every day in the year.

Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a special Service Department, which keeps up to the minute on all road problems. If you will write to the nearest office regarding road conditions or problems in your vicinity the matter will have the prompt attention of experienced engineers. This service is free for the asking. If you want better roads and lower taxes, this Department can greatly assist you.

Tarvia
Preserves Roads—Prevents Dust
The Barrett Company

New York Chicago Philadelphia Boston St. Louis Cleveland Pittsburgh Cincinnati
Detroit Birmingham Kansas City Atlanta Dallas New Orleans Minneapolis Salt Lake City
Nashville Seattle Peoria Duluth Milwaukee Bangor Washington Johnston Lebanon
Youngstown Toledo Columbus Richmond Latrobe Bethlehem Elizabeth Buffalo Baltimore
THE BARRETT COMPANY, Limited: Montreal Toronto Winnipeg Vancouver
St. John, N. B. Halifax, N. S. Sydney, N. S.

Michigan Potato Growers' Exchange

By H. A. Arnold

A STUDY of the daily market report issued at Grand Rapids by the Bureau of Markets of the United States Department of Agriculture shows that the farmer of Michigan has received a considerably greater amount of the wholesale value of his potatoes than previously. Starting in April, 1918, this report gave the average prices which the farmer received for his potatoes and the price which they sold for loaded in the cars at the loading station for both seasons of 1917-1918, and 1918-1919. These reports continued until May 24, when it was considered that the marketing of potatoes was practically over and the reports ceased.

The figures prove that in 1917-1918 the average difference between what the grower received and what the local dealer received was \$4.871 per cwt. For 1918-1919 the average difference was \$2.724 per cwt. The difference between these two prices is \$.2147, which is the amount per cwt. of the dealer's former margin that the grower of potatoes in Michigan received more this year, because of dealers handling on this much less margin.

According to the reports of the Bureau of Markets, the state of Michigan has shipped to date something over 11,000 cars, average weight of these cars running around 42,000 pounds, (Continued on page 67).

Spread in April and May Potato Prices for 1918 and 1919

Column No. 1.—Shows the date of the reports.
Column No. 2.—Average difference between the price the grower received and price sold for on track in carlots, for the season of 1918-1919.
Column No. 3.—Difference between the highest price the grower received in the state and the highest price any dealer received loaded on the car, for the season of 1918-1919.
Column No. 4.—The low price the grower received and the low price the cars were sold at on track for the season of 1918-1919.
Column No. 5.—Average difference between the price the grower received and price sold for on track in carlots for the season of 1917-1918.
Column No. 6.—Difference between the highest price the grower received in the state and the highest price any dealer received loaded on the car for the season of 1917-1918.
Column No. 7.—The low price the grower received and the low price the cars were sold at on track in carlots for the season of 1917-1918.
Column No. 8.—Difference that the growers received in different sections of the state for the season of 1918-1919.
Column No. 9.—Difference that growers received in different sections of the state for the season of 1917-1918.

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9
April.								
11	.....\$0.29	\$0.175	\$0.40	\$0.425	\$0.40	\$0.43	\$0.325	\$0.20
12	.....0.315	0.30	0.33	.....	.....	.....	.....	.....
14	.....0.365	0.35	0.38	0.45	0.40	0.50	0.10	0.15
15	.....0.325	0.30	0.35	0.465	0.40	0.53	0.10	0.20
16	.....0.275	0.25	0.30	0.49	0.40	0.58	0.10	0.20
17	.....0.25	0.20	0.30	0.48	0.39	0.57	0.10	0.15
18	.....0.325	0.30	0.35	0.475	0.40	0.55	0.40	0.20
23	.....0.30	0.10	0.50	0.525	0.45	0.60	0.55	0.20
24	.....0.325	0.125	0.43	0.54	0.48	0.60	0.43	0.20
25	.....0.285	0.15	0.42	0.52	0.42	0.62	0.43	0.20
26	.....0.2525	0.075	0.43	0.485	0.41	0.56	0.48	0.15
28	.....0.1725	0.225	0.12	0.485	0.45	0.52	.....	.....
30	.....0.06	0.02	0.10	0.475	0.40	0.55	0.20	0.15
May.								
1	.....0.21	0.17	0.25	0.45	0.40	0.50	0.15	0.10
2	.....0.2225	0.245	0.20	0.52	0.52	0.52	0.10	0.10
3	.....0.225	0.245	0.20	0.50	0.50	0.50	0.10	0.10
5	.....0.20	0.15	0.25	0.52	0.54	0.50	0.15	0.10
6	.....0.125	0.05	0.20	0.50	0.50	0.50	0.20	0.10
7	.....0.175	0.15	0.20	0.475	0.47	0.48	0.20	0.15
8	.....0.225	0.10	0.35	0.40	0.40	0.40	0.25	0.15
9	.....0.175	0.10	0.25	0.41	0.38	0.44	0.25	0.10
10	.....0.125	.....	0.25	0.46	0.44	0.48	0.25	0.15
12	.....0.225	0.10	0.35	0.475	0.48	0.47	0.25	0.10
13	.....0.285	0.12	0.45	0.445	0.44	0.45	0.40	0.10
14	.....0.325	0.15	0.50	0.52	0.50	0.54	0.40	0.10
15	.....0.35	0.20	0.50	0.475	0.45	0.50	0.40	0.10
17	.....0.435	0.35	0.50	0.46	0.42	0.50	0.25	.....
19	.....0.45	0.35	0.55	0.51	0.50	0.52	0.25	0.10
20	.....0.40	0.35	0.45	0.525	0.50	0.55	0.15	0.10
21	.....0.325	0.20	0.45	0.525	0.50	0.55	0.30	0.10
22	.....0.35	0.25	0.45	0.56	0.55	0.57	0.30	0.10
24	.....0.35	0.30	0.40	0.555	0.54	0.57	0.20	0.10

Average Spread.
\$0.2724 \$0.1922 \$0.3500 \$0.4871 \$0.4521 \$0.5203 \$0.2555 \$0.1316



1918.



1919.

Map at left shows the location of the original associations of the Michigan Potato Growers' Exchange, while the other map indicates the associations affiliated at the end of the first year's business.

Sheep Come to the Front

These Profitable Animals are Finding Many New Homes.—E. L. Vincent

THE farmers of the part of the country in which I live have just sold their wool for from fifty to sixty cents a pound. The price is good, although not quite as high as it was for last year's clip, but the sum total of money received by the sheep growers without doubt is more than it was last year, for the reason that there are more sheep, and consequently more wool to sell.

The present prospect is that we may not again see the high prices for wool or sheep meat for a long time. Unusual conditions prevailing for the past few years, of course, account for the abnormal figures these farm products have brought; and yet, it is safe to say that never again will the price of sheep and sheep products fall back to the old level, when we all agreed that sheep keeping was not very profitable. It does not require the eye of a prophet to see that for a long time to come, and perhaps always, wool and the meat of sheep and lambs will bring remunerative prices.

Speaking a moment ago of the quantity of wool sold this season, the statement was made that we have more sheep than formerly. That is true and the drift is steadily back to sheep. In some respects it is a hurried change, made for the sake of taking advantage of prevailing high prices. Men are not, for that reason, as careful as they ought to be as to the quality of the sheep they buy. To get wool and sheep meat is the thing that is now uppermost, without a proper regard for the high grade of sheep we should seek to put on our farms, even if it takes us a little longer to realize paying returns from them.

It is true many farmers I know are investing in the highest possible grade of sheep. These men are beginning right. To assist men with an ambition for the best sheep, at the present time there are national associations aiming to foster the breeding introduction and improvement of nearly every individual type of sheep. For example in New

York we have such an association with headquarters at Fayetteville, for the promotion of the Cheviot. In Ohio, at Delaware, similar associations exist to aid the growing of the Merino, while at Mechanicsburg we find the "Continental Dorset Club," the secretary of which happens to be a woman named Miss Edith Chichester. The Rambouillets have an association at Marysville, Ohio, while the Oxford-Downs have their headquarters at Hamilton, in the same state.

Then, too, there are state and county associations, all working to further the interests of the sheep lover. So that it is not as difficult as it used to be to find first-class sheep. To make it still easier for the farmer to engage in this pleasant and profitable branch of farming, every year at the cattle

shows we may find men representing all kinds of sheep, usually with some of their flocks with them, so that one may compare the different breeds and satisfy himself to some extent as to the variety he would like best.

It is worth while to think of this carefully. The kind of sheep which might do well with one farmer, might not in the case of another; for we have not all farming lands that are adapted to certain types of sheep. Neither are we all constituted alike.

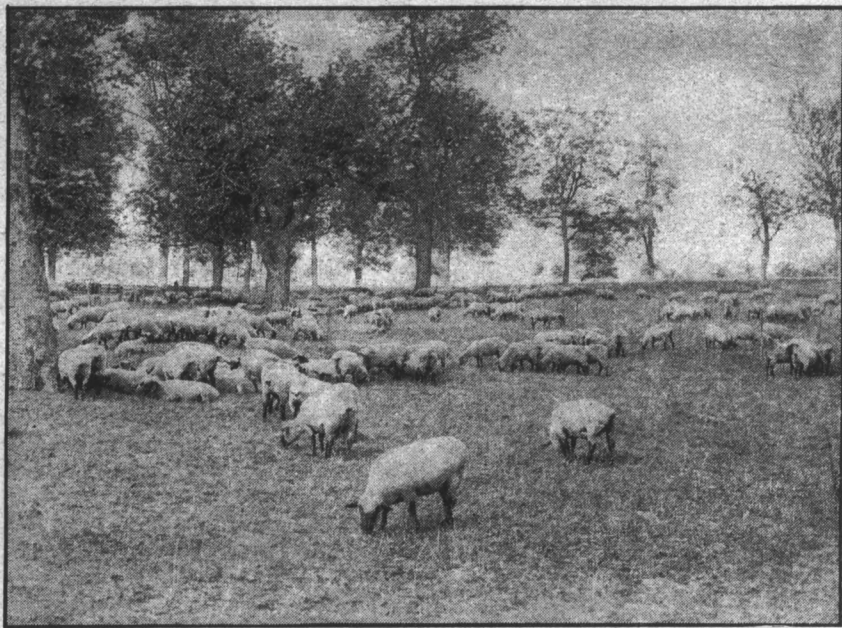
One man may like to care for one kind of sheep, while another finds an entirely different breed to his liking. I think it best, however, so far as possible, for the farmers of any given part of the country to keep some particular kind of sheep. Then they can visit each other's farms and compare notes and,

better still, work together for the breeding and sale of their individual line of sheep.

Sometimes after we have been in the sheep business for some time we find ourselves stocked up with animals that do not seem as profitable as they ought to be. The question is in a case of that kind, what ought we to do? This is what some men are doing, and it seems to me they are making no mistake. They are clearing out their old stock absolutely and beginning with practically new stock, and stock that costs more, but which is unquestionably better.

Shall we say that it ever costs too much to rid ourselves of the low-grade and the inferior and put in their place something that is fine and far superior to the old stock? There can be but one answer. If we cannot get as many of the high grade sheep as we would like at the outset, let us get what we can, but have them the best possible. There is no doubt about it. When we sell poor sheep, or even sheep that are rather above the average, we must make some sacrifice. We cannot expect to get as much for such sheep as we will have to pay for better sheep. It costs to produce a fine sheep. The man who does it must put all his energies into the work he is doing; he must feed right, he must breed right, and he must give the right kind of care all the way; and it stands to reason that he will have to ask more for the product of all this good care and treatment. But we will be glad we paid what he asks by and by when we have about us the better flock and ourselves begin to realize from sales of wool, meat and surplus sheep and lambs the returns we surely will obtain.

So it is wise not to be hasty about the big flock we would like to have on our farms. Better go slow and be right. Also, better look a little farther before we buy and be sure that we are getting what we will be satisfied with in after years.



It is Always an Advantage for Farmers to Work with One Breed.

Retail Meat Prices Too High

IN recommending that joint federal and state supervision be effected over the "manufacture, sale, and distribution of meat products," the Department of Agriculture, through Clarence Ousley, acting secretary, declared that the retail prices of beef to the consuming public in every part of the nation were not justified by conditions found in the wholesale markets or by the returns now obtained by the producers.

The situation which confronts the nation Mr. Ousley says, demands drastic action, as the public is not consuming beef on anything like the pre-war scale, and as a result there is great danger that the live stock industry will suffer a decline. Producers who came to the aid of the government during the war by increasing their stocks, he feels, should not now be forced to face such a situation and sell their stocks at a loss.

The need for the conservation of beef and lamb for export to Europe is now at an end, Mr. Ousley states, as Great Britain, Italy and other European countries have already turned to South America and Australia for these meats and require only the pork products of the United States. He adds that the present high scale of prices is undoubtedly a cause of the falling off in the public buying of beef products and that this situation should receive immediate attention, with a view to

Department of Agriculture Claims Present Retail Prices of Meat Unjustified.

remedial legislation which would protect the consumers.

Mr. Ousley quotes figures to show that retail prices have not decreased in ratio to the decrease in wholesale prices. He also states that the packing industry is obtaining big returns from by-products as a result of the

jump of almost fifty per cent in the quoted prices of hides.

Problem Submitted to Hoover.

It is probable that this situation will be called to the attention of President Wilson at an early date, as there has been much controversy over the fact that retail prices of beef have not de-

clined despite the large stocks which are on hand in this country. Mr. Ousley says he has communicated the facts in his possession to Herbert C. Hoover, who is now in Europe, and has invited his advice concerning measures for immediate relief.

In his statement Mr. Ousley says:

"With meat prices to the consumer so high that he is denying himself, and with the prices for live stock, especially beef and lamb, so low to the producer that he is actually losing money, the nation is confronted with a grave problem which requires solution if we are not to suffer a decline in the live stock industry.

"It is an anomalous situation. The department has endeavored to inform itself on the subject, and after conference with senators and members of the house who represent live stock producing regions, and who also feel deep concern for the welfare of consumers, deems it important to give to the public certain outstanding facts.

"There is no longer need for meat conservation. The supply is plentiful, and patriotic citizens may freely disregard the meat-saving placards which are still displayed at many eating places.

"Europe needs our surplus pork, but is filling its beef requirements by importations from South America and Australia. Prices of beef cattle have

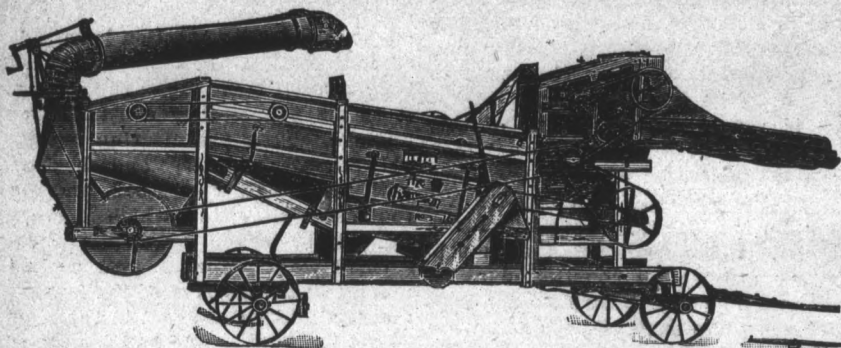
(Continued on next page.)



A Few Hogs Are Needed where Diversified Farming is Practiced.

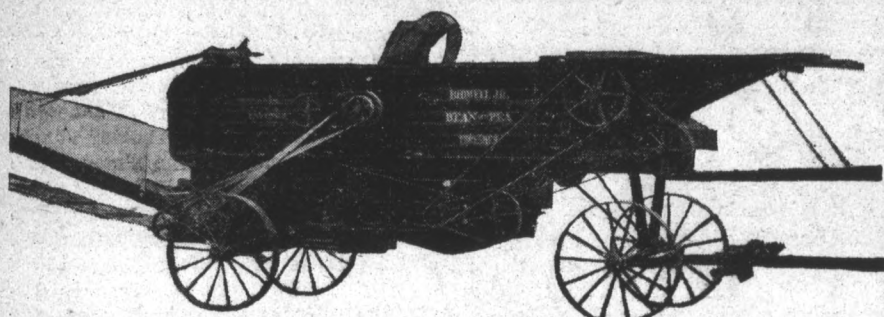
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Will Fit Your Tractor or Gas Engine



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The Ellis has proven successful in every grain country. Fifty-seven years on the market. Made in four sizes 2 to 16 H. P. hand feed or self feeder, straw carrier or wind stacker, bagger or measures. Price \$200 and up.



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Made in three sizes, 6 to 16 H. P. any equipment. Ask about Wyble Stone Picker and feeder. We have State agency for HEINEKE feeders. Send for catalog.

J. M. PRESTON CO.
LANSING MICHIGAN

You Hesitate to Give Coffee to Children

Then why give it to grown folks? You can pleasantly solve the question of a table drink by giving all the family

Postum Cereal

Boiled full 15 minutes after boiling begins, it tastes much like superior coffee. It's an economy.

At Grocers.

Two sizes, usually sold at 15c and 25c

Retail Meat Prices Too High

(Continued from preceding page).

fallen sharply since March 1 on account of the stoppage of exports for army use and a slack demand for beef at home, due to the continuation of beef conservation under the mistaken idea that such conservation is still necessary to feed the people of Europe. Beef producers and lamb producers who sell their products at this time are confronted with the danger of heavy financial losses, which would tend to restrict production and cause a serious shortage in the future.

Urges Dual Supervision.

"The United States will never have a satisfactory and permanent solution of the problem until the manufacture, sale, and distribution of meat products are officially supervised by authorized agents of the government, working in cooperation with state and municipal authorities, whose only aim is to serve the public at large and not any particular class. When the federal government is enabled by law to maintain a just supervision over the meat-producing industry that will prevent unfair dealings, speculation, and profiteering, by furnishing the public from an unimpeachable source all the facts with regard to the industry, and when the states and municipalities are enabled by law to exercise similar supervision over intrastate and local business, then only can we expect to have fair and stable markets in which producer and consumer alike will have a square deal.

"The beef industry in the United States faces a most serious crisis. For a decade before the outbreak of war in Europe farmers and ranchmen had been urged to increase beef cattle production because the industry was not keeping pace with the growth of population. The lowest ebb in production was reached in the fiscal year ended June 30, 1914, when we practically ceased to have fresh dressed beef for export, but began to import it from the southern hemisphere.

"The campaign for increased production began to bear fruit with the outbreak of war, and beef again gained volume in our exports. Prices rose and farmers were encouraged to expand their beef-making operations.

"With the entrance of the United States into the war a vigorous and successful effort was made to increase the supply of meat for our army, especially beef, by civilian self-denial. Hotels and restaurants, at the request of the government, reduced the size of their beef portions and regularly left beef off their menus. Private families by thousands did likewise. Farmers and ranchmen exerted themselves to the utmost at great risk in order that our soldiers and sailors could have the best food that skill and loving care could produce.

"The result is history. From an export of beef and beef products of 151,000,000 pounds in 1914, we exported 590,000,000 pounds of beef and beef products in 1918, almost equaling the great surplus of 1901, when our population was 35,000,000 less people than now. The exports of 1918 were treble the three-year pre-war average.

"The stocks of cattle in the most of Europe have not suffered seriously in numbers during the war. Indeed, outside the areas actually overrun by the contending armies, cattle stocks have fairly held their own and in some cases even increased. Stocks of hogs and sheep have suffered much more severely than have cattle.

Keeping Up Retail Prices.

"The daily market reports of the Bureau of Markets show that prices of good and choice beef cattle on foot at Chicago have declined about \$4 per hundredweight, or nearly twenty-five per cent since March 1, while lower

grade beef cattle have declined as much as fifteen per cent. During the same period wholesale dressed beef prices show on the average approximately a corresponding percentage of decrease, which varies, however, in different cities from about fifteen per cent to thirty per cent.

"Hides, however, have advanced decidedly, while the cattle market has been breaking rapidly. The packer hide market at Chicago has gone from about twenty-seven cents to forty-two cents per pound, an increase of about fifty per cent. It is estimated that this offsets about seventy cents per hundredweight in the wholesale cost of beef and that increased prices of stearin, tallow and other byproducts added to the increased prices of hides bring the total saving on beef costs up to about a cent a pound since March 1.

"While the live cattle and wholesale dressed beef markets have gone down to the extent of twenty-five per cent the price of retail beef cuts to the consumer has been at a standstill in many cities, has even increased as much as twenty per cent on some cuts in some cities, and while retail prices have been reduced the reductions usually are only from five to seven cents per pound, which means only about ten per cent reduction from prices prevailing March 1."

FARMERS FORM ELEVATOR COMPANY AT OLIVET.

ABOUT one hundred and fifty representative farmers of Olivet have organized themselves into a stock company, which they call The Olivet Elevator Company. They have obtained a charter from the state, granting them permission "to deal in everything manufactured, cultivated, raised, bought or sold by farmers, including fuel, building material, groceries and farm implements of whatever kind or amount."

The company is incorporated for \$25,000, this is divided into 2,000 shares at \$10 each.

The board of directors is comprised of seven members as follows: Earl Corey, president; E. T. Reynolds, secretary and treasurer, George Rundel, Chauncey Osborn, Frank Edson, S. J. Cole, Dr. Burleson.

A manager has not yet been selected. The present plans are to purchase the elevator at Olivet Station, which is two miles from Olivet, or to erect a new elevator upon a site now under consideration.

A RESOLUTION.

PROTESTING against the indiscriminate use of the term "Pinto" in reference to beans and against the policy of the United States government in buying imported beans.

Whereas, many importers of foreign beans market them as "Pintos."

Whereas, there is a tendency on the part of the trade to designate all foreign beans under the term "Pintos."

Whereas, the Pinto bean is a distinct variety of Colorado beans grown extensively in the states of Colorado and New Mexico.

Whereas, the Pinto bean is of superior quality food value, and edibility to many other varieties of Colorado beans.

Therefore, be it resolved: That the Colorado State Farm Bureau protests against the sale of any foreign bean as "Pinto."

Be it further resolved: That the Colorado State Farm Bureau protests against the policy of the United States government in purchasing any foreign beans as long as there is any considerable quantity of home-grown beans not marketed.

Be it resolved: That copies of this resolution be sent to the Colorado Bean Growers' Association, the United States Bureau of Markets, and to the Bean-Bag, of St. Louis, Mo., a national publication to the bean industry.

Because You Helped to Win!

\$100 VICTORY BOND FREE

We Will Present a Hundred Dollar Victory Bond, Awarding it at the Michigan State Fair, to the Farmer who Reports to Our Office in Columbus, Ohio Before August 20th.

The Best Wheat Crop
from
FEDERAL FERTILIZERS
Globe or Daybreak Brands

The conditions are simple. You must write us and tell the amount of wheat per acre, attested by the thresher or the county agent, sending with it 20 stalks and heads or a quart of the threshed grain, and telling what Federal Fertilizer you used and how.

The winner will be decided by disinterested, competent judges, and in case of a tie, duplicate identical prizes will be given to each tying contestant.

The samples sent will be exhibited at the State Fair.

Your experience, with that of hundreds who report their yields to us, will be collected and given to the farmers of Michigan, thus offering a great amount of valuable aid in growing big crops.

Send in your sample and experience. You can help other farmers to duplicate your success, and since the award will be given on quality as well as quantity, you may win \$100 without further effort. *Do it right away!*

Plan NOW for Better Crops Next Year

With full information of the methods used, and with the same fertilizers that have been producing record crops of wheat for thirty-five years, you can increase your own yields ten to fifteen bushels per acre, and have the leading Michigan crop next year.

Farmers of Michigan have learned the necessity for commercial fertilizers, and the profits from their use. What they want to know is what combinations of plant food and what amounts of fertilizer per acre will pay the largest profits. We want to combine our thirty-five years of experience in the fertilizer business with the up-to-date practices of the Michigan farmers who this year have made the biggest yields of wheat, and then pass this information on to every farmer who wants it.

You who raised big crops with Federal Fertilizers, send the entry coupon. You may win a big prize, and you certainly will help your fellow farmers.

You who want to know how to raise more wheat at less cost, send in the Inquiry Coupon. We will mail you the actual experience of the men who are producing Michigan's record wheat yields, telling just how they do it, and just how you may have record crops yourself.

Thirty-five years experience and our \$250,000 factory at Columbus are at your service.

Federal Chemical Company
Columbus, Ohio Louisville, Ky.

Federal Fertilizers

*First in the Field
First in the Yield*



Federal Fertilizers

*First in the Field
First in the Yield*

ENTRY COUPON

Federal Chemical Company:

I am sending you { twenty stalks of wheat. } This sample is
 { quart of threshed wheat. }

from a field of _____ acres, which was seeded _____ 1918,
and your fertilizer of the analysis _____ used at the rate
of _____ per acre. The yield was _____ per acre.

Attested:

P. O.

M.F. **Thresherman or County Agent.**
If stalks are sent, they must be carefully wrapped, boxed, and sent by express.

Inquiry Coupon

Federal Chemical Company:

Send me full particulars about your fertilizers, and when the contest is decided, give me full details of the methods used by Michigan's best wheat growers.

I used.....Fertilizer last year and
 Brand or Name of Manufacturer
 will seed.....acres to wheat this year.

Name.

M.F.

Address _____

A New Fairbanks-Morse Engine



There is remarkable engine value and efficiency for every farmer who buys the new 1½ H.P. "Z" farm engine—from the local dealer, of course. This new size successfully uses

KEROSENE

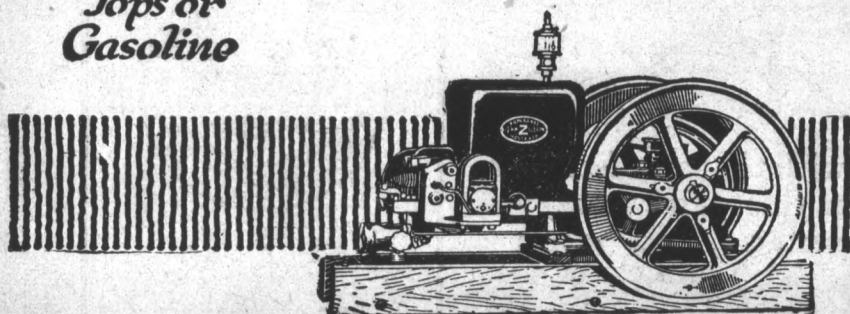
and completes a line of farm engines—1½, 3, 6, 10, 15 H. P.—all of which are kerosene engine marvels. Over 200,000 farmers—now using the "Z" on their farms—will, we know, say that the performance of the "Z" exceeds even their expectations.

Throttling Governor—Built in Oscillating Magneto.

Prices 1½ H. P. \$61.00—3 H. P. \$100.00—6 H. P. \$179.00—
F. O. B. Factory

Also runs on
Distillate
Coal Oil
Tops or
Gasoline

Fairbanks, Morse & Co.
MANUFACTURERS CHICAGO



50 Belgian Hares, all ages, good, utility stock. Some selected breeders, cheap. W. E. LECKY, Holmesville, Ohio.

Flemish Giant Rabbits, dark steel black. Grays 2 months old, \$3.00 & \$2.00 each. Pedigreed stock. DAVID RAY, 709 Norris St., Ypsilanti, Mich.

Binder Twine Standard
\$20.50 per 100 pounds, 500 ft. to the lb.
cent less per pound. Order now.
Write for Circular Louis Lesse, Dep. V, Milwaukee, Wis.

Too Valuable to Lose Out

THE class of farmers we want to reach keep their copies of the Michigan Farmer and do not want to lose any part of the reading matter. We paid for this space to keep your paper intact. Won't you read the advertisement and sign the coupon on the opposite page and let us give you information that will pay you several times the amount that it has cost us to offer you our services?

Federal Chemical Company

Our Service Department

LINE FENCE.

Should I or my neighbor or the fence viewers build neighbor's share of line fence? If I build it how should I get my pay for building it?—J. L.

When the fence viewers have divided the fence and ordered the building or repairing, they fix the time for doing so; and the statute provided that if not built within that time, the complaining party may himself build it, and the fence viewers shall determine the cost and issue a certificate for that amount and their fees, on which the complaining party shall have a right to demand payment of the owner or occupant of the premises who should have built the fence; and if he does not pay it by the first day of the next October after demand is made the sum so fixed becomes a lien on the land, and the fence viewers are required to report the facts to the supervisor of the township, and on or before the first day of the next November he shall cause the same to be spread on the tax roll opposite the description of the land owned or occupied by the persons who should build the fence, and the tax is collected in the same manner as other taxes, and paid over to the complainant on the order of the town board.

JOHN R. ROOD.

SCALY LEG.

We have several hens that are lame and think it is caused by scales on legs. Will you tell me if there is any way to cure it or if the hens must be killed?

Lapeer Co.

M. E. P.

Scaly legs are caused by a parasite. First, the legs should be washed with warm soapy water to remove the scabs. Then rub the legs thoroughly with kerosene or gasoline. It pays to scrub hard with an old nail brush so that the oil will penetrate the infected area and kill the parasites. A five per cent solution of one of the commercial dips like zenoleum or creolin is also recommended for scaly legs.

If one bird has scaly legs it may spread to other members of the flock. When it is hot the parasites can live for a short time in dirt around the roosts and in the nests. Keeping the house clean and the poultry yard well drained helps to keep the birds healthy and free from the parasites which caused this trouble.

R. G. K.

PICKING GEES.

Do you know of any law prohibiting the picking of live geese for their feathers? We have heard rumors of such a law, but have never seen it in print. We raise geese and would like to pick them, otherwise their feathers are shed and of no use to us.

Calhoun Co.

S. E. D.

We have never heard of a law prohibiting picking of live geese. Some breeders consider it a little cruel and do not pick their geese while alive but it is largely a matter of personal opinion. The picking of live geese is not practiced as much as in former years.

DUCKS DIE IN SHELL.

Please tell me what is the trouble with my duck eggs. Every egg had a bird in it, but they died in the shell. Only three out of nine hatched. The shell was so hard it seems as if the bird could not hatch.

Washtenaw Co.

P. H. K.

If a duck can build her nest where the conditions are ideal she will select a place near the water's edge where the earth may be slightly moist and the eggs are not apt to become too dry. When setting duck eggs on the farm, possibly under a hen, it pays to

build the nest on the ground. It helps to improve the moisture conditions if the ground is spaded up under the nest to bring moist soil to the surface.

It will usually improve the hatch if the eggs are sprinkled about every other day with water the same temperature as the eggs, which would be close to 103 degrees. Sometimes old hens do not seem to turn the duck eggs quite enough and when sprinkling them at night it may help to turn every egg so that they will receive more turning than the hen gives them.

As duck eggs take twenty-eight days to hatch it is easy to see how dry they become in four weeks of heating in a dry place such as a warm and dry colony house or in a box in a hot poultry house. If the poor hatch did not result from the shells becoming too dry it might be due to a weakness in the breeding stock.

R. G. K.

PROTECTION FROM LICE.

What is the most effective way to deal with the lice problem in hen coops and houses? Also, when building a new hen house, as we intend doing this fall, how should the roosts be put in so that the lice will not so easily get under and into the cracks?

Washtenaw Co.

Mrs. C. S.

The best roosts we have used are two by three pieces with the upper edges rounded with the plane. The roosts can be built in section by nailing three roosts to cross-pieces. Then the cross-pieces are hinged to the back wall of the poultry house so that they can be raised and hooked to the ceiling. A block nailed to each side of the front of the section forms the resting place on the droppings boards when the roosts are lowered. This gives the poultryman a chance to thoroughly spray the roosts on all sides and it catches all of the mites.

Some breeders have the roosts fit into grooves from which they can easily be removed at cleaning time. Never nail the roosts to the wall as this increases the danger from mites. Of course, the roosts nailed to a cross-piece form places for mites to hide but when the sections are raised and hooked to the ceiling the spray dope will run into the cracks and destroy the pests.

The best solution to the lice problem is to use blue ointment on each bird at least twice a year. Place a small bit beneath the vent and rub it in thoroughly so that none of the ointment can be eaten by the bird. Place another dab under each wing. Never leave the blue ointment where it can be eaten by poultry or other stock as it is poisonous. In a recent talk with a poultry instructor who has had experience in several states, he recommended the blue ointment as the best possible protection from lice and superior to any of the various powders he had ever used. It is a time saver and when the work is done the poultryman knows that it is done well and more lice will not hatch out and thrive as is the case after the value of a powder has disappeared.

To keep down the mites the roosts and nests must be protected. The mites on the roosts cause the most trouble. During the day they may hang under the roosts in clusters. At night they come up and feed upon the blood of the birds and this helps to devitalize them and reduce their capacity for egg production.

Coal tar preparations are highly spoken of as mite protectors and one application will last a long time. Kerosene oil will kill the mites but the

(Continued on page 71).

Correct Lubrication **Is Tractor Insurance**

NO matter how good your tractor may be it cannot give satisfactory service unless it has proper lubrication.

This means not only plenty of oil, but the correct oil, properly applied.

After long years of experience the Standard Oil Company (Indiana) has produced three oils which will correctly lubricate the entire range of tractors.

These in the order of their viscosity are:

Heavy Polarine Oil

Stanolind Tractor Oil

Extra Heavy Polarine Oil

Stanolind Tractor Oil has been found, through severe and thorough tests, to be the best lubricant for more than one-half of the tractors made.

This oil is one of great durability. It stands the high temperature developed in a tractor engine without change in body.

It has the correct body to thoroughly lubricate the remotest frictional surfaces, eliminating scored cylinders and undue wear.

Where mechanical conditions or design make it desirable to use a slightly heavier, or slightly lighter, oil than Stanolind

Tractor Oil, Extra Heavy Polarine Oil or Heavy Polarine Oil is recommended.

Any Standard Oil representative will be glad to show you the chart of Tractor lubrication, prepared by our Engineering Staff. It indicates specifically which of these three oils the Standard Oil Engineers have found will give the best results in your particular tractor.

We have just published a 100-page book "Tractors and Tractor Lubrication," prepared by our engineering staff, which you will find a valuable reference book, and we believe it will save you many days of tractor idleness with the resultant money loss. It's free to you for the asking. Address

Standard Oil Company, 910 So. Michigan Ave., Chicago, Ill.

(Indiana)

Grain Grading Meeting at Detroit

ON Tuesday, July 8, a grain grading meeting was held at the Hotel Cadillac, Detroit, for the purpose of a demonstration and discussion of the purchase of grains by millers and elevator men on the basis of the United States standards, as provided for under the contract which will be made between the Food Administration Grain Corporation and grain buyers for the purpose of making effective the guaranteed price on the 1919 wheat crop. The call for this meeting was issued by Professor Cox, of the Farm Crops Department of the Michigan Agricultural College, in an effort to promote a better understanding of the new federal grain grading rules on the part of grain growers, grain buyers and millers in view of the requirement of the Grain Corporation contracts that wheat shall be purchased on the federal grades. The program for the meeting called for an all-day session but owing to the small attendance in the morning the entire program was put over until the afternoon session, when there was a good attendance, particularly of millers, with a considerable number of grain dealers and county agents but few grain growers on account of the urgency of harvest work.

Relations of Buyer and Seller.

The meeting was opened promptly at two o'clock with I. R. Waterbury as chairman, and the first number was an address by Walter B. Campbell of the Commercial Milling Company, of Detroit, on the relationship between the buyer and seller in marketing the 1919 wheat crop. Mr. Campbell's address was so replete with practical information on the world wheat situation and its probable effect on the future of the grain market that it will be published in full in next week's issue.

Marketing this Year's Wheat Crop.

An informal discussion of this topic was contributed to by Professor Cox, of the M. A. C., J. W. Nicolson, Secretary of the Michigan Crop Improvement Association, and others. Both of the speakers named placed emphasis on the work of the college and the Crop Improvement Association in the development of Red Rock wheat which has resulted in giving Michigan a better milling wheat and reduced to a considerable extent the amount of hard wheat required for blending purposes and should entitle the grower to a premium for this product on account of its superior quality. Exceptions to this argument were taken by one miller who is exclusively engaged in the manufacture of flour from soft Michigan wheat for cracker bakers, but the argument was supported by other millers who have found Red Rock wheat to be a superior milling variety, enabling them to use a larger proportion

of Michigan wheat in the manufacture of bread flour. This was notably the position taken by Mr. Ahment of the Monroe Milling Company.

Demonstrations in Grading Wheat and Oats.

The important feature of the program was the lecture and demonstration on the grading of wheat and oats by Mr. H. P. English, Supervisor of the United States Bureau of Markets at Washington. Mr. English carefully explained the grade requirements for soft red winter wheat which predominates in this state. These requirements for the different grades are given in the following table and explanatory notes:

Grade Requirements for Soft Red Winter Wheat.

Maximum limits of—

Grade No.	Red Winter.	Moisture.	Damaged kernels.	Foreign material other than dockage.	Wheat of other classes.
	lbs.	%	%	%	%
1	60	13.5	2	1	5
2	58	14.0	4	2	10
3	56	14.5	7	3	10
4	54	15.5	10	5	10
5	51	15.5	15	7	10

*Sample.

*Sample Grade shall be wheat of the subclass Red Winter, which does not come within the requirements of any of the grades from No. 1 to No. 5 inclusive, or which has any commercially objectionable foreign odor except of smut, garlic, or wild onions, or is very sour, or is heating, hot, infested with live weevils or other insects injurious to stored grain, or is otherwise of distinctly low quality, or contains small, inseparable stones or cinders.

(1) The wheat in grade No. 1 shall be bright.

(2) The wheat in grades Nos. 1 to 4, inclusive, shall be cool and sweet.

(3) The wheat in grade No. 5 shall be cool, but may be musty or slightly sour.

There followed a demonstration of the grading of wheat as it is done in the laboratories and a description of the equipment required for grading by millers and grain buyers. This involves a moisture test for which a moisture tester is required and some device for the preparation of the sample for weighing. This device must be so arranged that it will drop the grain into the weighing bucket from a funnel having a one and a quarter-inch opening which is suspended exactly two inches above the top of the weighing bucket. The bucket must then be leveled with a round-edged strike by the use of three diagonal movements forward to secure absolute accuracy in the weight test.

At the request of the millers and members of the audience, grade requirements were carefully explained by Mr. English. In this discussion it was brought out that No. 2 red wheat might contain one per cent of rye and still grade No. 2, provided it did not contain any matter other than cereal grain. A number of those present commented on the almost insurmountable difficulties in making individual grade tests of samples of grain from the offerings of growers, and it was pointed out that it would require at least forty minutes to make an authentic test, provided the equipment were at hand and that during the rush season of marketing it would be practically impossible to take this amount of time. Mr. English was asked if it would be possible for the Bureau of Markets to provide standard samples

of grain of the different grades for purposes of comparison. He thought that this would not be possible at the present time, but that in his opinion the Bureau might be able to provide such samples in the not distant future.

The Buyers' Equipment.

To get the attitude of the millers and dealers present, a test vote was taken to determine how many expected to follow out the grading rule in accordance with the demonstration given, with the result that only two declared their present intention to buy only on this grading. As it will be necessary for the original purchasers of grain to sell any of their holdings which they may ask the Grain Corporation to take on these grades, a fine point is involved as is also the case where the seller may be dissatisfied with the grading of his sample by the buyer, the contract provided that samples shall be retained by the purchaser together with data as to the price paid for same, the amount purchased, etc. In this connection it would appear that the county agents might perform a valuable service to the grain growers in their country by familiarizing themselves with the government grading and the operation of testing to determine same as a means in the local settlement of disputes of this kind, since if a general application of these grading rules are made the number of such disputes is likely to be so great as to make impossible their prompt adjustment through the channels provided.

Licensed Inspectors.

Mr. R. W. Taylor, Federal Grade Supervisor at Detroit, discussed the grading question informally from the standpoint of his office, and in answer to inquiries as to whether he could make grade tests for growers said that he would be glad to act in an advisory capacity but could not make an official test and assign a grade to the sample except in cases of disputes arising in the interstate shipment of grain. Mr. Taylor said the best method of procedure where a sample grade was desired was for the grower and dealer to send a sample to one of the licensed grade inspectors in Michigan, of whom there are four: Mr. H. L. Peters, of the Chamber of Commerce, Port Huron; D. R. McEachorn, Association of Commerce, Grand Rapids; W. W. Recker, Chief Inspector Detroit Board of Trade, and his assistant, Mr. Foster, any one of whom would grade samples at a nominal cost to the sender. Such samples must include something over a pint of grain in an air-tight receptacle and a bulk sample exceeding a quart of grain for the making of a weight test.

Mr. English made a demonstration of the grading of oats which grades will be given in the next issue. The discussion of grades and latest government rules bearing on the 1919 wheat crop was the subject for discussion, led by F. B. Drees, Secretary of the Michigan Millers' Association. Mr. Drees advised that he had hoped to be able to announce a fair grain price for the different sections of Michigan, but owing to the fact that the Grain Corporation so far refused to say what a reasonable handling charge would be, he was unable to give that information at this time.

Growers May Get Holding Charge.

In an informal discussion which closed the program of the day the matter of holding charge was discussed by Mr. Campbell, who stated that the Grain Corporation and Wheat Director expected to use this matter of holding charge to regulate the marketing of grain, and that when the holding charge was granted it would apply to all owners of grain, whether growers,

elevator men or millers. No holding charge will be allowed for July and the Grain Corporation has reserved the right to apply holding charge or not, as exigencies in the case may demand. It is a matter for regret that similar meetings cannot be held in all sections of the state in order to thoroughly acquaint grain growers with the new grading rules, but as this is impractical except through action of the county agents, such information as may be available from time to time will be presented through these columns.

WHEAT CONTROL PLAN.

COMPLETE government plans for handling the mammoth wheat crop now being harvested in Kansas and other western states, together with copies of contracts the United States Grain Corporation will execute shortly with all the millers, wheat and flour dealers and elevator men and bakers of the country, have been sent to the house and senate agriculture committees by Julius H. Barnes, president of the government grain organization.

Fundamental with the plan, of course, is that the wheat farmer shall get the government guaranteed price for his grain, and at the same time permit meeting the possibility of the world wheat situation forcing the price below that mark.

Farmers to Get Guaranteed Price.

Mr. Barnes sets forth that it manifestly would be impossible for the grain corporation to make individual settlements in such an event with a million or more raisers. Accordingly the machine provided obtains for the farmer, when he sends his wheat to market, at least the guaranteed price, together with any storage premium that may be due him. In turn, should the then price be below the government guarantee, the miller or elevator man settles directly with the grain corporation, which makes up the difference.

Throughout the entire crop year, however, the price, in event world conditions force a reduction below the present guarantee, will be fixed by the government grain corporation. It is manifest from the plan worked out that Mr. Barnes does not anticipate in the near future any danger of the world market being glutted to any such extent with wheat that the price will tumble below the \$2.25 a bushel based on Chicago and \$2.18, Kansas City, for No. 1 wheat.

Can Set a Lower Price.

But in a few words, if that situation should ever come about, the grain cor- (Continued on page 79).



This Home-made Feeder Made Profits.



Don't Forget Biddy.

Milk Profiteers?

THE recent advance in retail milk prices in New York city has aroused public officials to action. Mayor Hylan and Chief Magistrate McAdoo both discussed the rise in milk prices recently. The mayor expressed his opinions in a letter to Robert E. Dowling, chairman of the milk commission appointed by Governor Smith, in which he characterized the milk dealers as profiteers, urged their prosecution, and suggested an appeal to Governor Smith:

His letter follows:

"I see by the papers, if quoted correctly, that you have received a letter from the milk trust, stating that they have raised the price of Grades A and B milk, and that the increase was necessary, as the companies would otherwise have to conduct their business at a loss during the month of July.

"This statement no reasonable person will believe. Milk is most plentiful this time of the year, and these profiteers should not be allowed to raise the price of milk. If you have no power to regulate price, you can, however, appeal to the highest power in the state to ask every district attorney in the state to begin a vigorous prosecution against the milk trust, and the kind of prosecution that will send the culprits that have violated the law to jail.

"We tried at the last session of the legislature to have the law repealed that gave the Dairymen's League exemption, but this was not done, and since the legislature adjourned, they are again at their old business of boosting prices at the expense of the public. The people will not tolerate much longer profiteering in foodstuffs, milk and other necessities of life.

Magistrate McAdoo presided at the milk inquiry conducted by the district attorney, said that, under immunity granted by law, the farmers were acting in concert to sell their products at one and the same price, or not at all. Farmers and distributors, he said, had entered into an agreement by which the price of milk was to be regulated by the price of butter and cheese in the open market.

"I, among others at the inquiry, pointed out that after the armistice there would be an immense and increasing demand for export of these articles," said Magistrate McAdoo. "That has proved true and no doubt accelerates the price over former years."

The magistrate said the farmer can sell his milk, or convert it into butter and cheese, if that is the most profitable. "The price, now regulated by butter and cheese, for which there is a tremendous export demand, is fluctuating violently, as shown by the difference between the prices in May, June, and July," he continued. "Formerly staple prices for milk were agreed upon for three months at a time.

"The distributors now add three-quarters of a cent on top of the raise of the farmers. Distribution is largely in the hands of a few big companies. As a result of the investigation I am convinced that the state and city will have to regulate this distribution or take over and entirely control it.

"The milk supply is as essential to the city as that of water. If an enemy besieging the city cut off either, he would reduce the people to the direst straits. Milk is, if anything, more essential to the infant than water.

"If the farmers exercised their rights to convert all milk into butter, cheese, and other forms, and there was no fluid milk to be obtained, the state would be compelled, in order to save its citizens, to take over the production of milk."

Wheat bran and oats, and clover or alfalfa hay makes a fine ration for growing colts.

ESSEX
MOTORS
DETROIT
U.S.A.

Join The Half Million

Used In 3000 Cities, Its
Admirers Are Now Legion

Who Praise The Essex

The Essex is now known in more than three thousand towns and cities.

Deliveries of new cars approximate a hundred a day.

Thousands, through demonstrations made by dealers and rides with friends, are daily learning the qualities that account for Essex popularity.

Their knowledge, like those who have not yet ridden in the Essex was limited to hearsay. But their impressions were most favorable because of what others had told them.

Won't You Too Join Its Army?

You too, will volunteer your endorsement, we are sure, if you will but ride in the Essex.

It has never failed. Our estimate is that more than half a million have ridden in it and are telling their friends about the Essex.

Such praise is not misplaced. We don't believe it greater than the car deserves. But that you will be able to judge after you have ridden in the Essex.

Points Others Speak Of

Note how motor car talk quickly turns to the Essex.

When light, cheap cars are spoken of their qualities are usually compared to the Essex. Then someone says, "But the Essex also has _____" and from then on Essex qualities are compared to large costly cars.

It isn't likely that anyone will say any light similarly priced car approaches the value of the Essex.

In performance, for instance you won't hear it classed with any but the most powerful.

And so with its riding qualities, which are invariably compared to high priced large cars.

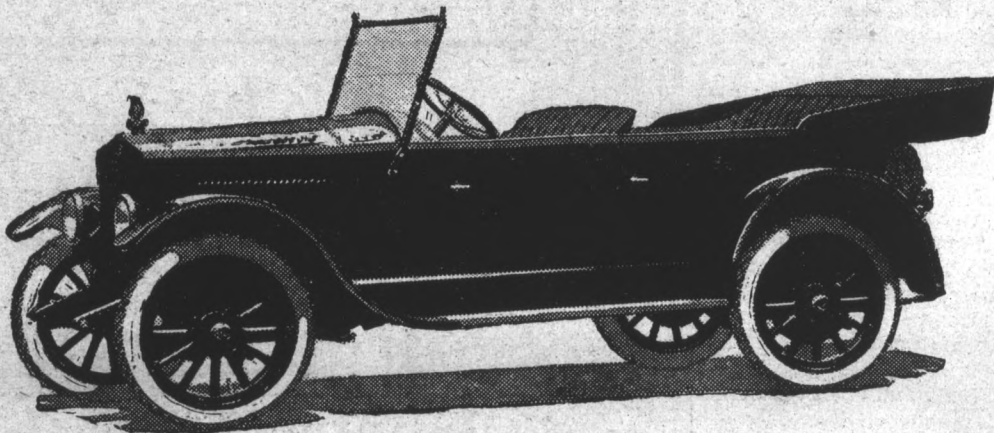
So is the detail of finish and beauty judged by such standards.

Comparison with other light weight moderate priced cars can be made only with their respective first and operating costs.

Can You Resist The Invitation?

We hope you won't delay in accepting our invitation to ride in the Essex.

The result, we think, will be your leaving an order to be filled as soon as possible. We know you will help spread the news about the Essex, for it must inspire you with the same admiration others voice for it.



(52)

Drink
Coca-Cola
DELICIOUS and REFRESHING

COCA-COLA is a perfect answer to thirst that no imitation can satisfy. Coca-Cola quality, recorded in the public taste, is what holds it above imitations.

Demand the genuine by full name—nicknames encourage substitution.
THE COCA-COLA CO.
Atlanta, Ga.

23F

Sold Everywhere

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Have You Tried Dried Corn?

It and Other Vegetables and
Fruits are Delicious Dried on a
Simplicity Evaporator



Let us send you descriptive circular explaining its construction and uses. Size 2x4 ft., \$4.50.
The Ideal Pump Co., Wilmington, Ohio

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MICHIGAN AGRICULTURAL COLLEGE
offers complete veterinary course, open to high school graduates in preparation for this work.
For particulars write
R. P. LYMAN, Dean, East Lansing, Michigan

BARN PAINT \$1 PER GALLON

Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Franklin, Ind.

FARM WOODLOTS IMPORTANT.

THE end of the war has brought with it no diminution in the importance of proper utilization and care of the farm woodlands. Above all, it is essential to make the most of the lessons that may be drawn from the war regarding the future of farm woodlands and their place both in the management of the farm and in our national economy.

One of the first war demands was for millions of boxes, crates and containers of all kinds, both for use in shipping munitions, machinery and equipment, and supplies overseas, and for the needs in this country. Every purchasing branch of the army and navy, and the auxiliary organizations like the Red Cross and Y. M. C. A. demanded boxes in immense numbers. As the war increased the drain on labor, many small mills had to reduce output or shut down, so that the aggregate production of box material from the farm was not as great in the later as in the earlier months of the war, yet the service of the woodland on the farm for boxes remained a very substantial one.

Farm woodlands, however, were of even more importance in connection with the hardwoods, used for such specialized purposes as wagons, gunstocks, airplane propellers, tools, etc. For some of the special wood materials the government had to rely very largely upon what could be secured from farm wood tracts.

For the supplies of building material used in the war the government turned to the established lumber industry, with its multitude of sawmills, backed by supplies of virgin forests of pine, Douglas fir, spruce, hemlock, and other species entering into the general lumber market; and the demand for millions of feet of lumber for cantonments, navy yards, wooden ships, and aircraft tended to throw into the background less conspicuous but equally important war requirements in great variety, which could be met only by drawing large quantities of material from the woodlands of the farms. The farm woodland has acquired a tremendous significance in our national as well as our local forest economy.

The connection between the farmer's woodlands and the army's shoes is not at first apparent; but to secure tanning extract from the immense quantity of heavy leathers required for these shoes placed a decided drain upon the woodlands of the southern Appalachians for chestnut wood and chestnut oak bark, and upon the northern forests for hemlock bark.

The extra demands upon farm woodlands were not confined to the best grades of timber for construction and other uses as outlined above, although these were the products which furnish the farmer his greatest opportunity. Wood for fuel and for acetone and alcohol came more and more into demand as our war program expanded. Indeed, we could not have "carried on" without a greatly increased supply.

Acetone is used in the manufacture of propellant explosives for all calibers of guns, and is an important material for use on the wing covers of airplanes, and since from seventy-five to one hundred tons of wood are required to produce a ton of acetone, enormous quantities of wood were needed for this purpose. After the entrance of the United States into the war, it became necessary to construct several large distillation plants to produce acetone for war purposes. Wood alcohol is also used to a large extent in the manufacture of explosives.

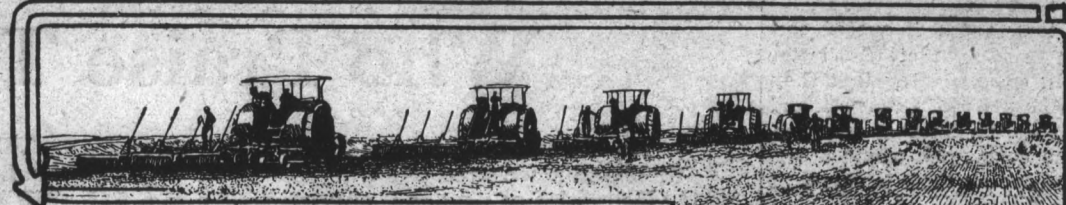
Many of the problems which faced the farmer in furnishing supplies from his woodlot must be considered during the years immediately succeeding the war in order that farm forestry may become the practical business proposition that it must be to appeal to the American farmer.

CULTI-PACKER

TRADE MARK REG.

It Cultivates — It Packs

The Largest Wheat Farm in the World



MONTANA FARMING CORPORATION

HARDIN, MONT. October 23, 1918.

The Dunham Company,
Berea, Ohio.

Gentlemen:-

We have 600 feet - 60 Machines
We have 350 lineal feet of Dunham Packers on our work, and next to our plows consider them the most important agricultural implement in handling fresh breaking and packing old ground.

We have just finished seeding on our first unit of 7000 acres, every foot of which has been packed twice with Dunham Packers. We first used the packer directly behind the plow and again used them directly behind the drills, seeding and packing at the same operation. By using these machines we were able to plow the sod and turn it over perfectly flat, thereby eliminating air spaces and helping to a great extent to retain the moisture.

Through a delay in shipment during the summer part of our land was plowed without packing and the difference in the moisture content of the soil as a result was very noticeable. The field which was packed having moisture practically for ten inches, while the unpacked field had no moisture below the plowed ground. We plowed in each case about four and one-half inches deep. We packed every acre we seeded directly after seeding and feel that this will give us a yield of two to three bushels more per acre.

The packer not only seems to compress the soil but seems to pulverize it also leaving a very finely powdered surface. It is our belief that all fresh breaking should be packed and in sections known as dry farming sections we think that all seeded lands should be packed.

Very sincerely yours,

C.L.

Culti-Packers For Sale by
Your Local Implement Dealer

The Dunham Company, Suburb of Cleveland Berea, Ohio

According to *The Country Gentleman* of October 26, 1918, the Montana Farming Corporation has the largest wheat farm in the world—200,000 acres of Indian land specially leased from the Government to increase wheat production.

Read what Thomas D. Campbell, president of this Company, has to say about Dunham Culti-Packers and the increased crop he secured.

Then consider—that wheat is only one of many crops where the Culti-Packer is being successfully used—that a fifty-acre farmer can use it just as profitably as Mr. Campbell did—that it can be used not only for seed-bed preparation but before and after seeding and on the growing crop from early spring until late in fall.

HERE'S FREE POWER



Wind power, being free power, is the most economical power.

Use it with Model 12 Star Windmill and eliminate the cost of fuel oils, now high in price.

The NO-OIL-EM BEARINGS provide effective lubrication and require

oiling but once a year, saving you many trips up the tower.

Write today for catalog No. 95 or see your dealer.

FLINT & WALLING MFG. CO.
STAR WINDMILLS — HOOSIER PUMPS

Department C KENDALLVILLE, INDIANA

Provide an independent supply of water for farm homes. Easy to install—simple and economical to maintain. Write for Bulletin F.

SOPHIE'S AGNES JUST
BROKE THE WORLD'S
JERSEY YEARLY
BUTTERFAT RECORD.

BUFFALO
CORN
GLUTEN FEED

BUFFALO GLUTEN,
1/4 HER GRAIN RATION
WAS ONLY HIGH-PRO-
TEIN FEED SHE WAS FED

Write to H. CHRYSTAL, Selling Representative, 909 Ford Building, Detroit,
for sample, feeding formulas, etc. Who is your dealer?

Ditches
Terraces

Prevent crop failure. Reclaim abandoned land. Get my introductory offer on



Write for FREE Farm Ditcher, Terraces and Road Grader Book and Prices

All-steel—Adjustable—Reversible—No wheels, levers or cogs to get out of fix. Cuts new farm ditches or cleans old ones to 4 feet deep—grades roads—builds farm terraces, dykes and levees. Does work of 100 men. Every farm needs one. Send your name.

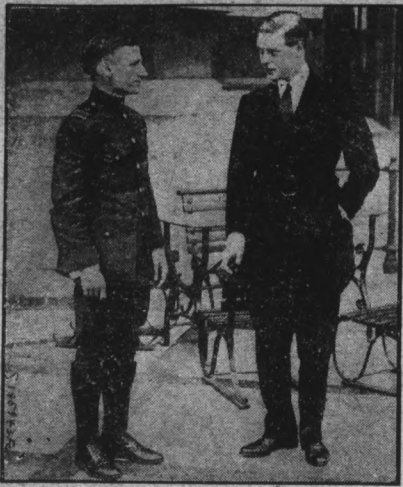
Owensboro Ditcher & Grader Co., Inc.
Box 515 Owensboro, Ky.

10 Days Free Trial

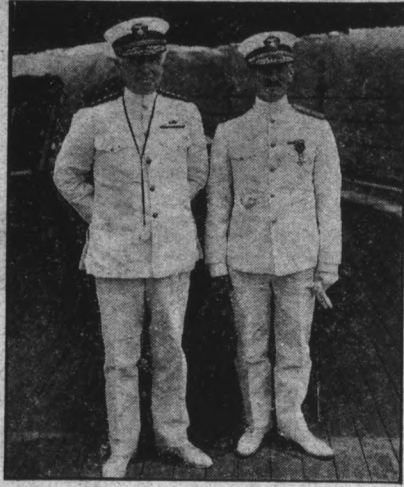
Contractors to the Government
TAPES
FOR TYING
CELERY
ASPARAGUS

IN FAST COLORS
Hoffman-Corr Tape Mfg. Co.
312 Market Street, Philadelphia, Pa.

WORLD EVENTS IN PICTURES



Lieut. Read of the U. S. NC-4, and his crew are entertained by Prince of Wales.



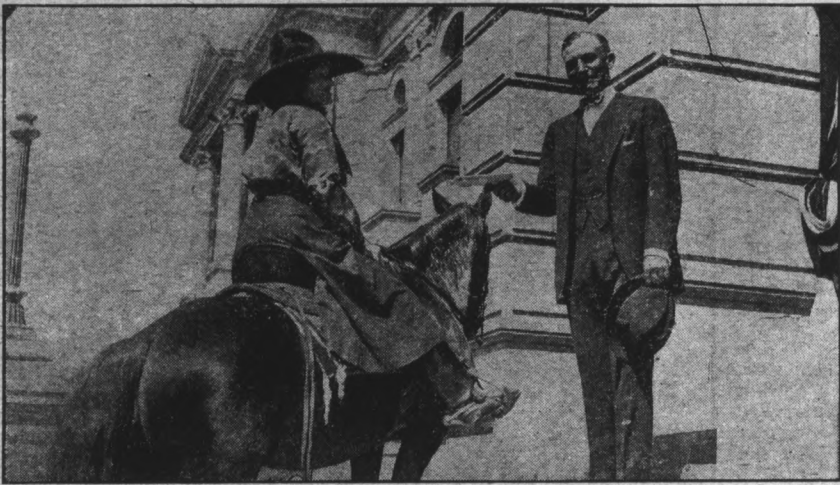
Retiring Commander Mayo (right) of the Atlantic Fleet, and his successor, Rear Admiral Wilson.



Mrs. Plant, active Red Cross worker, marries Col. Hayward, who commanded the famous Negro regiment.



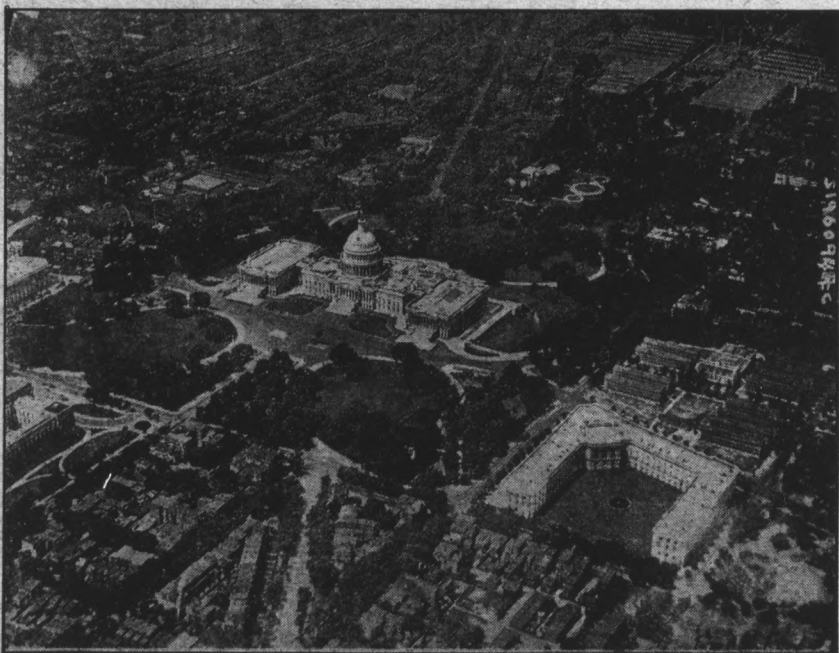
Captain Patterson, one of America's leading newspaper men, starts a picture daily in New York.



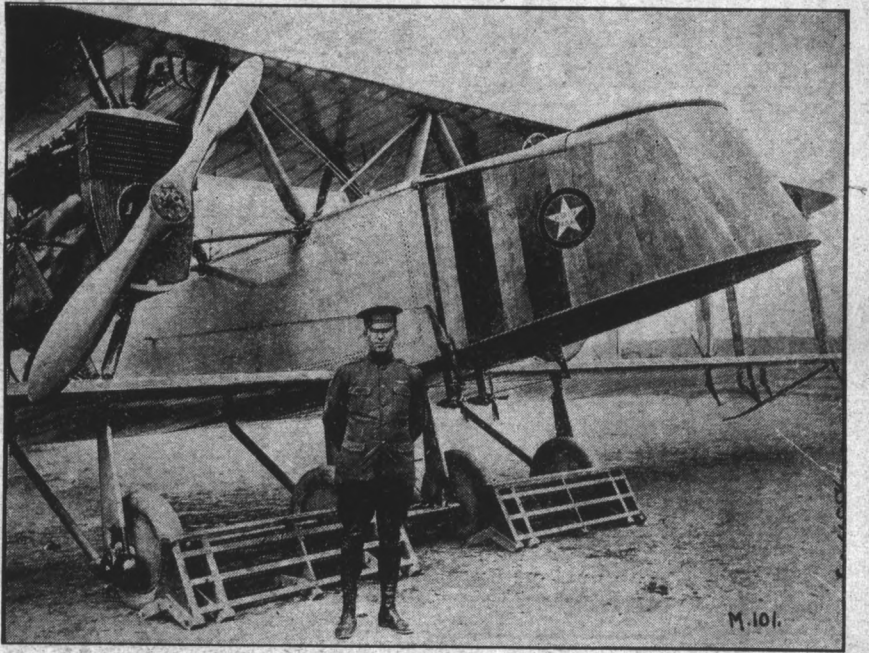
Cow girls of Wyoming protest to Governor Carey that model for "Miss Wyoming," the central figure in an official poster, be selected from the girls of that state.



Postmaster-General Burleson affixes the first two-cent stamp to a letter after the change from the three-cent back to the old two-cent rate, was made July 1.



This is how the national capitol at Washington, the Senate office at the right, and part of the city, appear to one in an airplane.



In this big twin-engined plane Captain Francis, of the U. S. A. will attempt to cross the continent from New York to San Francisco in a one-stop flight. He plans to refuel at North Platte, Nebraska.

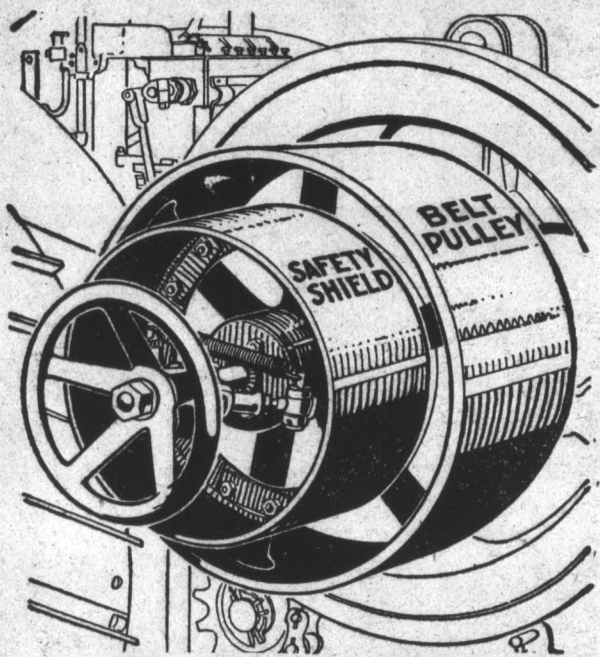


Secretary of the Navy Josephus Daniels congratulates Commander Read on his successful flight across the Atlantic.



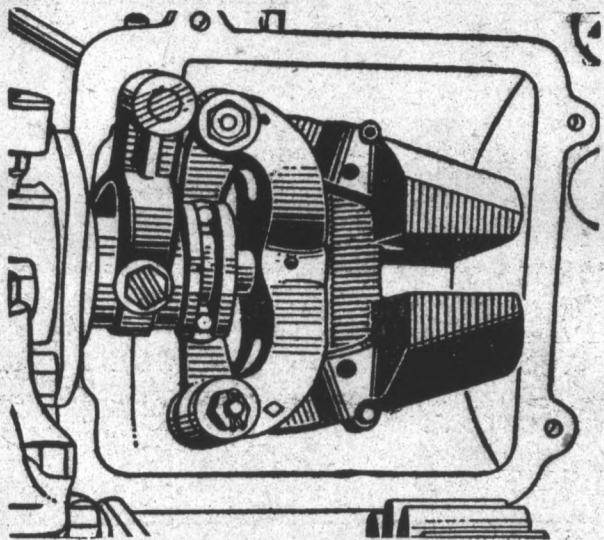
Through the generosity of the United States these poor children of a Czarvy Prandrick, Galicia school are given free food.

\$1000 Now Buys \$225 Reduction



Friction Clutch Pulley

With the Titan you get a large and wide friction clutch pulley put in the right place by a company that knows where it belongs. It is provided with a safety shield. Most of the belt work of 1919 is still to be done. Titan belt work is unexcelled. There is no extra charge for the Titan 10-20 friction clutch pulley.



Throttle Governor

With the Titan you get a throttle governor. Without a governor you need a man to maintain steady speed for belt work *all the time*. The throttle governor gives you steady speed for belt work, saves fuel, prevents grain losses, and it works automatically and perfectly. You get it without extra charge.

Starting and Service

You get the Titan tractor without the compulsory "starting and service charge" made by some companies. We believe that when you buy a tractor you are entitled to complete instruction in starting and operating. The International dealer gives you this service without asking you to pay extra for it.

BEGINNING
July 1st, 1919,
the 1920 price
of the Titan 10-20
kerosene tractor is

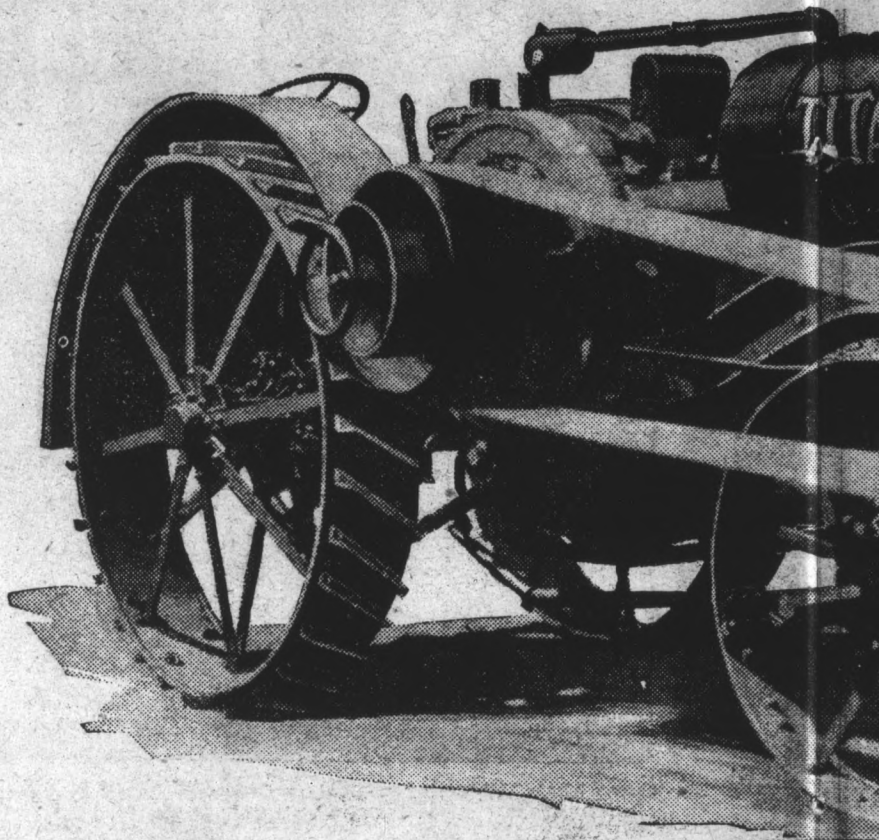
\$1,000

CASH F. O. B. Factory

**\$1050 when
time is given**

Reasonable terms will be given to any man who needs the Titan now for the season ahead, and cannot pay cash in full.

These terms are new. They are offered so that wherever there is need for a Titan the matter of payment will not block the way.



PRIOR to July 1st, the Titan 10-20 was the most popular and universally satisfactory 3-plow tractor in the world. Now it is not only that, but also the most popular priced 3-plow tractor. We have reduced the price from \$1,225 to \$1,000 for 1920.

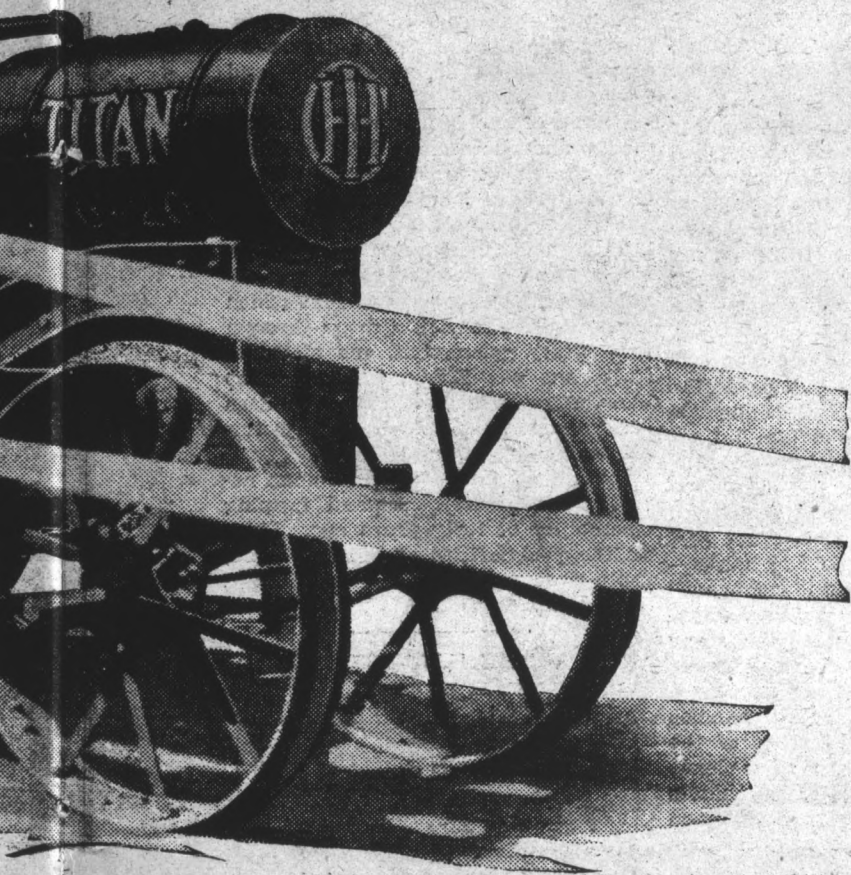
This reduction—\$225—is the greatest one we know of ever made in the price of a 10-20 tractor. Present prices of materials and labor do not justify this big cut, but it is made in anticipation that the increased volume of business developed will offset the cut in price. Some farmers have been holding off buying a tractor, because they figured that their limit for a good 3-plow machine was \$1,000. Rather than buy a cheaper or inferior tractor, or a smaller size not so profitable to use, they have stayed out of the market.

They can now come in and get the best 3-plow kerosene tractor—the Titan 10-20—at the price which they placed as their limit—\$1,000. Maximum production and increased efficiency of men and machines at the factory will partly offset this great reduction. In addition, we will have the satisfaction of bringing the Titan tractor within the means of every farmer who wants to use kerosene power.

When you buy a Titan 10-20 for \$1,000 you get more real value for your money than you would in the purchase of any other tractor. Every Titan user will tell you that.

**INTERNATIONAL HARV
OF AMERICA
CHICAGO**

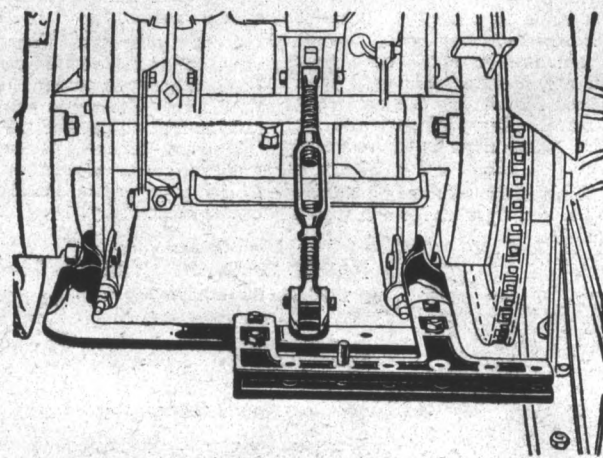
the Titan 10-20 on in the Price



REMEMBER that the Government has proved again and again that 3-plow tractors are the most economical. Titan 10-20 is a 3-plow kerosene tractor.

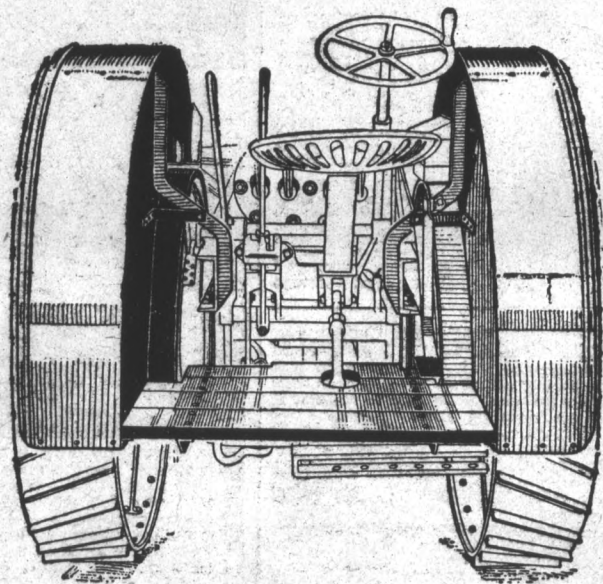
When you get the Titan, complete and ready-to-run, for the new \$1000 price, you will own the most dependable 3-plow power in the tractor market, with unusual reserve power.

Remember, one man handles the Titan as easily as any 2-plow outfit, but the Titan does 50 per cent more work.



Drawbar

With the Titan you get a convenient drawbar with a wide range of adjustment. Look at it. Note the many holes for attaching different machines and implements. Note the up-and-down adjustment—an absolute necessity to good work, yet lacking altogether on some tractors. The Titan drawbar fits every need and it is furnished without extra charge.



Fenders

With the Titan you get drive-wheel fenders. Don't underestimate their value. Titan fenders stand for "safety first." They also protect the engine and operator from mud and dust carried up by the rear wheels. They are furnished without extra charge on the Titan 10-20.

Platform

With the Titan you get a rear platform. It is a comfort feature. You can stand up and run the tractor, put in more hours with less fatigue, because you can "stretch yourself" now and then. This platform comes with the Titan without extra charge.

To sell the Titan 10-20 at this low \$1,000 price not a single necessary feature has been sacrificed. You are not asked to buy needed attachments as featured here at extra cost. Nor will you find essential features missing because the designers did not know farming and lacked familiarity with farm machines. The Harvester Company is too old at the game to make any such mistakes. That is why the Titan is 100 per cent efficient at the drawbar and 100 per cent efficient on the belt. Pay \$1,000 for the Titan 10-20 and you own at once all the features that many years of experience with both belt and drawbar machines have proved essential. Study carefully each feature presented on these pages—all included with the Titan.

When you examine a competitor of the Titan, hunt out the missing essentials which must be bought as extras. Add these to the advertised tractor price. If the price is still low the power will be low—you will be looking at a 2-plow tractor. Titan power is 3-plow power. For a fair comparison as to price add one-half the cost of the 2-plow tractor to its cost, plus the 2-plow extras, and that will put it on a par with the Titan 3-plow tractor. Then compare values.

Aside from these considerations, there is the important matter of kerosene economy. Kerosene is the practical tractor fuel. Don't let yourself be led away from this fact. Gasoline as tractor fuel is unwarranted extravagance. Tests by responsible institutions have proved time after time that the Titan is the most efficient kerosene power. We give you a written guarantee that the Titan operates on kerosene efficiently.

Buying your tractor is perhaps as serious a matter as any you have tackled in a long time. You want power satisfaction that will stand by you steadily season after season, at drawbar and belt. We are giving you the true facts. You may rely on Harvester reputation for good service and fair dealing. Go to your dealer. Arrange for immediate shipment. This price reduction may make delivery difficult later. The belt work rush is on. Place your order NOW.

HARVESTER COMPANY

AMERICA, INC.

U S A

Why the Papec

Is the Easiest-Running Ensilage Cutter

THE PAPEC cutting wheel runs only 600 revolutions per minute—but little over one-half as fast as most other ensilage cutter wheels. And, of course, it takes much less power to drive a cutting wheel at 600 than 1000 revolutions per minute.

But why is it that the Papec cutting wheel needs to run only 600 revolutions per minute?

PAPEC

Ensilage Cutters

Correct relation between the capacities of the cutting wheel, the fans, the drum, and the elevating pipe—that's why the Papec cutting wheel needs to run only 600 r. p. m.; why the Papec is the easiest running ensilage cutter. From the time the corn goes on the feeding table until it is in the silo, it moves in a steady stream. Every one of the six fans cleans clean at each revolution.

This is the result of right principles and right design—in which

Papec has led for many years, and because of which the Papec plant is today the largest factory in the world devoted exclusively to the manufacture of feed and ensilage cutters.

"Own your own" Papec this year. Write for our 1919 catalog. It shows how you can save \$100 to \$200 a year—how you can soon save enough to pay for a Papec. There are 4 sizes—a gas or kerosene engine developing as little as 3-h.p. operates the 10-inch cutter successfully.

Manufactured by
PAPEC MACHINE COMPANY
150 Main Street, Shortsville, N. Y.

Distributed by
Banting Manufacturing Co.,
Toledo, Ohio Grand Rapids, Mich.



Old Neighbors on the Farm

I HAVE a photograph gallery, or to be more modern, a moving picture show, of the old neighbors of my youthful days on the Connecticut farm. I can sit down at any moment, turn on the power, and forget that life is strenuous as I watch the quaint, interesting, wise and otherwise, procession go by.

"Everybody's queer, Martha, except thee and me; and thee's a little queer sometimes," said the old Quaker to his wife. We might change one word, and say, "Everybody's interesting, except thee and me; and thee's a little interesting sometimes." Bring on my moving pictures, O, memory, they are the most interesting thing upon the premises today.

One neighbor would grip a cent with a grip like that of the bulldog in the Hoosier Schoolmaster, when heaven and earth couldn't make him let go. He was a church member—possibly some blood relation of the old fellow who had been a member of the church for twenty years and it had not cost him a cent. He had no bad habits—never swore except to say "gol-darn" or "doggone it," which was not a strictly penitentiary offense on the stony Connecticut hillsides where a plow was guaranteed to fly out of the ground every five rods, while the plow handles were swift to take advantage of the opening and administer a solar-plexus blow to the farmer. No, bad habits are expensive, and he was Solomon enough to see through a grindstone when the crank was out.

The gun recoiled, the pendulum swung in the opposite direction, or nature kicked—these figures of speech being, as the colored gentleman said, "anonymous and the same"—when his only son came on the stage. The father's purse closed as tightly as any New England clam; the son's purse opened so widely that every cent spilled out. Good-natured, prodigal John B—! And while this does not in this instance stand for John Barleycorn, it should have done so, for he drank heavily. A family contrast—a close-fisted father, a prodigal son.

I see the ignorant farmer who could neither read nor write—a rarity indeed for a native-born New Englander. His mother smoked an old clay pipe constantly. In many ways they seemed in a class by themselves. This man had absolutely no sense of humor. He had some keen-witted Irish neighbors who almost made life a burden for him with their jokes. Humor was not lacking in a New England village and a man who had none was bound to be the butt of many poor jokes. It was a shame to make life strenuous for the poor man who was a clean, upright, good-natured man, but there is only one way to part an Irishman and his joke and that is to put the Irishman in his coffin. But a man who had tried to put any of our Irish neighbors in a coffin would have been likely to land in the hospital. He might not prove the best man. Did you ever hear the story of the Irishman who came tumbling down the front steps of a house.

"What is the matter?" said an astonished bystander.

"It's a weddin'," said the mused-up Irishman. "Sure, an' I had an invite, an' just at the head o' the stairs I met a fine gentleman, an' I said, 'who are you?' An' he said, 'the best man.' An' begorra, he was."

I remember the dear old woman who

was always getting out of snuff, and be more modern, a moving picture who was always ready to reward me show, of the old neighbors of my liberally for my two-mile walk to the store—two cents was my usual reward. I did not even have the reward of an approving conscience for I went unwillingly. Boys, in those olden days, were supposed to be accommodating—and tireless as well.

I think of one farmer who was very thrifty and successful. His buildings were the finest in the neighborhood. His methods of handling his boys did not appeal to me in my youthful days. If there was an incipient rebellion he would seize a piece of board and administer a few vigorous whacks which would cause the victim to go through involuntary gymnastics, and ejaculate feelingly: "O Lordy, Lordy!" The high prices of lumber in these modern days has made obsolete such picturesque methods of boy training.

A most enticing study in human nature was the New England farming community of forty years ago. With all the peculiarities of the neighbors, there were more virtues than failings, more grain than chaff. G. W. TUTTLE.

THE HARVEST.

BY L. W. SNELL.



Summer's smilin' and the oats
Have put on their yaller coats.
Noddin' neath the skys of blue
While the binders' song anew
Fills the air with hummin' din,
Singing, "harvest's here ag'in."

Bob o' link an' meadow lark
Sweetly sing from morn 'till dark
Near the brooks and in the wood
Lazy cattle chew their cud.
In the barnyard mistress hen
Braggs "I've laid an egg ag'in."

Yesterday while walking by
Shocks of oats, I chanced to spy
Sweetest vision of a maid,
Resting in their coolin' shade,
Eyes o' blue and lips so red
Must a been where cherries bled.

So I paused a moment there
Watched the soft lights in her hair,
Watched her lips, we asked the miss
If they wasn't ripe to kiss.
Now I'm gladest that I've been
Harvest time is here ag'in.

HIS SENSE OF HUMOR.

"Mr. Straddle," began a neighborhood swain, "what would you do if I asked you for Balmy's hand in marriage?"

"Laugh, I reckon," replied Sol Straddle, of Sandy Mush, Arkansas. "I always enjoy a joke, even when it's on me."

Delivered TO YOU FREE

Your choice of 44 styles, colors and sizes in the famous line of "RANGER" bicycles. We pay the freight from Chicago to your town. 30 Days Free Trial on the bicycle you select, actual riding test. EASY PAYMENTS if desired, at a small advance over our Special Factory-to-Rider cash prices. Do not buy until you get our great new trial offer and low prices and terms. TIRES, LAMPS, HORNS, pedals, single wheels and repair parts for all makes of bicycles at half usual prices. SEND NO MONEY but write today for the big new Catalog. MEAD CYCLE COMPANY Dept. 8-77 Chicago

THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year.

Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

OTTAWA KEROSENE ENGINES

Latest design. Durable, Powerful, Reliable, Massive. Built to do hard, heavy work—to give lasting service. Uses Cheapest Fuel. Pumps 25 to 50% more H.P. than rated. Shipped on three months' trial. Easy terms. Sizes 1 1/2 to 22 H.P. 10-Year Guarantee. \$500.00 free—postal gets it. OTTAWA MFG. CO. 1361 King St., Ottawa, Ont. FREE BOOK

CARPENTER GRAIN CO.

Buy & Sell CARLOADS CORN-WHEAT-RYE-OATS
BATTLE CREEK, MICHIGAN

CULL BEANS FOR FEED

Car lots or less. Ask for prices. YOUNG-RANDOLPH SEED CO., OWosso, MICH.

Binder Twine Get our low 1919 prices. Farmer agents wanted. Sample free. THEO. BURT & SONS, Melrose, Ohio

VAILE-KIMES

WATER SUPPLY SYSTEMS



If pays for itself Quickly

When you buy a water supply system, don't buy a cheap assembled makeshift. A V&K Water Supply System will pay for itself in a short time. A cheap system is a constant expense, a constant bother and disappointment and, in the end, is much more expensive than a V&K would be.

MAKE YOUR HOME MODERN

You should have a first class water supply system. It will make your home modern. It will make it a fine place for you and your family to live. It will save you hours of time and will add years to your life, and the lives of your wife and children. Health and happiness come with it.

Write now for the V&K book that tells all about water supply systems. It will help you in choosing one for your home and your work.

Sign and mail the coupon.

THE VAILE-KIMES CO.
Dayton, Ohio

SEND FOR THE BOOK
The Vaile-Kimes Company, Dept. 22 Dayton, O. Gentlemen: Please send me without obligation a copy of your book, "The Modern Way."

Name.....
Address.....

CORN HARVESTER One man, one horse, one row. Self-Gathering. Equal to a Corn Binder. Sold direct to Farmers for 22 yrs. Only \$225 with folder binder. Free Catalog showing pictures of Harvester. PROCESS CORN HARVESTER CO., Salina, Kans.

MICHIGAN POTATO GROWERS' EXCHANGE.

(Continued from page 54).

making a total of 862,000,000 pounds of potatoes shipped in the state of Michigan. The farmer has made an average of \$.2147 per cwt. on this amount, which is equal to \$1,850,714.

There is no other apparent reason why the regular potato buyers are handling the crop on this much less margin than a year ago, except the organization of the farmers into cooperative marketing associations, and particularly the organization of the Michigan Potato Growers' Exchange.

Columns two and three show that there is considerable difference in the dealer's working margin in different sections. The low average margin of \$.1922 naturally is in the territory of the strongest competition where the cooperative associations are in operation.

The difference between the average margin of last year of \$.4871 and the margin in association territory of \$.1922 is \$.2949 per cwt., which is the amount saved members of the cooperative marketing associations of Michigan.

The Michigan Potato Growers' Exchange alone shipped something over 2,050 cars, average weight 42,000 lbs. per car, figured at the basis of \$.2949 per cwt. saved gives us \$253,908.90 which the members of this organization have saved by their method of handling.

Communities with no cooperative associations have gained in general from the effect cooperative associations had on the market, but have lost in comparison to the cooperative methods \$.1578 per cwt. on all potatoes marketed.

Some interesting facts as to the comparison of the profits of dealers this year and last may easily be figured by taking the cost of handling from the average margins in the year 1917-1918. Sacks on an average cost twenty-five cents and the actual handling, loading, and warehouse expense was about \$.07 per cwt., giving a total of thirty-two cents. For the year 1918-1919 the average cost of sacks was about eighteen cents, actual handling and warehouse expense \$.08, making a total of twenty-two cents.

The dealers had an average margin over the state of \$.2724 to work on. Their actual cost of loading and sacks is twenty-six cents, giving \$.0124 per cwt. as their margin for selling cost, shrinkage, risk, profit, etc., and as the average price paid the grower on potatoes was \$1.50 per cwt., this gave the dealers an average margin to cover these costs of eight-tenths of one per cent.

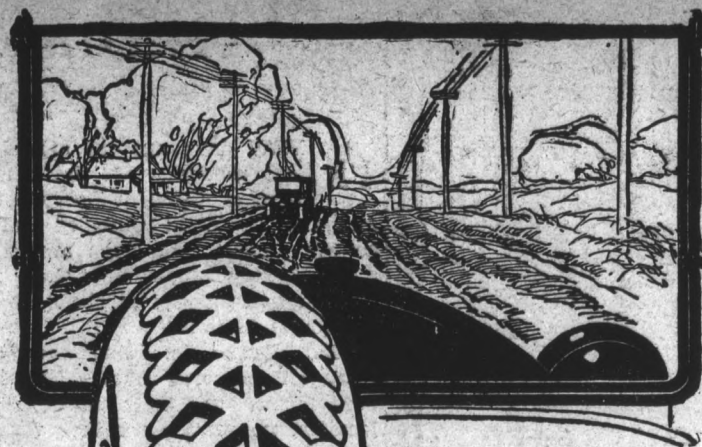
However, for the year 1917-1918, their margin was \$.4874 with a cost of thirty-two cents, making \$.167 per cwt. as dealers' margin for selling cost, shrinkage, risk, profit, etc. The average price paid the grower on potatoes was sixty-three cents, making a margin of profit to the dealer of twenty-six and a half per cent, the dealer thus making last year thirty-three times the profit that he made this.

\$.1922 is the average margin that the cash potato buyer has received in the territory where our farmers are marketing their potatoes through the Cooperative Marketing Association, yet the average cost of handling to the dealer is \$.026, showing a loss of \$.0678 on every cwt. of potatoes which they have handled from this territory, with a further loss of their entire selling cost, risk, etc.

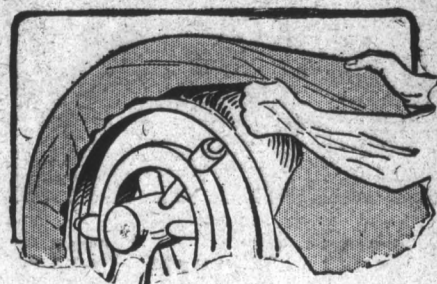
IT WASN'T FAIR.

Father—"I'm ashamed to see you crying because a bee stung you. Act like a man."

Bobbie—"Y-yes, and th-then you-you'd gim-me a li-lickin', like you said y-you would i-if you ever h-heard m'me usin' that k-kind of l-language."



Even the BEST tire will not give the service it should give if used on BAD roads. Why not put these wasted tire dollars into PERMANENT GOOD ROADS?



Mohawk Mileage Built in by Hand

There's a big difference between any hand-made article and any machine-made product. And there's just that difference between Mohawk tires and other tires.

Mohawks are hand-made by the highest priced tire builders in the industry.

The good tire today comes from the best material and best workmanship—not from secret methods or special processes.

Actual Value Makes the Tire

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U S A

Hitting on all Four

By J. H. Brown

A FEW days ago we attended a joint meeting of the Assyria Farmers' Club, of Barry county, and the Pennfield Club of Calhoun county. These two clubs are in two adjoining townships and they meet once or twice a year at the Base Line Methodist Church.

This church is doing community work all the year round. The members, farmers and their families in that locality, no matter whether they belong to the church or not, meet at the Base Line "meeting house" for all sorts of doings that are helpful, interesting and chuck full of enjoyment for the fathers, mothers, sons and daughters, the hired man and the preacher, the school ma'am and the stranger within the gates.

Instead of using the church for preaching and Sunday school, prayer and Sunday in its history, and that of the occasional wedding or funeral, this

When the church was built ten years ago or more it was one of the finest rural church structures in this section of the state. It was a common thing to have as large a crowd of attendants ten years ago, but the vehicles all had horses attached for motive power. Finally in the course of events there came a Sunday when the first grotesque, noisy and smelly chug-wagon pulled up to the church dock and a bunch of sheepish-acting folks landed on the steps. Everybody on hand inside the church and out had heard the thing coming half a mile back along the old base line of Michigan. The smell was visible and inhaled almost before the perpetrator-engineer could be distinguished by his nearest neighbor.

That was an eventful day in the Base Line church. It was the first meeting on Thursday evening, and an occasional wedding or funeral, this



building was erected to do business any day and night that there was anything doing and worthy enough. And during the last ten years the church and society has maintained a fine record for hospitality and good works that has taken in almost every family within the four surrounding townships.

The community idea is growing fast these days and nights since the war began. And there are other churches, and even school houses roundabout, that are gradually growing into the same notion. And if a league of an entire neighborhood cannot get into good working order for keeps, there is no hope of a League of Nations, that includes the Toms, Dicks and Harrys of a score or more nationalities, ever sitting in the same pew for a half dozen sessions without some hair-pulling and loose teeth scattered around.

The day we attended the Base Line meeting of these two farmers' clubs we found the basement full of tables set and loaded down with eatables of all kinds and of the finest quality. It was like old times. The building is commodious and well built, and the basement extends underneath the entire structure. The locality is about a dozen miles northeast of Battle Creek and about four miles from Bellevue. It is a fine farming country, much of it rolling, some clay loam soil, and plenty of large and substantial farm houses and barns. The farmers are progressive, prosperous, and their sons and daughters are as well accomplished as the city young people.

There are more of the boys and girls from these farm sections in our colleges and universities than go out from the cities. Every community has one or more in almost every class in the Agricultural College. Not all of them are taking the agricultural course, and it is well.

The accompanying picture is inter-

er had got cheek enough to go and buy one of them critters, and then almost insulted the church membership by invading the yard of the sacred structure, and on Sunday of all days. It was a disgrace, thought more than one deacon and his wife, and it was feared the society would never outlive such a stigma.

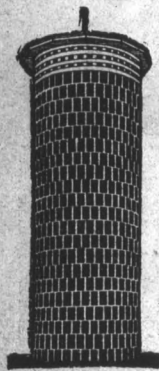
But they did, in spite of predictions. That was but a few years ago. In time one farmer after another set his teeth together and vowed he's get one o' them machines and see how 'twould work.

And the picture shows it seemed to work fairly well. That day we took it there were about forty odd automobiles hanging around the structure. We found just two lonesome horses out in the church sheds, several stalls apart, and hitched to single-top buggies. So we asked the owner of one rig to drive out and line up in the center of the front line chorus of maidens, and others. What a sight this picture would have been to some of the pioneer farmers and their wives ten years ago.

The kiddies, some of them, are down just back of the footlights. One of the guests, and the leading speaker of the day, Dr. H. A. Powers, of Battle Creek, stands at the right with a book under his arm and left hand in his trousers pocket. This locality is the doctor's old home where he was born and started from low gear to intermediate and spent his youthful days, before he changed to high and came to Battle Creek.

How lonesome the poor old horse looks amid such surroundings! But he is a fine looking animal and holds his head high and cares not a cent that he is completely surrounded by so many of the contemptible rigs that old Mother Shipton prophesied many years ago would come some day.

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News of the Week

Wednesday, July 9.

THE French Chamber of Deputies favor the creation of an inter-allied military and naval staff to insure execution of the terms of the peace treaty and the aims of the League of Nations.—President Wilson and his party arrive in Washington.—The United States House by special rule undertakes consideration of prohibition enforcement legislation.—John Fox, well known novelist, dies at his home in Virginia.—During the first six months of 1919 there were reported to the Detroit police 1,547 stolen cars as compared with 1,460 a year ago and 2,116 two years ago.

Thursday, July 10.

THE British dirigible R-34 leaves Roosevelt Field for a return trip across the Atlantic. President Wilson delivers his message on the peace treaty and the league of nations to the United States Senate.—England and France are already considering the construction of a tunnel under the English Channel.—The value of crops in the United States promises to establish a new record this year.—American Ambassador to Great Britain Davis will represent America on the permanent peace court of international justice.—Increased buying of steel is reported and in some lines prices are advanced.—Wind storms do considerable damage in south central Michigan.

Friday, July 11.

EVIDENCE of Germany's part in the development of political and military organizations in Russia is made public.—Official notification of the ratification of the peace treaty by the German national assembly is given.—A break between the governments of Austria and Hungary may occur at any moment.—President Wilson declares that the complete demobilization of the American army will depend upon the speed with which the military conditions of the peace treaty are executed by Germany.—A bill is introduced into congress to repeal a law providing for the free importation of wheat, flour, and potatoes from Canada to this country.

Saturday, July 12.

OFFICIAL reports declare that it will be impossible to get food supplies to Armenians in time to save from 200,000 to 700,000 persons from starvation.—The council of five sitting in Paris decides to raise the blockade against Germany.—All wires taken over by the government during the war will be returned to private management August 1.—The Ford family buys holdings of minority stockholders of Ford Motor Company for \$75,000,000.—Mexican government confiscates the British owned oil wells located in that country.—Demobilization will cease at Camp Custer about July 20.—Fires do considerable damage in northern Michigan, the losses by lumber companies being particularly heavy.

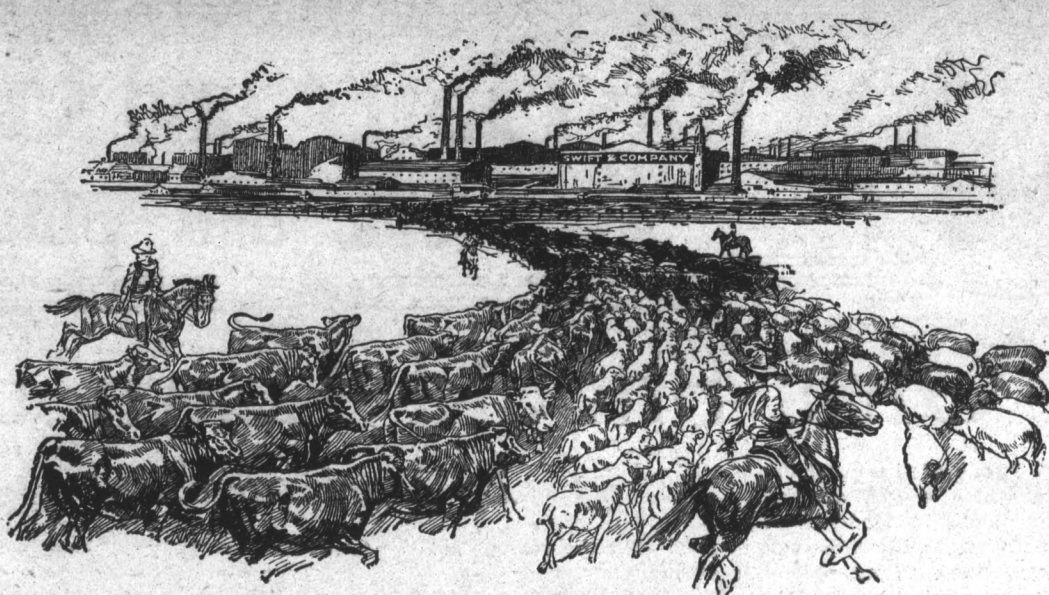
Sunday, July 13.

THE British dirigible R-34 completes its return trip from the United States in seventy-five hours, making the actual flying time for the round trip in 182 hours and eight minutes.—The transport President Grant arrives in Boston with the "Polar Bear" regiment of the 339th Infantry, consisting largely of Michigan men.—Germany is seeking from \$10,000,000,000 to \$15,000,000,000 in credit from private individuals in the United States.—Brand Whitlock, of Toledo, is appointed American ambassador to Italy.—Great Britain is preparing to resume her consular service in Germany.—Food prices in the central empires took a sharp decline following the raising of the allied embargo.—Authorities estimate there are 2,500 cases of smallpox in Michigan.—Commodity prices show an advance of 4.4 per cent during June.

Monday, July 15.

WAGE increases granted to seamen from Atlantic and gulf ports will end the strike which began last week.—General Pershing and his staff will return from France at an early date.—The state department at Washington protests to Mexico against the anti-foreign action taken by the Mexican government in confiscating properties owned by foreigners.—The jury in the trial of President A. C. Townley and Joseph Gilbert of the Non Partisan League, find these defendants guilty of the charge of conspiracy to teach disloyalty.

(Continued on page 79).



A moving stream of live stock which the packers *must* buy

The packer feels an obligation to take the live stock that comes to market and find an outlet for it.

Why this obligation?

It is because the stockman has fed his live stock to the point where it must be sold or they will get thin again and labor and expensive feed be wasted.

If the stockman could not sell his shipment and had to take it home, he would lose on everything—freight, feed and time.

Several such losses would discourage him and he would raise less live stock. Hundreds of other stockmen also would plow up their

pastures. The supply of meat animals would diminish.

The packers would not be able to get enough live stock and often their big, expensive plants would be idle. The public would go meat hungry.

In short, for the best interests of everybody, the packers believe it sound to do their full share to maintain an ever open, cash market, and this is accomplished at a profit of a fraction of a cent per pound. This system has encouraged live stock feeding.

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Our Boys and Girls

At Work and play



Girls Should Learn to Swim

By Mark Meredith

SWIMMING is one of the finest exercises in which a girl can indulge, and taken in moderation, and with due regard to the effect on the constitution, there is no reason why practically every girl should not benefit by learning to swim in either fresh or salt water. To very young children swimming comes almost as naturally as walking, so that the younger a child is taught the correct methods of the various strokes used in swimming the better chance she has of becoming a past mistress in all branches of the art.

Apart from the pleasure and healthful exercises that swimming provides, there is a very potent reason why every girl should learn to swim at as early an age as possible. More than half the drowning fatalities caused by overturned pleasure boats and getting out of depth when bathing are the result of failing to teach children not only how to save their own lives, but also how to go to the aid of others, who though possibly able to swim, are too exhausted to save themselves.

Swimming, far more than most other forms of exercise, brings into play almost every muscle of the body and limbs. For this reason a girl who keeps up her swimming at all seasons is so delightfully supple that she is practically insensible to physical fatigue from ordinary causes, and attains a litheness and grace of motion that are very helpful in dancing and games which demand rhythmical motion. Sea-water is more beneficial to the skin than is fresh water, and, combined with pure ocean air and hot sunshine, produces a radiant, healthy beauty seldom acquired by any other means.

The old saying, "you must learn to walk before you can swim," must with regard to swimming be translated, "you must learn to float before you can swim." And for this reason no person, of any age, can be a good swimmer unless she or he has perfect confidence and feeling of absolute safety in any depth of water. If a girl knows that, by throwing herself on her back, she can stay afloat for hours (in normal conditions), she can then apply herself calmly and confidently

to mastering the various strokes used in swimming.

The choice of an instructor is very important. Above all, avoid trying to learn from a trickster who thinks it funny to see his pupil floundering helplessly in the water. Try to grasp the fact that so long as the body is full of air it cannot sink, and that as long as the breathing is deep, slow and regu-

lar, the body is kept well supplied with air.

Shallow water is just as buoyant as deep water, therefore the pupil should start floating lessons in water that comes below her knees. Salt water is heavier than fresh water, and a girl who learns to swim in a fresh water bath will find she is a much better swimmer than if she had received her

instructions and training at the sea-side.

The teacher should hold one hand between the shoulders, the other below the waist of his pupil, whose body should lie easily, not rigidly, on the water, the head well thrown back, legs straight, feet crossed, arms at sides or folded across the chest. As soon as the pupil can throw herself unaided and with perfect confidence into this attitude, she may learn to propel her body through the water, first, by paddling with her hands (using the wrist movement only), and later with aid of leg motion.

Inflated "wings" are often used when teaching young children to swim (alas, generally before they have learned to float), but the wings are not easy to keep in the correct position, and the child loses confidence when he finds that the expected support does not exist. Another method often used is to pass a linen band round the body under the arms. The bands, which should be from six to eight inches wide, terminate in two rings through which a rope is passed and fastened to a pole held by the instructor.

The principal ordinary swimming strokes are the breast stroke, side stroke, and single and double batter. The last is used by racers and, though not a graceful motion, serves to propel the body through the water at a very high speed. Of fancy water-stunts and amusing games, there are no end. One has only to hear a group of deep-sea bathers to realize that fun is going on. As soon as the pupil has acquired a good general knowledge of swimming she should receive full instructions in the method of saving human life and practice fully attired in outdoor clothes.

For swimming, as apart from bathing, the close-woven "university" costume is far and away the best. If a skirt is considered necessary it should terminate well above the knees, for it is practically impossible to prevent a longer garment from impeding the swimmer's actions. It is usual to wear stockings. A neat cap, lined with rubber, is advisable, for sea water, which, though excellent for the body skin, plays havoc with the hair.

"Won't You Take My Picture, Please"

By J. H. Brown



Many times when taking pictures girls had been out in the back yard for illustrations, and especially on farms some distance from the city, where we took them for the pose. The picture shows what we got from the question, "Won't you take my picture, please?"

On one farm the mother of four fine appearing and bright children asked us to pose them up in a row and get their picture. First she wanted to clean them up and change their clothes.

Then we agreed to do our part, provided we could plan the posing. These

The mother was delighted when she saw the prints, and the little girls will treasure them all the days of their lives. As they grow older they will occasionally look on this scene and the girl holding the axe on the grindstone will smile to herself and wonder if she really ever could sharpen one of those things so it would cut.

This Week's Prize Letters

DEAR BOYS AND GIRLS:

I am glad to find that so many of our boys and girls are interested in birds. I, too, love the birds and every year spend as much time as possible in making acquaintances among the feathered folk.

They are appreciative little people and are always so thankful for the little bird houses we build, food shelves placed in their favorite haunts, and for water basins from which they may drink.

Next winter when the evenings get longer and our Boys' and Girls' Department of the paper gets larger, maybe I'll tell you some stories about the little feathered people.

Editor Boys' and Girls' Dept.

FIRST PRIZE.

The Birds Near My Home.

In the first place, our farm is a green meadow club bird sanctuary, and as the birds are protected by law, there are many of them.

This spring I tried to count the different kinds as they came from the south. Although I know I missed many, I counted fifty kinds, before I lost count.

There are two orchards near our house. In these fruit trees many birds build their nests and raise their young. I have never seen as large flocks of wild canaries as there are this year. At any time of the day, if we go out, we see them in the orchard trees, so

thick they look like ripe, yellow fruit hanging on the branches. Even in the house we can hear a continuous chorus of sweet music.

We sometimes hang our tame canary's cage on the porch, and he calls to the field birds. They answer, and even come within a few feet of his cage. When they fly away he calls after them, as if wanting them to stay.

Last year we were annoyed by hawks and crows carrying away our young chickens. But this year a pair of King birds have their nest near our house and no hawk or crow so much as dares to fly near but one or both of these novel guards dart swiftly after him and never rest until he is driven away.

I love the birds, both for their usefulness and for their own sakes.—Gly Livingston, St. Clair, Michigan. Age fifteen years.

HONORABLE MENTION.

Birds Near My Home

There are some very interesting birds around our home. There are a pair of wrens that have their nest in the side of a tree, right by our porch. Lots of times they sit on the fence and sing. The nest is lined with feathers and grass. They have from six to nine eggs in their nests, and sometimes they hatch two broods in a year. They eat spiders and worms for dessert. Sometimes Mr. Wren doesn't

have anything to do so he builds an extra nest, or sometimes two, which are tenant houses.

There are lots of robins around here too. There is a nest in our garage. At first when I went to look at the eggs, the mother robin would scold and cry. But one day she surprised me by jumping off and letting me see her little baby and when I was through looking at it she jumped back again. Now she seems to know that I would not harm her.

We have a little humming bird that comes to our house for the honey from the honeysuckle.

We have lots of sparrows and swallows in our barns, too, they make their nests on the beams.

There are lots of blue-jays around in the trees. They have a nest made of little twigs, strings and horsehair. They lay five quite large eggs. But people don't think so much of them as they do of some birds, because they rob the other birds' nests and tear the nests down.

Besides these birds we have the crow, hawk, blackbirds, chimney swallows, chickadees, meadow larks, killdeer and orioles, and lots of others that I can't tell of now.—Marey Murray, Milan, Michigan. Age thirteen years.

HONORABLE MENTION.

The Birds Near My Home.

The most common birds near my home are the crow, robin, English sparrow, blackbird, hawk, song sparrow, oriole, meadow lark, killdeer, house wren, woodpecker and pigeon.

Other birds not quite so common are the mourning dove, bluebird, blue-jay, quail, crane, goldfinch, barn swallow, humming bird, brown thrush, bird, cat bird, chickadee and owl.

The crow is the greatest scavenger here. They are great insect eaters, for I have known them to clean a whole potato patch from the green tomato worms. They do more good than damage, although they destroy a great deal of farmers' corn.

The songsters are the song sparrow, robin, meadow lark, bluebird, goldfinch, wren, brown thrush and oriole. They sing sweetest in the morning, but during the noon hour the birds are (Continued on page 75).

PROTECTION FROM LICE.

(Continued from page 58).

roosts must frequently be painted with it during hot weather. Many of the commercial poultry house sprays are fine to keep the roosts free from mites. There are several lice plants which can be used to advantage on the roosts, nest boxes and possibly over the entire interior of the house. When spraying the orchard with lime-sulphur, some poultrymen give the inside of the poultry house a thorough bath. This kills mites, lice and disease germs and is a very effective way of controlling poultry pests. Some poultrymen use whitewash once or twice a year to kill mites and lice and give the poultry house a clean appearance. Others claim that the whitewash seems to make their poultry houses damp and they prefer the oil sprays and commercial mixtures which do not seem to gather dampness.

When building a new poultry house it pays to start at once and adopt preventive measures against the lice and mites. A new house can easily be protected and then if the treatments are continued with regularity there will never be any trouble from the poultry pests. After a house has once become thoroughly infested with mites and lice it is more difficult to control them as they breed rapidly and if a few are missed by the spray dope during hot weather, thousands will soon inhabit the house.

R. G. K.

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--or a little of your time

You know that if you change your rear tires to the front wheels when the non-skid is almost worn off you can get from 500 to 1000 miles per tire more. Local garage cost per change is 25 cents each—4 for \$1.00; if you do the work yourself it costs your time only.

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(the Non-Skid that bites the road)
are fully interchangeable
Equip with Braender

front and rear, then by switching your tires you will not only secure the greatest possible mileage with a corresponding cut on your tire bills, but always have non-skids on your rear wheels that can be depended upon to hold when you apply the brakes.

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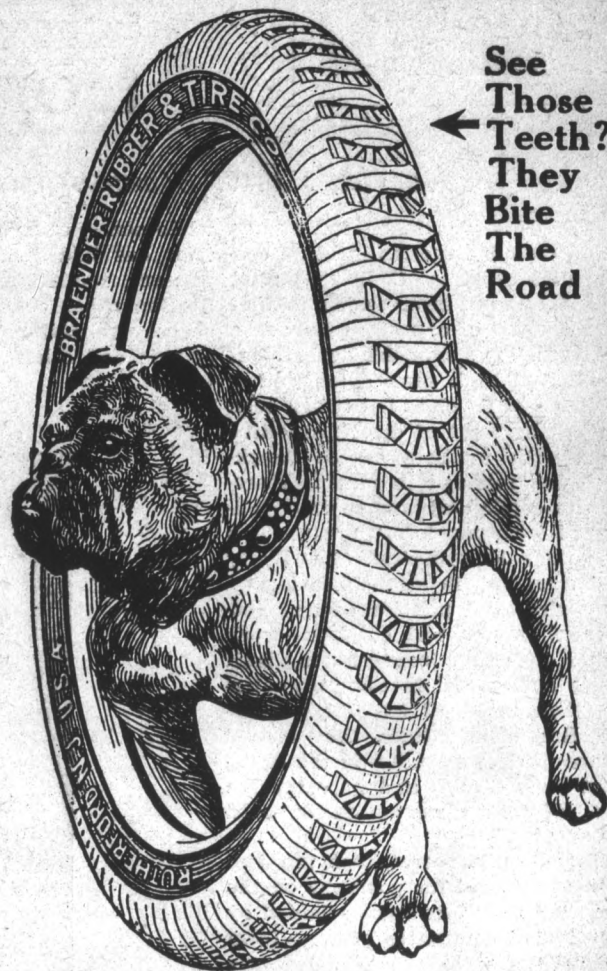
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MICHIGAN HARDWARE CO., Grand Rapids, Mich.

who are the wholesale distributors and they will tell you where you may procure them. Dealers send for proposition

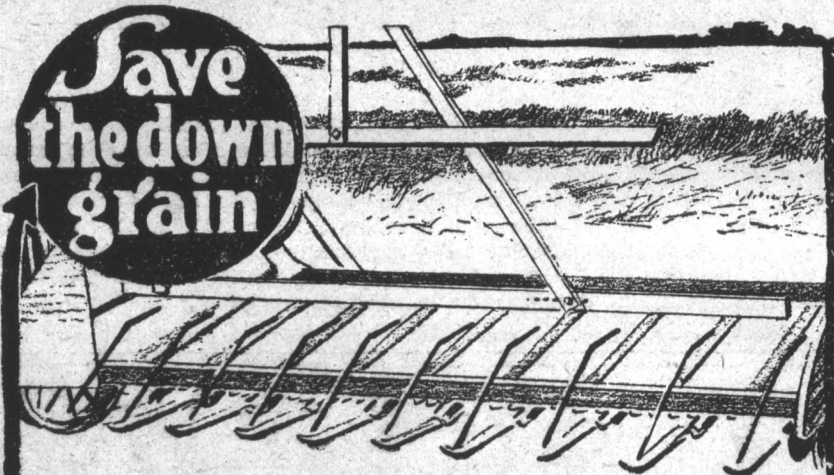


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grain



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McCall's Magazine 1.00

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

OUR PRICE ONLY \$1.55

No. 6.

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Home Life35
People's Popular Monthly..... .25

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No. 7.

Michigan Farmer, 1 yr., wk.....\$1.00
Woman's World, mo..... .50
Boys' World or Girls' Comp., mo.. .50

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Please Mention The Michigan Farmer When Writing to Advertisers



Woman's Interests

Dora H. Stockman



America's First Woman Member of a State Board of Agriculture.—By Jennie Buell

PROVISION was made for women and their instruction in home economics at M. A. C. in 1896 after long and earnest intercession to that end on the part of organized farm men and women. The women's department has achieved high rank among other institutions of its class but it has been hampered by want of direct, sensitive contact with mothers whose daughters it was founded to reach. Moreover, the coming of women into politics gave farm people of the state this spring their long desired opportunity to put a woman in at the hearing on their agricultural policies. Farm people—men, women and children—work together in closer consultation, both in their homes and in their organizations, than those of any other vocation. Reasonably, then, they should continue that cooperation in the direction of their college and its extension work. Why not a woman on its board of control?

It is an open secret that the two candidates named for positions on the Board of Agriculture were selected by the federated committee of state farm organizations which has created considerable consternation elsewhere in the legislative field during the past season. The men of this committee "combed" the state to find a woman who united all the qualifications which they deemed necessary for a woman member of the Board of Agriculture to possess. In this critical test, the unanimous choice finally fell upon Mrs. Dora Hall Stockman, as one who met the proposed requirements. The hour of this decision was filled with both grave and glorious possibilities—for this small group of farm men were selecting, not only the first woman to go upon any state board of agriculture in the nation, but the first woman in Michigan history to be chosen to a state office of any sort by vote of its entire electorate.

"Oh, it was the farmers who won; it wasn't mother!" quickly exclaimed the young son of Mrs. Dora Stockman when someone suggested to him that he must be proud to have his mother elected a member of the State Board of Agriculture. The lad was right. The farmers have scored a victory. Was it not logical that they choose a woman as one of the two new members for the board that controls the policies of agricultural and home-making education in Michigan? What manner of woman is she? And what is her background from which she comes to take this responsible position?

Probably most of the readers of the Michigan Farmer know that the Stockmans live on a farm a mile northwest of Lansing. Some of them know that Mr. Stockman has made a place for his Holsteins among pedigreed specimens of that breed of cattle, and that his experiments and acre yields in crop growing are a credit to his calling, and form the basis for the intelligent and enthusiastic interest which his wife evinces in farm topics whenever they are discussed in her presence. Many of the Michigan Farmer readers have heard Mrs. Stockman speak at farmers' institutes, Grange rallies, W. C. T. U. or war-time meetings; some of them have entertained her in their homes and know her well personally;

while nearly every child of rural Michigan has had some part in play or pageant, recitation or song that Mrs. Stockman has contributed for farm or school publication. Not a few women of this and other states recognize in

of the lower peninsula, in the Thompsonville region, that Mrs. Stockman's childhood was passed. From this section at present light soil and crop failure have driven a large part of the farming people to seek support in cit-

ident of the "remote rural," whose solitude had stimulated independent experimenting and thinking, had given opportunity to devour at leisure the books of best minds the world over, and challenged the man to stand by his convictions. Mr. Stockman, older by some years, brought to his bride a young, motherless son and thus Mrs. Stockman assumed woman's highest service before her own children came to her.

From the Manistee county farm the Stockmans moved to Benzonia and kept store—"to help make the farm pay"—she laughingly explains. Here, during slack trade seasons, this young wife and mother pursued courses at the academy of the town and graduated with honors. When Mr. Stockman went west in search of health, she entered Hillsdale college and studied, teaching in the college meanwhile, until she obtained a teacher's certificate. Upon Mr. Stockman's return, they bought their present farm near Lansing. The two older sons have completed courses at M. A. C. and eleven-year-old Verne promises soon to follow, being now a most enthusiastic pig and poultry club boy.

To complete this inside view, you must know that when her oldest child was still young, Mrs. Stockman had a serious illness which sent her to the University Hospital; at the time she weighed sixty-five pounds and was living on a milk diet. The physician in charge of her case—eminent for his simple wisdom—told her to go home and do three things—"live simply, keep in the open air as much as possible, and forget how bad you feel." Henceforth this became her philosophy of living. She set about studying to apply these precepts to herself and to her family as well. The nutritive value of various foods, the effect of their combinations when taken into the body, and the chemistry of the body in its relation to food—these were engrossing matters to this young woman battling for health. She obtained from Washington the earliest government bulletins upon these subjects, although at that time they were few; she bought the most recent books written by food specialists. All this time she was working her way toward complete recovery.

To have gained this way of health for her own meant she must share it with others. As a consequence, wherever opportunity offered she talked on principles of health and methods of cookery that make for it. She has never talked food nor demonstrated recipes simply to show how new concoctions may be made but she aims to show homekeepers how to build sound bodies with food.

Out of her study of a balanced food ration for her family has grown Mrs. Stockman's study of the cost of feeding the family, "including the hired man." As lecturer of State Grange, she has led some laywomen of Michigan Granges during the past year to accomplish a unique task by rendering itemized accounts of cost of food and labor in their homes. This has raised some pertinent questions which for the most part usually go unraised among women, as, what does it cost to board city visitors, how much is a farm



Her New Duties will Begin Next January.

Mrs. Stockman a sound student of foods and a competent demonstrator of cookery; for, versatile as she is, her great service, both present and prospective, rests upon her staunch belief in proper food as the best builder of healthy human beings. She talks it, writes it in prose and poetry, dramatizes it, sings it, and demonstrates it

ies. By this we may guess it was never a section of luxuries and no doubt Dora Hall knew sometimes the "seamy side" of life. But in her early home there must have been music, good reading, much talk of public affairs, appreciation of natural beauty, acquaintance with creatures of field and wood and, withal, kindly help for



The Stockman Farm Home Near Lansing.

upon the platform and in her own home. Better babies and better homes through better feeding—this may be said to be the outstanding aim for which she lives. It is this essentially human ambition that endears her to us who know her best.

It was upon the northwest shoulder

neighbors and all good causes. It is easy to recognize that Mrs. Stockman has received such a legacy from her childhood.

At seventeen, when she was about to enter upon a teaching career, her "Prince Charming" came by, then captured her for life. He, too, was a res-

woman's time worth when devoted to her housework, and what makes the difference in cost of food at the farmer's table and at his city brother's table?

In order to make time for many outside demands upon her, Mrs. Stockman applies household engineering in her home. With Mr. Stockman's co-operation, she planned their home workshop where her many activities center. Compact, convenient, modern in equipment, there is no waste room in the Stockman bungalow nor does its care require burdensome drudgery. You know it is a "workshop" when you see its arrangement and equipment; you recognize that it is also a "home" when you sense its happy, harmonious atmosphere.

These are some of the experiences upon which Mrs. Stockman will base her service to the state. This picture may seem personal, yet Michigan Farmer readers surely wish an intimate glimpse of their first woman representative on the board which directs agricultural education. These principles and experiences have been fitting Mrs. Stockman for the enlarged field to which we have called her.

It goes without saying that the agricultural college and the manifold lines of extension work which radiate from it are directly and vitally responsible for the ideals and practices which should dominate rural Michigan. How desirable, then, that members of the governing council should be exponents in the best and most practical sense of a high type of genuine country home. Dealing with coming farm men and women, these institutions cannot but be benefited by the advice and guidance of women of Mrs. Stockman's type and caliber. Happy are we in her election to this important trust.



THE COMFORTABLE CHILD.

BY L. M. THORNTON.

THE uncomfortable child is always cross. If mothers would spend a little more time in discovering the cause back of John's bad temper or Mary's sulkiness, family life would be a much pleasanter thing. If there is ever a time for being good-natured it is when the mercury runs up to the nineties and every mother should realize that upon her depends the good spirits of the family.

Babies are better if underdressed than overdressed in hot weather. If a band of flannel is kept around the bowels there is little danger from chills, even though the only other garment is a loose romper or bloomers and waist. Sleeves from father's and mother's worn-out flannels, or a three-inch section cut from the leg make excellent bands as they will stretch enough to permit their being drawn up into position and no pins are required to hold them.

In dog days give a light breakfast, do not insist that little children eat what is set before them if to do so means starting the day with tears and bickering. At ten o'clock a few dainty sandwiches and a glass of lemonade will make up for the lack of breakfast.

Early in the morning throw one downstairs room open to the cool fresh air, and as soon as the sun is fairly

up close it tightly, shutting out every possible degree of heat. Immediately after dinner tell the little people, and children are little people from two years of age to twelve, that they may stay up later in the evening if they will take a nice nap while it is too warm to play. Make them comfortable in the cool, dark room prepared for just this use early in the morning with heavy cotton comfortables on the floor and cool pillows, and, using firmness if necessary, insist that they go to sleep. The average child will sleep until three or four o'clock and the most intense heat of the day will then be passed.

After supper allow them to play in the yard until dark, and give them a special bed-time treat either of fruit, ice cream, a cold glass of some kind of fruitage, or any delicacy easily prepared.

THE NEWER KNOWLEDGE OF NUTRITION.

ALL who are interested in the subject of correct feeding, and this should include all cooks, will do well to read "The Newer Knowledge of Nutrition," by E. V. McCollum.

The subject of "vitamines," so hazy to many of us, is thoroughly discussed and many of the old ideas we entertained regarding the importance of certain elements of food are discarded. The author finds that the great "protective foods" are milk and the leafy vegetables, cabbage, cauliflower, Swiss chard, collards, Brussels sprouts, onions, lettuce, celery tops, spinach, turnip tops and other leaves employed as greens. It is not possible to compare the best of these foods he says, with that of cereals, legumes or tubers, as, while the leaves have a low content of protein, fat and carbohydrates, their value comes in their high content of fat soluble A and water-soluble B—what we have known as vitamines—which are absolutely indispensable to proper growth in the young and the highest physical condition in the adult.

The author places a high value on milk as a food, even giving its use as the determining factor which places the people of Europe and North America ahead of those of the Orient where milk and its products are little used. The old idea that while milk is a fine food for the young it is not so good for the adult, is also set aside, and a strong plea made to increase the consumption of this food.

The idea that we can safely restrict the diet to a limited number of calories seems to be set aside by this paragraph: "Liberal consumption of all the essential constituents of a normal diet, prompt digestion and absorption and prompt evacuation of the undigested residue from the intestine before extensive absorption of products of bacterial decomposition of proteins can take place, are the optimum conditions for the maintenance of vigor and the characteristics of youth." Published by The MacMillan Co., New York. Price \$1.50.

RED CROSS MEETS THE WORLD'S NEEDS.

THE report of the American Red Cross War Council, which retired March 1, turning its work over to the central committee, shows America gave to the Red Cross in cash and supplies \$400,000,000. Its membership grew from 500,000 at the outbreak of the war to 17,000,000 fully paid and 9,000,000 junior memberships. Of the 7,000 actively at work in Europe at the signing of the armistice 6,000 are still working. Conditions in the east are such that Red Cross help must be given. The five Red Cross societies of the world are developing a plan to keep the present organization at work, not only to relieve suffering but to prevent it.



No Wonder He Grins— and She Smiles

THEY can now spend long delightful evenings in a brilliantly lighted home—that was once dark and cheerless. There are no more lamps to fill—not for her.

Their tasty appetizing meals are cooked in a jiffy on a modern gas stove, and the gas can be shut off as soon as the cooking is done. By a mere turn of the wrist the barn is flooded with light for the "chores".

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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.

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

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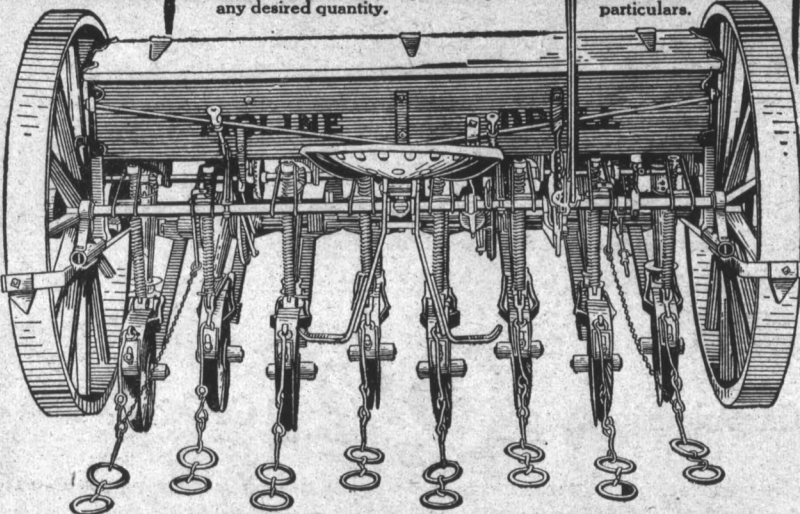
By using a Moline Grain Drill you can grow more wheat or other grain crops and at the same time save seed. You can do this because Moline Grain Drills deposit every seed in the bottom of a wide, compact, moist furrow and all seeds are placed at a uniform depth. Every good seed grows, has plenty of room in which to stool, the crop germinates, grows, and matures uniformly. A bigger and better crop is produced with less seed. Thousands of Moline Grain Drill owners prove this every year.

Not only will Moline Grain Drills increase your yield and save seed for you, but they will give you a lifetime of good service. Steel is used largely in their construction and a straight line of draft direct from the furrow openers to the horses' harness gives light draft.

Moline Grain Drills are built in a variety of sizes and can be equipped with the famous Moline double disc or single disc furrow openers, wood or steel wheels. Either plain or fertilizer drills can be obtained with fluted or double run feeds.

The fertilizer drill illustrated here is equipped with the latest device for distributing any kind of fertilizer, in the best and most economical manner, in practically any desired quantity.

Order one of these drills now from your Moline dealer or write us for full particulars.



MOLINE PLOW CO., MOLINE, ILL.

MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865



Lightening the Farmers Financial Load

(Continued from page 53).

vanced from infancy to full manhood in a few months. The part it played in financing our farmers during the troublesome period of the war is one of the achievements of history; the part it shall play in backing up our farmers in the great reconstruction period yet remains to be written, but it is certain to be larger than the war story, since thousands of farmers everywhere have come to realize that if they have a mortgage over their head, and that mortgage is not a Federal Farm Loan, they are missing the door of modern agricultural opportunity.

Lack of farm financial support at the close of the Civil War, and the resultant evils attached, were responsible for the mad rush to the cities. Our agricultural industry has never overcome this. At the close of every war in the history of the world, it has been noteworthy that money, ready liquid fluid, rushed to the aid of industry and commerce, leaving the farmer to trail his flocks, pursue his plow, seed his field, as he might. The farmer has been forced to shift for himself, and without an organization through which to make his needs, or with which to equip himself to cope with existing conditions, agriculture suffered.

But the thirty-five-year mortgage, since the day of David's flocks, as provided under the Federal Farm Loan Act, whereby the farmer may secure adequate credit with which to operate his business, and make repayment out of the farm holdings—not out of himself—as under the previous system—is a boom to our agriculture unmeasurable in figures. The thousands of heart-sick farmers who have already availed themselves of this credit, and who as a result, are today on the highway to happiness and prosperity, bespeak of the success of the system.

There is a very material saving in interest paid under this system of amortization. The saving to farmers of New York state alone, for example, where the total mortgages of farmers aggregates \$100,000,000, will mean an added profit to the farmers of the state of about \$75,000,000 per year. In other words, the farmers will have paid their interest under the easy, long-term plan, have sufficient capital with which to transact their business without customary loss in use of money and increased interest and commission, and will have just \$75,000,000 more added to their profit from their billion-dollar production.

If a farmer should borrow \$1,000 under the customary six per cent interest terms, he would in ten years pay \$600 for interest alone. This sum represents usage, and must be charged off as loss. If the same farmer should borrow \$1,000 through the Federal Farm Loan, he could make repayment of the loan under the amortization plan, and his total interest payment for a term of thirty-five years would amount to but \$1,272.50. In other words, for the use of the same \$1,000 three and one-half times as long, he would pay but slightly more than twice as much as under the former method. Where interest rates run up to eight and twelve per cent on mortgages, the saving would be just that much greater.

A long term loan on this basis gives the advantage of compound interest to the debtor instead of the creditor, as formerly. It enables the borrower to pay his principal on the installment plan, so that the burden is scarcely felt. It is, in other words, a forced

system of saving which, drop by drop, will wear away the disheartening rock of the farmer's indebtedness. It makes the farmer the master instead of the slave of his mortgage.

Europe has had such a credit system for half a century; the farmer of the United States has enjoyed it for but a few months, but our farming industry seems to reveal a new era under the desirable qualities already. In every quarter of the country are reported new and practical developments of agriculture as a result of the loans. Live stock is on the increase in some sections; grain acreage in others; garden truck in others, all prospering according to climate, soil and adaptability of the section.

The Federal Farm Loan Act provides our farmers with long-term loans. There is considerable interest manifest recently for this same system to take over short-term loan business, along similar lines to those of the Credit Foncier of France. This is a national land bank, and is subject to the surveillance of the French Treasury Department and three of its directors are high officials of that department. Its bonds or debentures are issued payable to bearer and no third person can make a claim to them in court except in case of theft or loss. To protect the institution in its dealings with borrowers many special privileges have been bestowed upon it by law. For instance, payments due upon its loans are not subject to attachment, and in case of default even the courts cannot grant the debtor any delay. If dues are not paid or if a property deteriorates after a mortgage upon it has been placed with the society, it can attach and sell the property simply upon notice and publication, nor can any claim to the proceeds of the sale be made until after the claims of the society are satisfied.

On the other hand, the society is forced to conduct its operations under strict regulations as to the kind of mortgages acceptable; the interest chargeable on mortgages over and above the interest paid on its debentures; the investment of its reserve funds and the issues of capital stock. The society, like our national farm loan associations, operate only in limited territories, where every farmer knows practically every other farmer, thus reducing to almost zero the change of loss from a loan.

It is hoped to work out a plan whereby small short-term loans may be advanced to our farmers through the Federal Farm Loan machinery. Certain it is that our farmers will at no very distant day, likewise transact banking business through the Federal Farm Loan system. This is proper, since the system which has aided them they should aid, by banking whatsoever surplus they may have, and thus reserving for agriculture the compounded interest accruing from their savings accounts, and the earnings of their open, checking accounts, totaling several hundred million dollars in the grand total, for the country.

The future horizon of American agricultural finance is so wide and its possibilities so great, that no man can foresee the future. But it is already appreciated that this system shall place our leading industry upon a firm foundation, which shall make for contentment and increased popularity of this industry, thus solving the food and finance problem of the consumer and the farmer.

*Royster's, Profits, Smiles—
They Go Together*

THE fine, healthy quality of his wheat, the vigorous start which gets ahead of the Hessian Fly, the heavily increased yields, lowering the cost per bushel—these make the satisfied smile of the farmer who uses

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Every wheat grower should have the new book—*Wheat Growing For Profit*. It tells just what to do to get the most from your crop. Send the coupon today and receive it free.

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UNITED STATES EATS LITTLE MUTTON.

IN Great Britain about twenty-two per cent of all meat consumed is mutton. In France the per cent is about eleven. In Canada it is not quite seven, and in the United States it is only about three and a half per cent. Last year (1918) the consumption of dressed meat (lard excluded) in the United States averaged one hundred and fifty pounds per person, of which only five were mutton and lamb.

The British, the Canadians, and the French—all similar types of people and having habits of life similar to Americans—use less meat than Americans do but a much larger proportion comes from sheep. The United States gets its meat principally from cattle and hogs. Pork consumption is about fourteen times, and beef consumption about thirteen times, as great as our use of mutton and lamb. These are the annual averages for last year.

COMMUNITY LIVE STOCK SHOW.

THE first community live stock show of the Crystal Falls, Iron County district, was held June 28. All of the exhibits were of the Holstein breed. Several of the local farmers contributed from their herds and the result was an excellent showing of the black and whites. Some new registered stock purchased from the State Hospital herd at Newberry for the Iron County Farm was on exhibition.

A goodly number of people, both townspeople and farmers, visited the show. Many remarks were heard on the live stock development which has taken place in the last few years. It is planned to have such community shows in other sections of the county.

PRIZE LETTER CONTEST.

(Continued from page 71).

generally napping.

I think the wren is a very interesting bird. They have an independent way about them that is becoming. They like to build their nests among thick foliage or in a box.

If one is not acquainted with the mourning dove they would imagine, when they hear his call, that he was far away, but upon observation the bird would be seen close by.

At present the mother and father birds are teaching their young to fly, and it is pleasing to watch them at their attempt to leave the nest.

The birds produce nature's best music and the world would be lost without their friends, the birds.—Beatrice June Goodell, Saranac, Michigan. Age fourteen years.

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 21:

"Fishing and swimming."

Subject of letter to be mailed by July 28:

"Our garden."

Subject of letter to be mailed by August 4:

"Threshing Time."

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

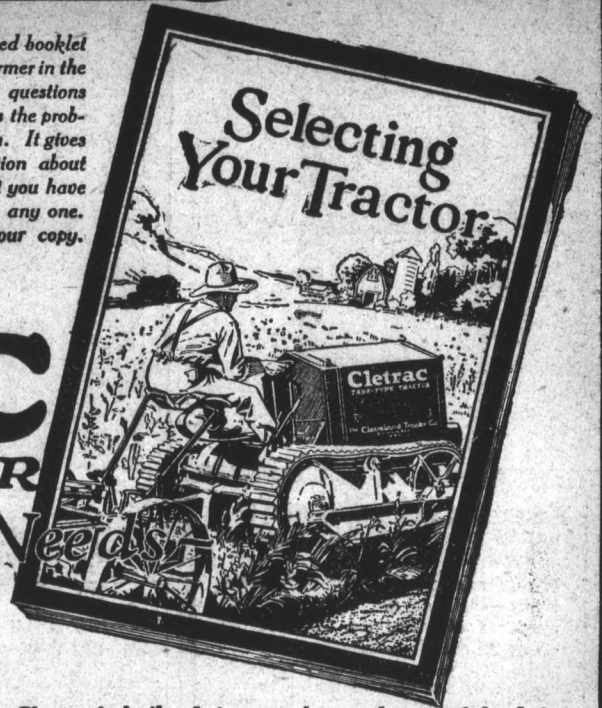
Address your letters to The Boys' and Girls' Dept., Michigan Farmer, Detroit, Mich.

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This silo with "Ship-Lap" joined blocks—strong walls, thin mortar line exposed, less chance for frost, twisted steel reinforcing, continuous doorway. Steel hip roof and chute fire-proof. Write for catalog.
J. M. PRESTON CO., Dept. 339, Lansing, Mich.
Also Climax Silo Fillers and Bidwell Threshers

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Barred Rock's 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 5667 eggs last year. average 140 eggs. Lewis B. Avery, Saline, Mich.

Summer Prices on Chicks

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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. O. 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.

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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 on 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.

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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, Gambier, Ohio.

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

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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.

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Fifteen dozen eggs incubated and chicks boxed and shipped prepaid \$8.75. Send eggs fresh well packed prepaid. Order July & August chicks now. Many varieties send for circulars. Crescent Egg Company, Allegan, Mich.

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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. FOLLY COVE FARMS, R. R. 1, Holland, Mich.

30,000 Fine, Husky Baby Chicks For July Delivery, 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.

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

Barred Rock's egg contest winners, eggs from strain with records to 290 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

BUY YOUR JULY CHICKS near home. White Leghorns \$12 per 100, Reds and Barred Rocks \$15, White Rocks \$16. Washtenaw Hatchery, Ann Arbor, Michigan.

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

V. A. MORSE, Ionia, Michigan

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 Egg strain Barred Plymouth Rock. \$2.00 per 15. \$3.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

Rhode Is and 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, Pekin Ducks, W. Chinese 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. \$3 each; 2 for \$5. Sunnybrook Poultry Farm, Hillsdale, Mich.

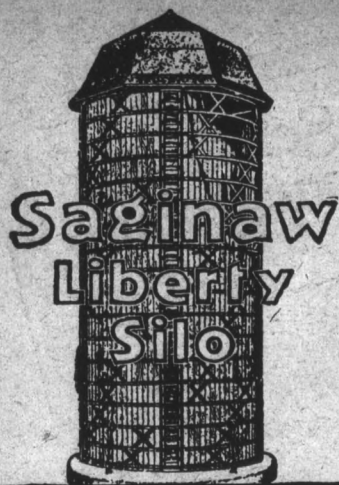
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Snowy White Rock's Fishel Strain, dandy layers. Eggs \$1.50-15; \$4.50; \$7.00 per 100. All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio

S. C. B. Minorcas. Eggs from pen 1, \$3.00 per 15; from pen 2, \$2.00 per 15. Incubator eggs \$7.00 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.

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No other silo gives you the cross-truss—the added strength that comes from the use of over 75 cross-trusses in each silo.

Here is a modern building principle applied to silo construction. You've seen it used in bridges, trestles, steel towers and other forms of construction requiring great strength. Just look at the above picture, it tells the story. It's easy to see how these cross-trusses make the *Saginaw Liberty Silo* so rigid that no anchoring cables are necessary. Here are the other vital features of the *Saginaw Liberty Silo*:

Hollow wall—made of wood.
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No silo wall equals the smoothness of this wall.
Silage packs of its own weight.
Easy and simple to erect—a rigid, solid, immovable structure.

Write us for authentic silo information.

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BREEDERS' DIRECTORY

Change of Copy or Cancellations must 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.



Poultry Building at Michigan State Fair.

Michigan Fair Dates

Below is given the name, location and date of the Michigan fairs for 1919, and the name of the secretary of each:

Allegan County Agricultural Society, Allegan, Sept. 23-27, S. M. Sequist.

Alpena County Fair, Alpena, Fred L. Olds.

Antrim County Agricultural Society, Bellaire, Sept. 30-Oct. 3, Geo. F. Frink.

Arenac County Fair, Standish, Sept. 16-19, H. W. Pomeroy.

Armada Agricultural Society, Armada, Oct. 8-10, Orvy Hulett.

Brevort County Agricultural Society, Allenville, P. A. Luepnitz.

Calhoun County Agricultural Society, Marshall, Sept. 16-19, Thomas W. Bigger.

Caro Fair and Night Carnival, Caro, Aug. 25-29, F. B. Ransford.

Charlevoix County Fair, East Jordan, Sept. 16-19, D. L. Wilson.

Cheboygan County Fair, Wolverine, Sept. 16-19, C. A. Jacobson.

Chippewa County Fair, Sault Ste. Marie, Sept. 3-5, E. L. Kunze.

Clinton County Fair, St. Johns, Sept. 9-12, C. S. Clark.

Cloverland Farmers' Fair, Stephenson, Sept. 23-26, Arvid Johnson.

Copper Country Fair, Houghton, Sept. 23-27, J. T. McNamara.

Croswell Fair, Croswell, Sept. 16-19, D. E. Hubbell.

Delta County Agricultural Society, Escanaba, Sept. 23-26, James C. Baker.

Dickinson County Menominee Range Agricultural Society, Norway, Sept. 11-14, A. T. Sethney.

Eaton County Agricultural Society, Charlotte, Sept. 23-26, Jas. H. Brown.

Emmet County Fair, Petoskey, Oct. 7-10, L. L. Thomas.

Flint River Valley Fair, Burt, Sept. 16-18, David McAlley.

Fowlerville Agricultural Society, Fowlerville, Sept. 30-Oct. 3, W. H. Peck.

Genesee County Fair, Davison, Sept. 9-12, P. H. Peters.

Gladwin County Fair, Gladwin, Sept. 9-12, G. E. Lee.

Gogebio County Fair and Agricultural Association, Ironwood, J. S. Kennedy.

Grand Traverse Region Fair, Traverse City, Sept. 22-26, Charles B. Dye.

Grange Fair, Camden, Sept. 16-19, S. H. Derr.

Grange Fair of St. Joseph County, Centreville, Sept. 22-26, C. T. Bolender.

Grangers, Gleaners and Farmers' Fair, Big Rapids, Sept. 23-26, George E. Hurst.

Gratiot County Agricultural Society, Ithaca, Aug. 26-29, A. McCall.

Greater Cass City Fair, Cass City, Aug. 19-22, Harry Crandall.

Greenville Fair, Greenville, Aug. 19-22, Don L. Beardslee.

Hillsdale County Fair, Hillsdale, Sept. 22-27, C. W. Terwilliger.

Holland Fair, Holland, Sept. 9-12, J. Arendshorst.

Huron County Fair, Bad Axe, Sept. 2-5, Aaron Cornell.

Imlay City Fair, Imlay City, Sept. 30-Oct. 3, S. H. Large.

Ionia Free Fair, Ionia, Aug. 12-15, Fred A. Chapman.

Iosco County Agricultural Society, Tawas City, Sept. 24-26, John A. Wark.

Iron County Agricultural Society, Iron River, Sept. 17-19, Fred F. Murphy.

Isabella County Fair Association, Mt. Pleasant, Sept. 8-13, T. W. Ayling.

Jackson County Agricultural Society, Jackson, Sept. 8-13, W. B. Burris.

Kalamazoo County Fair, Kalamazoo, Joseph S. Folz.

Lenawee County Fair, Adrian, Sept. 15-19, F. A. Bradish.

Livingston County Fair Association, Howell, Aug. 26-29, R. D. Roche.

Luce County Fair, Newberry, Sept. 9-11, A. L. Sayles.

Manistee County Agricultural Society, Onkama, Sept. 16-19, H. R. Brodie.

Marquette County Fair, Marquette, Oct. 1-4, W. A. Ross.

Michigan State Fair, Detroit, Aug. 29-Sept. 7, G. W. Dickinson.

Midland County Fair, Midland, Sept. 2-5, Arthur G. Beden.

North Branch Fair Society, North Branch, Sept. 23-26, J. H. Vandecar.

Northern District Fair, Cadillac, Sept. 16-19, Perry F. Powers.

Oakland County Fair, Milford, Sept. 16-19, George S. Potts.

Oceana County Agricultural Society, Hart, Sept. 16-20, G. E. Wyckoff.

Ogemaw County Fair Association, West Branch, Sept. 3-5, C. C. Corey.

Osceola County Fair Association, Evart, Sept. 30-Oct. 3, Jos. Cockerton.

Otia Fair Association, Otia, Sept. 27, Mae Swaney.

Otsego County Fair, Gaylord, Sept. 23-25, C. E. Shannon.

Ottawa and West Kent Agricultural Society, Berlin, Sept. 23-26, Michael Hines.

Saginaw County Agricultural Fair, Saginaw, Sept. 22-27, W. J. Morgan.

Sanilac County Agricultural Society, Sandusky, Sept. 9-12, R. W. McKenzie.

Schoolcraft County Agricultural Society, Manistique, Sept. 16-19, C. E. Kaye.

Shiawassee County Fair, Owosso, W. J. Dowling.

Van Buren County Fair, Hartford, Sept. 30-Oct. 3, Stephen A. Doyle.

Wayne County Fair, Northville, F. J. Cochrane.

West Michigan Fair, Grand Rapids, Sept. 15-19, L. A. Lilly.

HIGHER PRICES FOR MILK.

THE members of the Dairymen's League within two hundred miles of New York City will receive \$3.01 per hundred pounds of three per cent milk during July. This is an increase of sixteen cents a hundred above the June price.

In making this price the fact that pastures usually become dry and short, requiring the feeding of additional quantities of grain, was taken into consideration, as was also the steady advance in prices of dairy feeds.

The shortage of ice is giving farmers, railroads and dealers much trouble in cooling and preserving the milk, according to E. R. Eastman of the Dairymen's League. The dairymen were unable to secure an adequate supply of ice, owing to the mild winter. This makes it necessary to cool the milk by water, which is a difficult task on some farms. This results in thousands of cans of milk being refused at the stations because the farmers are unable to maintain the temperature required by the board of health.

The league officials say that farmers are helping the situation to a considerable extent by taking sanitary precautions and by getting the milk into cold water as soon as it is drawn from the cow.

E. E. R.

The young calves should be fed from buckets as clean as those used in handling the milk for human consumption.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For the Human Body
—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

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

GUERNSEYS—REGISTERED
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. B. breed. ing, herd tuberculin tested.
T. V. HICKS, Battle Creek, Mich.

For Sale: Guernsey bull calf fawn and white, 10 months old, a beauty, "Nancy's Sequel 56736; Sire, Halcyon Sequel 22328; Dam, Nancy 54002; Dr. W. R. Baker, 1380 West Fort St. Detroit, Mich.



\$106,000 PAID FOR A HOLSTEIN BULL CALF.

Prof. Wilber J. Frazer, Chief in Dairy Husbandry at the University of Illinois Agricultural Experiment Station, says: "Improvement in the dairy herd must come largely from the sire side—a poor sire will do untold damage. The purebred sire is almost certain to be more persistent than the grade cows. No more economical investment can be made than to spend time and money in obtaining the best sire possible."

These are the sentiments of shrewd breeders. For instance, \$106,000 was paid last June for a four-month-old Holstein bull calf. Write for our printed matter and see what Holsteins are doing. 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 30 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

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.

\$75 gets 1 1/2 mo. old gdson Maplecrest Korn. Heng. and 2 1/2 lb. daughter of Johan Heng. Lad. and 18.48 lb. daughter of Cal. Jane Paul A. Dam is my best milk-er. Terms. M. L. McLAULIN, Redford, Michigan.

"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.

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.

Reg. Holstein Bull born Dec. 22, 1918. Light color. Sires 20 dams average over 30 lbs. Price \$75 Reg. and Delivered. J. Robert Hicks, St. Johns, Mich.

State Crop Report

THE outlook for corn, wheat and rye is the highest for more than fifteen years in the state, according to the joint report issued by Coleman C. Vaughan, Secretary of State, and Verne H. Church, Field Agent, Bureau of Crop Estimates. The state will produce more than double the amount of wheat, nearly forty per cent more rye and, from present indications, nearly forty per cent more corn than last year. The condition of all other crops is generally satisfactory except that of oats and barley which are fourteen and twelve per cent, respectively, below the ten-year average, and hay which is three per cent below. The ground is exceedingly dry and all crops are beginning to suffer. Unless good rains come soon marked deterioration is inevitable.

The condition of winter wheat is ninety-nine per cent, the highest on record for more than fifteen years. It indicates a production of 21,008,000 bushels which is also the largest within the same period of time, being 560,000 bushels greater than produced in the banner year of 1915. Harvesting is well advanced in the southern half of the state and is being prosecuted under favorable weather conditions but with a shortage of labor. Only three other wheat states show a better condition than Michigan at this date.

The acreage of corn planted is estimated at 1,707,000, being six per cent greater than last year. The condition is ninety-seven per cent, which is equalled by only one other state, Wisconsin, and which is seventeen per cent better than the ten-year average. About forty per cent of the acreage is generally cut for silage, leaving an indicated grain production of approximately 39,000,000 bushels.

The oats crop has suffered much from drought and heat which have reduced the condition to seventy-three per cent. This forecasts a crop of 44,385,000 bushels, or about two-thirds that of last year.

The condition of barley has also been lowered during the month, being seventy-six per cent, which indicates a production of 6,278,000 bushels. The condition of rye improved one point during June, being ninety-eight per cent. Like wheat, it is the highest July 1 condition for more than fifteen years. The estimated total production is 9,345,000 bushels.

The hay crop is being secured under generally favorable conditions, but the yield has been shortened by the dry weather. The present outlook is for a crop of 3,217,000 tons. While this is less than the average, it is considerably more than the light crop of last year, which amounted to only 2,718,000 tons.

The acreage of beans has been reduced considerably from that of last year, the greatest reduction being in the counties on the southern and western edges of the bean district. In the heavy producing counties, where the yields have been best, the reduction in acreage has been much less. The preliminary estimate is 353,000 acres; condition, ninety per cent; and the total production, 3,654,000 bushels.

The acreage devoted to potatoes is estimated to be 333,000, two per cent less than that of last year. The stand is generally very good, the condition being ninety-two per cent. Beetles are reported to be more numerous than usual in many sections. While it is too early to make an accurate estimate of final production, the present condition, indicates a crop of 3,125,000 bushels.

A large acreage of sugar beets was planted, but a shortage of labor for field work, dry weather during the germinating period, diseases and insect pests have caused the loss of some

(Continued on page 79).

LIGHT colored Reg. Holstein Bull 15 mo. old. Sure breeder. 30 lb. Pontiac breeding. Priced to sell. B. B. Heavey, Akron, Michigan.

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 123 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 Bull, 30.37 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 of 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.

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 23 lb. son of Maplecrest Korndyke Hengerveld.

Arthur C. Reek, Imlay City, Mich.

To Encourage Some Discriminating Beginner
I Offer a

Handsome Bull Calf

Choice in every way, color markings, individuality, pedigree. Born March 30, 1919. Sired by a most promising A. R. O. grandson of Colantha Johanna Lad, Dam 25 lb. butter from 508 2 lbs. of milk; a likely 30 lb. cow at next freshening. We test everything. The note of any honest man starting in Holsteins is good as the cash for us. Price \$130. W. J. Gamble, 95 Taylor Ave., Detroit, Mich.

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

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

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

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

JILLIE 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 Fogs Foxhall No. 126449, Dam Goldie Sophie 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 O. 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 150834, 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 O. McCARTY, Sec'y. H. B. Am'n. Bad Axe, Mich.

BIDWELL SHORTHORNS

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.

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

Scotch Topped Cows for Sale. Bred by the Mich. Agri. College. M. V. Butler, Williamston, 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. H. LEONARD Sec., Caledonia, Mich.

Milking Shorthorns of best Bates breeding and O. I. C. sows. 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. R. 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.

Attention Breeders and Farmers Now is the time to buy Duroc Boar for fall 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 payed 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. F. 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 Jersey spring boars sired by Orion Cherry King Ool. 2nd with size and feeding qualities. W. C. Taylor, Milan, Michigan.

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.

Breed The Best

THE WORLD NEEDS LARGE

FAT HOGS

Why lose money feeding and feeding scrub hogs? Two of our O. I. C. Hogs

Weighted 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 1883 and have never lost a hog with cholera or any other contagious disease.

WRITE—TODAY—FOR FREE BOOK
"The Hog from Birth to Sale"
THE L. B. SILVER CO.
196 Heights Temple Bldg.
CLEVELAND, OHIO

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 C. O. Schoolmaster, Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, C. O. 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 O. 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. 1/2 mile west of Depot. Citizens Phone 124. OTTO B. SCHULZE, Nashville, Mich.

For 25 Years We have been breeding Big Type Poland Chinas. Type Poland China 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. We are offering some sows bred for fall farrow. J. C. BUTLER, Portland, Mich.

O. I. C.'s. One extra good fall boar and spring pigs for sale. Stock registered free and guaranteed satisfactory. John C. Wilk, R. 2 Alma, 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. C. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Big Type Poland Chinas—A litter by Gerstdale Jones (Carter); one by Gerstdale King (Gerst); and a nice bunch of pigs by Mammoth Ben 31559. The stretchy, growthy, smooth, well marked pigs we like to see. An 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. 5 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. L 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: P's Big Orange 21847 and Lord Clansman 33027. W. E. Livingston, Farms, 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.

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 herd stuff 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. 31249, son of Gerstdale Jones heads our herd. Clyde Weaver, Ceresco, Mich.

Big Type P. C. Will have better males than ever for fall trade, gilts 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 DORR D. BUELL, Elmira, Michigan.

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

SUFFOLK STALLION for sale or exchange for pure-bred cattle of any breed; male or female. Address H. F. Michigan Farmer, Detroit, Mich.

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 Hampshire. 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 call on ARMSTRONG BROS., R. 3, Fowlerville, Mich.

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

LATEST MARKET REPORTS

FIRST EDITION.

The markets in this edition were revised and corrected on Tuesday afternoon, July 15.

WHEAT.

A firmer tone prevails in the wheat markets since the close of last week. The government report shows a considerable falling off in wheat prospects during the month of June. Where threshing has started farmers are not realizing the yields they anticipated. Trading in wheat is not active at this time, but receipts at primary points are increasing, and dealers are looking for a brisk business in the near future. The amount of wheat on hand on the farms and in country elevators is about twice what it was one year ago. At this date in 1918 they were paying \$2.27 per bushel on the local market. Present Detroit prices are:

No. 2 red	.....\$2.24
No. 2 mixed	..... 2.22
No. 2 white	..... 2.22

CORN.

Damage to the corn crop has reached a point where prices have been pushed to new high levels for the season. Recent rains have aided the bears, however, in checking the advance. Stocks are short and manufacturers as well as other consumers of the grain are finding it somewhat difficult to maintain their supplies. During the past week the United States visible supply showed an increase of 237,000 bushels. The Chicago market is fluctuating between the bearish influence of more favorable weather and the bullishness coming from the demand for grain to export to the central powers of Europe. On the Chicago market No. 2 mixed corn is now quoted at \$1.94½@1.97; No. 2 yellow \$1.96½@1.99; September \$1.95; December \$1.62½. No. 3 corn sold at \$1.85 on the Detroit market one year ago. Present Detroit prices are:

No. 3 corn	.....\$1.98
No. 3 yellow	..... 2.00
No. 4 yellow	..... 1.98
No. 5 yellow	..... 1.95
No. 3 white	..... 2.06

OATS.

The federal crop report predicts an oat crop slightly smaller than the one grown last year, but larger than the five-year average. Dealers believe the crop has been rather severely damaged and the market has received considerable support because of this opinion. Exporters however, are being hampered through a shortage of bottoms to carry this grain abroad. At Chicago No. 2 white oats are now quoted at 78½¢@81¢; September 78½¢; December 80½¢. On the local market a year ago standard oats were quoted at 80¢ per bushel. Present Detroit prices are:

No. 2 white	.....81
No. 3 white	.....80½
No. 4 white	.....79½

RYE.

The prospective rye crop is large. Prices, too, have advanced the past week. On the local market the grain was in good demand early this week, although at Chicago there was a sharp break in prices. Cash No. 2 is quoted at \$1.60 per bushel at Detroit.

BEANS.

The domestic bean trade has been quiet the past week. An advance of 10¢ is noted in the price quoted by the local board of trade, the quotation being \$7.35 per cwt. In New York Michigan pea beans are holding about steady at \$7.50 per cwt., with very little business being transacted. Red kidneys are moving in a small way at \$12.75@13 at the eastern metropolis. A slow trade exists in Chicago with prices steady and offerings not very heavy. Pea beans, hand-picked, are quoted there at \$7.25@7.50. The preliminary estimates of the state and federal governments for the 1919 bean crop of Michigan is for a yield of 3,654,000 bushels on 553,000 acres.

HAY.

Loose hay is coming to the market rather freely, and prices are declining. No. 1 timothy is now quoted here at \$32.50@33; standard timothy at \$31.50@32; light mixed \$31.50@32; No. 2 timothy \$30.50@31; No. 3 timothy at

\$22.50@28; No. 1 mixed \$30.50@31; No. 1 clover \$24@25.

Pittsburgh.—The receipts of poorer grades of hay are excessive, and it is difficult to find buyers for these grades. No. 1 timothy continues very scarce and is easily sold. Quotations are: No. 1 timothy \$37@37.50; No. 1 light mixed \$33@34; No. 1 clover mixed \$28@29; No. 1 clover \$25@26c.

SEEDS.

Seeds are inactive and firm as follows: Prime red clover \$28; October \$27; timothy \$5.40.

POTATOES.

No sales of old potatoes were reported at Detroit this week. The market for new potatoes is strong and prices are higher. The government estimates that the potato outlook is for a lighter crop of Irish potatoes than were produced a year ago. Crop conditions are generally favorable in the northern districts.

FEEDS.

Feed prices keep on advancing with the increased value of feeding grains. The price quoted to jobbers at Detroit are: Bran \$45; standard middlings at \$52; fine middlings \$55; coarse corn meal \$75; cracked corn \$77.50; corn and oat chop \$65 per ton in 100-pound sacks to jobbers.

BUTTER.

Higher prices are quoted for butter than prevailed a week ago. Consumers are buying freely and there is some investment buying. The talk of export business is also a factor in the market. Receipts are holding up fairly well, but a shrinkage is expected soon. Fresh creameries bring 50@51½¢ from jobbers at Detroit. The Chicago market advanced to 47@52c; New York 51@55c; Philadelphia to 55c for creamery stock.

CHEESE.

The market has been rather quiet this past week. Receipts have continued fairly liberal and storage stocks are rapidly increasing. At Detroit Michigan flats are quoted at 32c; do single daisies 33c; bricks 31½¢. At Chicago young Americas are quoted at 32½@33c; Cheddars at 30½@31c. In New York whole milk twins are quoted at 31½@32½¢, and in Philadelphia 31½@33c.

EGGS.

Reduced production and a steady to stronger demand are forcing egg values to higher levels. The Detroit market quotes fresh candled current receipts at 42½¢; do firsts in new cases 44c; extra firsts candled and graded in

new cases 46c. In Chicago firsts have advanced to 41½@42c; ordinary firsts 39@40c, and storage packed firsts at 43½@44c. In New York nearby western stock is quoted at 55@62c, and in Philadelphia nearby current receipts bring \$14.40@15 per case.

WOOL.

All kinds of wool are selling freely, and prices are remaining stable. A larger amount of wool machinery is in operation than during any month of this year. At Boston dealers in fleeces are talking 80c for half-bloods though 76c is the top price reported. Three-eighths blood is held at 72@73c, while quarter-blood fleeces are quiet. Scoured wools are active at strong prices. The government will continue to sell carpet wools at Philadelphia during the summer, the date of the next sale being July 30.

CANNED GOODS.

Prices are advancing to higher levels with the opening of the season for new stock. Foreign agents were active for all lines of goods, and their purchases are forcing new high prices. This outside trading is cleaning the market of all surplus stock. Fancy peas are in strong demand and the shortage is keeping prices very firm. The dried fruit business is also active, with buyers paying good prices. A very large part of the business is for export account. The removal of restrictions on shipping to Germany is having a very bullish influence on this market.

DETROIT CITY MARKET.

Red raspberries are coming in more plentifully, and the price has been reduced to around \$14 per bushel; black raspberries \$10@11; gooseberries \$8; green beans \$4@5; green peas \$4@4.25; eggs 48c; poultry, live 34c per pound; butter 60c.

GRAND RAPIDS.

Some new wheat and rye were brought to the milling companies last week. The kernels of both grains were plump and hard. Millers pay \$2.10 for No. 1 red wheat and \$2.08 for No. 1 white per bu; rye brought \$1.35. Smut in wheat is reported from some localities but the area is not large. The oat crop will be light in some sections in western Michigan owing to lack of rain. Some pieces are so short straw they will have to be mowed with a mower. The dry weather has affected some acreage of potatoes, catching them in "setting" season. Bean dealers report indications are for a light crop in many localities. Less acreage was planted than a year ago and they have been hit hard by dry weather. The blackberry crop promised to be a very large one but the hot weather has cut it nearly in half. Last Saturday they sold on the city market for \$6.50 per 16-qt. crate. The corn crop promises to be one of the largest farmers in this section of the state have ever grown. Rain is needed in some sections.

NEW YORK PRODUCE MARKET.

Butter.—The past week has been very encouraging to the butter dealer. There has been greater selling strength than has been shown for some time. Not only were local and out-of-town buyers on hand to secure their supply of butter but exporters and speculators were active purchasers. As a result of the increased demand the price of butter advanced rapidly. Last week's closing prices were: Extras 52½¢; higher scoring than extras 53@53½¢; firsts 50@52c; seconds 48@49½¢.

Eggs.—The present egg market is not very encouraging. Receipts are still heavy but a high percentage of the eggs being received are of inferior quality. Demand for good quality stock is strong but poorer grades are lagging. There is a considerable inquiry from exporters but few actual sales have been made. Quotations are as follows: Firsts 43@46c; extra firsts 47@50c; extras 51@53c.

Poultry.—Receipts have been light and demand strong. The result has been a material advance in price. Established quotations at the close Friday were: Broilers 50@55c; fowls at 38@39c; old roosters 25c; ducks 30c; geese 20c.

Live Stock Market Service

Reports for Tuesday, July 15th

BUFFALO.

On the market here today pigs brought 23@23.60 and other grades 23.60. Lambs went up to \$18.50 and calves to \$23.50.

DETROIT

Cattle.

Market steady at Monday's prices and 25@75c lower than last week. Best heavy steers \$14.00@14.75. Best handy wt bu steers 12.50@13.25. Mixed steers and heifers 11.50@12.00. Handy light butchers 10.55@11.25. Light butchers 9.50@10.00. Best cows 10.00@10.50. Butcher cows 8.50@9.00. Cutters 7.00. Cannons 6.00@6.75. Best heavy bulls 10.50. Bologna bulls 8.50@9.00. Stock bulls 8.00@8.50. Feeders 10.00@10.50. Stockers 7.75@8.75. Milkers and springers \$60@100.

Veal Calves.

Market 50c lower than Monday. Best 22.50. Others 7.00@17.00.

Sheep and Lambs.

Market steady. Best dry-fed lambs \$17.00. Fair lambs 14.00@16.00. Light to common 12.00@14.00. Fair to good sheep 8.00. Culls 4.00@6.00.

Hogs.

Mixed hogs 10@15c lower. Pigs 22.00. Mixed 22.50@22.90.

CHICAGO.

Hogs.

Estimated receipts today are 38,000; holdover 5,432. Market opened steady but weakened early. Mostly 10c lower on good and choice hogs. Others unevenly 10@25c lower; early tops at \$22.90. Heavy 250 lbs up, medium, good and choice \$21.90@22.50; medium 200 to 250 lbs. medium, good and choice \$21.75@22.80; light 150 to 200 lbs. common, medium, good and choice \$21.65@22.85; light lights 130 to 150 lbs. common, medium, good and choice \$20.35@22.50; heavy packing sows 250 lbs up smooth \$21@21.75; packing sows 200 lbs up rough \$20.25@21; pigs 130 lbs down medium, good and choice \$19@20.25.

Cattle.

Estimated receipts today are 19,000. Medium grade steers and she stock are slow to 25c lower; all others steady. Beef steers, medium and heavyweight, 1100 lbs up, choice and prime \$16.40@17.50; do medium and good \$13.75@16.40; do common \$11.35@13.75; light

weight 1100 lbs down, good and choice \$14.60@17; do common and medium \$10.40@14.50; butcher cattle, heifers, common, medium, good and choice at \$8.25@15; cows, common, medium, good and choice \$8@13.25; bulls, bologna and beef \$9@13; canners and cutters, cows and heifers \$6.50@8; do canner steers \$7.25@10.35; veal calves, light and handyweight, medium good and choice \$18.25@19.25; feeder steers, common, medium, good and choice \$9.50@12.50; stocker steers, common, medium, good and choice at \$8.25@11.75; do cows and heifers, common, medium, good and choice at \$7.50@9.50; do calves, common, medium, good and choice \$8.25@12.

Sheep and Lambs.

Estimated receipts today are 15,000. Native lambs 25@40c higher; sheep strong and 25c higher. Lambs 84 lbs down, medium, good, choice and prime \$15.50@17.75; do 85 lbs up, medium, good, choice and prime \$9.75@15; spring lambs, medium, good, choice and prime \$8.75@14.25; yearling wethers, medium, good and choice \$7.25@9.50; ewes, medium, good and choice \$3@6.75; ewes, cull and common \$7.75@14; breeding ewes, full mouths to yearlings \$11.75@14.

BUFFALO.

Monday, July 14, 1919.

Cattle.

Receipts 200 cars; best dry-fed grades 50@75c higher; other grades steady. Prime heavy steers \$15.50@16.75; two cars extra brought \$17.75; best shipping steers \$13@15.50; medium shipping steers \$14@15; best yearlings, 950 to 1000 lbs \$15@16; light native yearlings, good quality at \$13@14.50; best handy steers \$12.50@14; fair to good kinds \$13@13.50; handy steers and heifers, mixed \$12.50@13; western heifers \$11.50@12.50; best fat cows \$11@12; butchering cows at \$9@9.50; cutters \$7.50@8.50; canners \$5@6; fancy bulls \$11@12; butcher bulls \$9@10; common bulls \$7@8; best feeding steers 900 to 1000 lbs \$10.50@11; medium feeders \$9.50@10; stockers \$7.50@10; best milkers and springers \$65@150.

Hogs.

Receipts 50 cars; market 10c lower; pigs scarce and 50@75c higher; heavy and yorkers \$23.75@28.85; pigs and lights \$23.50@23.75.

Sheep and Lambs.

Receipts five cars; market steady; spring lambs \$17@18; yearlings \$10@14; wethers \$9@9.50; ewes \$7.50@8.50.

Calves.

Market is 50c lower; tops \$23.50; fair to good \$20@22.50; grass calves \$8@12.

STATE CROP REPORT.

(Continued from page 77).

fields in many localities. The condition is eighty-five per cent.

There has been a marked decline in fruit prospects during the month. Cold weather during the blooming period caused poor pollenization and reduced the set in many orchards; this was followed by hot and dry weather which, while favorable for the elimination of scab and other fungous diseases, caused a heavy drop of the fruit that did set. Apples, peaches and pears show the greatest decline. Blackberries and raspberries have been injured by the dry weather, and the crop will be much less than the abundant crop promised earlier in the season.

GRAIN GRADING MEETING AT DETROIT.

(Continued from page 61).

poration will then name \$2.00 a bushel, \$1.80, or whatever figure it believes justified, and fix that as the price. The millers will then buy from the farmer at \$2.26 and the government make up the difference to the miller. But flour in that event would be based to the public on the reduced price, so that domestic consumers would have the same advantage as those in foreign countries to which the flour or wheat were exported.

To provide the machinery for handling the crop, the grain corporation now is executing individual contracts with five thousand flour millers, fifteen thousand grain dealers, three thousand flour jobbers, and fifteen thousand bakers. All have to be licensed from the grain corporation and make certain statements of wheat or flour handled, except bakers who use less than fifty barrels of flour a year.

Would Force Bread Price Down.

The government already has announced preferential rates to gulf ports in order to divert as much of the wheat for European shipments to those ports instead of having them tie up rail facilities throughout the eastern seaboard.

In congress there has been some discussion of the government arbitrarily fixing a lower price for wheat at once, and making up the difference to the farmer direct out of the treasury, in order to force down the price of flour and bread. This hasn't got beyond the talk stage yet, but inquiry as to whether Mr. Barnes had provided machinery that would permit the operation of such a plan brought forth the statement of the machinery set up for handling the wheat and contracts that are being entered into. Without expressing a direct opinion Mr. Barnes believes the present world wheat conditions does not justify such a reduction at this time.

Farmer is Protected.

The rules require that country grain dealers and mills in buying wheat from farmer's shall pay the guaranteed price at the most accessible terminal, minus freight charges, and a reasonable carrying charge.

If any controversy arises between the farmer and the wheat buyer as to grade, dockage, or price, it may be submitted to the nearest zonal representative of the United States Grain Corporation who has authority to decide the case. In the Kansas City territory, the deciding authority is D. F. F. Plazek, agent of the United States Grain Corporation in Kansas City.

FERTILIZER PRICES TO DROP.

THE United States Department of Agriculture announces that farmers of the southern states should obtain their mixed fertilizers for the fall season of 1919 at an average price about thirty per cent lower than the price which prevailed for the spring season this year.

This announcement follows a similar one made on June 7 for the northern states. It follows conferences with individual manufacturers which

placed the department in a position to state that the price of mixed fertilizers f. o. b. the South Atlantic and Gulf ports of Baltimore, Norfolk, Wilmington, Charleston, Savannah, Jacksonville, Pensacola and Mobile will be the same as the f. o. b. prices at Baltimore, Philadelphia and Carteret.

NEWS OF THE WEEK.

Tuesday, July 15.

THE Lloyd-George government of Great Britain proposes a plan for the complete reorganization of the British empire covering its sixty component countries into one great nation.—The socialist party of France opposes ratification of peace treaty.—All damage suits against the Cunard Steamship Company growing out of the torpedoing of the Lusitania have been dismissed and the claimants will probably be reimbursed from indemnities collected from Germany.—The War Department assigns Major-General Hay to the command of Camp Custer.—Carranza troops seize San Antonio, Mexico.—The Hungarian Red army will soon face French and Roumanian troops under the command of General D'Esperey, former allied commander in the Balkans.—The daylight saving plan will be continued indefinitely following President Wilson's veto of the act to repeal the law.

Veterinary.

Bone Spavin.—Part of the time my eight-year-old horse shows lameness in one hind leg. Our local Vet. informs me that he can cure the horse but as he intends to blister him, the horse should be rested not less than six weeks. I need his work very badly; therefore, I wish you would tell me what to put on that will perhaps relieve him some until I can spare him. F. G. N., Fennville, Mich.—Shorten and lower toe, also apply equal parts of tincture iodine and camphorated oil to bunch once a day. Don't drive him faster than a walk. Doing slow work on the farm will not make him much worse; however, it may not cure him. Your Vet. is right, when treating him, rest is helpful.

Indigestion.—I have a four-year-old horse that does not perspire enough during very warm days, but he pants badly. He appeared to be all right until the very hot weather set in. L. C. S., Holly, Mich.—Feed him grain and grass, wash him with tepid water twice a day, don't work him hard during hot weather. Give him 30 drops of fluid extract of nux vomica, and one ounce of sweet spirits of nitre in a bucket of cold water three times a day and it will help him. During the cool weather it will not be necessary to give him medicine.

Abnormal Appetite.—Some of our cows are inclined to chew wood and old dirty bones, they are also fond of cement. None of the remedies I have given them seem to have done any good. T. W. W., Crosswell, Mich.—Give each cow a teaspoonful of air slaked lime and three tablespoonfuls of powdered wood charcoal at a dose in each feed. Grass is the best food for cows that suffer from a depraved appetite.

Paralysis.—Had six pigs that were weaned when only three weeks old; one of them has since died showing symptoms of weak back, or I might say, had no use of hind legs. After I weaned these pigs I fed them bread and middlings. I fed the sow oats and barley, besides she had plenty of good grass. J. E., Frankenmuth, Mich.—Feed your pigs cows milk, ground oats, wheat bran and grass. The back should be hand-rubbed. No drugs are required. You should have fed them more milk.

Asthma.—My neighbor has a horse that has a peculiar ailment. He is fourteen years old, shows some of the symptoms of heaves, and yet the owner does not believe it a case of broken-wind. After eating much feed he shows it most, but after working a few hours he breathes fast, but not the same as a horse with heaves. There are two bunches in throat, one on each side of neck. This may cause all the trouble. What can be done for him? S. S., Rose City, Mich.—Your horse will be somewhat relieved by feeding him grain and grass. Feed no clover or musty, dusty, badly-cured fodder of any kind, and the less bulky feed you give him the better. Give him two drams of Fowler's solution of arsenic and a half-dram of fluid extract of lobelia at a dose in soft feed or in drinking water three times a day. Paint bunches on throat with tincture of iodine three times a week.

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DE LAVAL



Now that "dog days" are with us, it is no time to bother with a balky cream separator

Dependability in a cream separator is especially necessary in the summer when the milk should be taken care of in the shortest possible time.

The DE LAVAL Cream Separator is dependable, and with ordinary care it will easily last a lifetime.

The DE LAVAL capacity rating is dependable. Each size exceeds

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DE LAVAL service is dependable. Fifty thousand agents the world over see to it that DE LAVAL Separators are properly set up, operated and taken care of. And, above all, the DE LAVAL Company is dependable—the oldest and by far the largest cream separator manufacturers in the world.

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See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below

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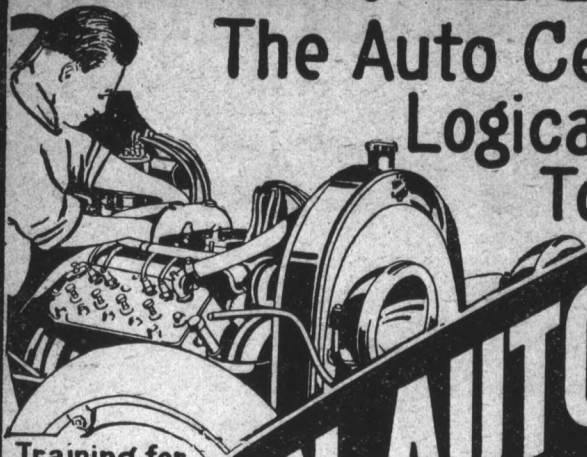
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Where you live or what you have been doing makes no difference. If you want to learn the Auto, Truck and Tractor Business, the Michigan State Auto School can teach you. The chief requirement is ambition and a willingness to learn,—a determination to "see it through." Serious minded, two-fisted, hard working fellows are the kind that succeed in this business,—men who have "real stuff" in them and want a chance to show what they are made of. The training you get at the M. S. A. S. enables you to "cash in" on your abilities.

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Read These Letters

See What the Big Factories Think About the M. S. A. S.



MAXWELL MOTOR COMPANY
MANUFACTURERS OF AUTOMOBILES

DETROIT, MICH.
Mr. James Williams, 20 Lincoln St., Gloversville, N. Y.
Dear Sir:—Your letter of February 23rd, making inquiry regarding the Michigan State Auto School received.
Wish to say that this is one of the best schools in the country, and would not hesitate to recommend it to anyone who is desirous of learning the automobile business. It is a recognized institution among the automobile factories of this city.
We have a great many graduates from this school in our employ and every one has given entire satisfaction. Trusting this information will be of benefit to you, we remain,
Very truly yours,
MAXWELL MOTOR COMPANY, Inc.
CHALMERS PLANT.
H. H. LES, Supervisor Welfare and Labor.



DETROIT, MICH., U.S.A.

The Michigan State Auto School enjoys a very enviable reputation and is probably one of the best of its kind in the United States. I have no hesitation in recommending it in every particular. Yours very truly
PACKARD MOTOR CAR COMPANY.

KING MOTOR CAR COMPANY

DETROIT, MICH., U.S.A.

Replying to a recent letter addressed to Mr. Artemas Ward making inquiry as to the reputation of the Michigan State Auto School, will say that as far as I know all Detroit Automobile manufacturers endorse the work they are doing. It is managed very efficiently and they have been turning out some pretty good men for the automobile industry and cannot see any reason why you should hesitate about taking a course with this institution. Yours very truly,
KING MOTOR CAR COMPANY.



HUDSON MOTOR CAR COMPANY

DETROIT, MICH., U.S.A.

The Michigan State Auto School, in our opinion, is the finest institution of its kind in the country. So far as we are aware, its course of instruction is thorough, comprehensive and practical. In fact, we endorse its method of tuition.

We have recommended a great many students to them and the results were very satisfactory.

Yours very truly,
HUDSON MOTOR CAR COMPANY.

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They Come by the Hundreds.—One of Our March 1919 Classes

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Thousands of cities and towns need the garage service of trained men. There are hundreds of Auto, Trucks and Tractors to be repaired. M. S. A. S. Graduates never lack for business,—they are able to solve any auto problem,—they "make good" because they are thoroughly trained. The friends of one student compelled him to open a garage when they learned he was trained at the M. S. A. S.—"the Old Reliable."

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Detroit Trained Men Have Big Advantage!

Detroit trained men are preferred everywhere. Letters and telegrams come to us from all over the country asking for our graduates. The demand is greater than the supply. Factories, garages and Service Stations want better qualified than those who are not so trained. Detroit, the Heart of the Auto Industry—are which you get here is mighty valuable to our students. The manufacturers furnish chassis and engines for our students to work on. You get the widest experience possible,—you are made familiar with every condition you can possibly meet in actual work,—you are thoroughly trained to successfully meet and handle any motor car, truck or tractor problem that comes to you.

Big Factories Endorse Our School

All the big Auto Factories in Detroit and other cities heartily endorse and recommend our School. They give our students the fullest co-operation possible. Many of them assisted in outlining our Course. They know our methods and our equipment. They know the type of graduates we turn out. That is why they give our graduates the preference. Read the letters on this page. They tell the story.

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We guarantee to qualify you for a position as chauffeur, repair man, tester, demonstrator, auto electrician, garage man, automobile dealer, or tractor mechanic and operator, paying from \$100 to \$400 monthly or refund your money.

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Separate and complete Courses given on these subjects, entirely independent of Auto Course. Complete instruction complete and intensely interesting. Instructors are thoroughly competent men—all members of Society of Automotive Engineers. Students given every possible assistance, both at school and after graduation. If necessary, we assist you to get job to help pay expenses.

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Detroit is the Auto Center of the World—"the Heart of the Auto Industry". 71% of all automobiles are made here. Detroit is the home of the biggest Auto Factories in the World. Think what it means to get the fullest co-operation of all these big factories. They know the completeness of our equipment and the thoroughness of our methods. That's why M. S. A. S. Graduates—Detroit Trained Men—get the preference.

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Tells complete story of our School and the Courses and about the auto industry and its unlimited opportunities. Quotes hundreds of letters from graduates. Shows actual pictures of classes, experimental and testing rooms. 175 pages of cold, hard facts and authentic pictures which prove that we actually and successfully teach the Auto and Tractor Business. Mail the coupon and get this catalog Free. Or, better still, say when to expect you, then jump the train and come as hundreds do. But don't Wait! Get action Now! Write,—or come,—today!

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This school is founded on the best, most practical and newest principles in the Auto, Truck and Tractor Business. Our Course is built on the widest and fullest co-operation of manufacturers, garages, service stations and owners. It is not One Man's Ideas, but the combined ideas of the biggest, best and most successful men in each field.
A. G. ZELLER,
President.



WHAT WE TEACH

Every phase of Automobile, truck and tractor work is covered in our course. You are taught every part of a gasoline engine,—familiarized with every kind of engine so that you can handle any job that comes to you. You are taught all about transmissions, differentials, ignition, starting, lighting, etc. Nothing is omitted. Our course is most complete, comprehensive, practical and sensible. Everything is made plain and simple.

COMPLETE TRACTOR COURSE INCLUDED

Our regular Auto Course also includes complete instruction on the care, repair and maintenance of Farm Tractors. Manufacturers give fullest co-operation. International, Moline and Emerson-Brantingham Co.'s have recently placed New Tractors with us for the use of our students. Read the International Harvester Co. letter below.

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Your practice of co-operating with the factories is very commendable for it brings together the biggest men and most successful ideas to be had. We will gladly co-operate with the Michigan State Auto School through our ninety branches in the United States in placing your tractor trained graduates. There is a constant demand for competent tractor men at very good wages. Very truly yours,
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