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The Water Supply for the Farm

By William G. Tucker, Engineer

THE writer has been asked by this journal to prepare an article upon a most vital point of farm economy—the water supply—and in so doing is using his experience, gained from actual practice, in connection with a farm of about one hundred and seventy acres. All deductions herein given are equally applicable to farms of larger or smaller area, the principles remaining the same.

The water supply for the farm must be wholesome, copious, of absolutely dependable quantity, and provided at low cost. The source of the supply must be carefully investigated and reliable data gathered. With this in view a topographical survey of the property to scale must be prepared, upon which map should be indicated as accurately as possible all important features; the general character of the earth, loam or sand, low-lying, seepy, wet ground, drainage areas, contours indicating the relative elevation of one object to another, prominent rock out-croppings, trees of size or particular beauty, clumps of shrubbery and growing vegetation of various kinds, fence and property lines, all water courses and meandering brooks.

The location of the house and farm buildings having been determined, the search for the permanent source of water supply can be undertaken, considering the location desired and the quantity of delivery necessary. The search must be most thorough. All promising sources of supply and their drainage arc, must be carefully investigated, to preclude the possibility of pollution from surface wash, particularly in winter. Low-lying, seepy ground, which may appear tempting when the search is most difficult, should not be accepted too readily. It will be found of great value to investigate the sources of supply of the neighboring farms; their proximity, the quantity and reliability of the flow, the character of the water, the method of pumping, etc.

Where the source of a permanent water supply has been selected, its rate of delivery must be ascertained. This can be learned by means of frequent careful gaugings made at different times of the year, but surely in the autumn, when the flow is at its lowest, so that the dependable quantity of delivery may be accurately known. The history of the site must be carefully investigated—what was the previous use of the surrounding land. The water must be examined regarding its purity. To the untutored layman, it may possess a most assuring, limpid appearance; it may be clear and cool, devoid of odor or sedi-

ment of desirable softness, and yet be absolutely unfit for use. A sample should be sent to the State Board of Health for a complete chemical and biological analysis, which will be furnished gratis and repeated under reasonable circumstances. The report furnished will be found most reliable and conservative, and will interpret the results in a most fair-minded manner, and must be strictly followed, be this disappointing, discouraging or perplexing. It may even condemn the supply, in which case the supply must be abandoned and forgotten, and a pure one diligently sought. The chemical analysis will indicate the chemical composition of the sample; the biological, the pathogenic germs present, if any. There is a baneful impression along the country-side that a polluted running brook will in its meandering, expunge itself. This is generally true as to suspended matter, but is absolutely false concerning pathogenic germs which it may contain; these will endure and multiply. The writer has had various experiences upon this point. There can be no dependence placed upon the appearance of a water—it must positively be analyzed before acceptance.

THE ideal source for the permanent water supply for the farm is the bubbling spring with its sandy bottom, through which it bursts. It must be thoroughly explored; all its tributaries and branches traced and uncovered,

and the encumbering material removed, so that there may be every assurance of a constant and copious delivery, and must be surrounded by a water-tight masonry wall, extending well above the surface of the surrounding ground with a curb, to divert any surface flow, as shown in Fig. 1, and be housed for protection against the entrance of foreign substances.

The meandering brook which may cross the property, and may have a foreign source, whose volume may be large and constant, and appearance excellent, may be most tempting, in desperation, but it must not be accepted without reserve; that portion within the property may be safeguarded and protected and the flow carefully guarded, but that outside the property lies beyond your control in any manner.

The driven well as a source of water supply is much better than that of the open well—it is quite safe from surface contamination and from subterranean, too, if sunk deep enough, but as a rule its capacity is rather limited, on account of the manner of sinking, and for this reason is usually employed upon small units.

THE artesian or bored well as a permanent supply for the water system will be found almost indispensable when the demand may be great. Its cost is usually uncertain, until the well has been completed, tested, and quantity of delivery is definitely known. The permanency of the deliv-

ery, too, is not always dependable, and will be found to shrink in proportion to the number of neighboring wells. For these reasons, this form of supply is generally employed only when the other methods appear doubtful, and where cost is not too great a governing factor. It can be sunk at any desired point.

The open well with its rope and bucket as a source of the permanent water supply, in these days of progress and scientific advancement, should not be given serious consideration. The sentiment which surrounds it is very pretty; the poets in verse have so often referred to it as a symbol of rural romance, a trysting place for the country swain; a quaff of whose refreshing water is so relished by the laborer in the hot fields—but from a hygienic standpoint, it is a relic of the past. It readily becomes a receptacle for many strange things, some of which reaches it intentionally, some by accident. It is easy of contamination, both from surface wash and subterranean infection.

It is poor economy and indifferent designing to lead the delivery of the spring directly to the points of consumption. The spring may be of such capacity that this may be possible, but as a rule this will not be the case. To meet this situation, a retaining reservoir will be found necessary, as shown in Fig. 1. This reservoir must be most carefully built of masonry, absolutely water-tight, and of such capacity that it may retain a week's supply. The bottom must drain to a center point which must be provided with pipe and

valve, so that the reservoir may be readily emptied for cleaning and repairs. The walls must extend well above the surface of the ground, with a curb similar to that for the spring. At one end of the reservoir, forming a part thereof, must be built a small chamber, as shown in Fig. 1, to intercept grit or any foreign substance, into which the overflow from the spring empties. The connection with the reservoir is provided with a removable copper screen. The reservoir must be carefully protected by housing against its use for illicit purposes, by man or animal, and against the entrance of foreign material. The location of the reservoir must naturally lie below the spring, to receive the flow by gravity, and its location should be adjacent to the center of the farm activities if possible. It is most desirable to have the water supply system such that there may be a gravity discharge from the reservoir to points needing service, in (Continued on page 902).

A Good Water Supply Makes Farm Labor More Efficient.



Having a Supply of Water that is Quickly Accessible, Such Jobs as Spraying Are Done in the Minimum of Time.

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DETROIT, JUNE 12, 1920

CURRENT COMMENT

Financing Organized Farmers

A SURVEY of the banking situation in several of the more prosperous farming communities indicates that many country bankers have failed to support the County Farm Bureaus in their efforts to organize farmers' cooperative associations to handle farm supplies and market their various products. On the other hand, some of the most progressive bankers in the state are working in close harmony with these organizations and supporting any movement which will insure greater financial prosperity to the farmers of their community.

Just how far any individual banker should go to support these farmers' organizations is a question which must be decided in his own mind, and so far as immediate profits are concerned there may be some excuse for the bankers hesitating to finance these undertakings, but it certainly appears a rather short-sighted policy on the part of country bankers in general to withhold their financial and moral support from any movement which will add so much to the resources of their patrons. If a banker's deposits are not sufficient to meet the business needs of his farmer patrons, how can he expect that they will ever be any greater, unless he does something to make their business more profitable. If something is not done to put their business on a more profitable basis through better methods of farming and the feeding of more live stock, bank deposits in our rural communities are sure to dwindle during the next few years. If farmers are paying out large sums of money each year for commercial fertilizers, which they would not have to purchase if they had the money to stock their farms with suitable kinds of live stock, that money is going out of the community for fertility which would be left without cost if the farms were supporting profitable herds and flocks. It is difficult, indeed, to understand how progressive country bankers can fail to support their County Farm Bureaus.

Several months ago when a wave of unrest and radicalism threatened the country, bankers were among the first to realize the need of some safe and sane organization that would insure the farmer a square deal with other interests, and build up a more friendly feeling between farmers and business men in general. Do they still believe that the farmer should have what he needs to make possible an increase in crop production and conduct live stock feeding on a basis which will yield a living profit for himself and at the same time provide the amount of food necessary to feed the people? Give

the farmers proper financial backing and they will work out their own problems in their own way, and for the benefit of both themselves and the consumers. Deny them adequate financial support and you are inviting the very conditions which now prevail in the banking circles of North Dakota.

The Nolan Land Tax Referendum

AT the first called meeting of the executive committee of the American Farm Bureau Federation, held in Chicago last week, the detailed results of the referendum taken on the Nolan land tax bill, now pending in congress, were officially reported. This bill, as previously explained in these columns, provides for the raising of public revenue by a tax on the privilege of the use and enjoyment of lands in excess of a valuation of \$10,000. In sending out this referendum the Farm Bureau officials made the following explanation: "The object of this act is to raise public revenues. It is not supposed that it will do away entirely with, but be supplementary to the present income tax laws. The proponents of this and similar measures believe that land does not at present bear its just proportion of taxes as compared to the industries.

"In considering this act you should not allow the fact that the revenues therefrom will come in principal part from the farmers to prejudice your judgment, but should consider it in relation to fairness to other interests; and whether or not it would be of sufficient burden to affect the land values, rentals or incomes and thus affect production."

The report of this referendum show that 359,626 farmers voted on the proposition, of which 357,266 voted against it, as compared with a total for it of 2,260 votes. Farmers of 520 counties in eighteen states participated in the referendum. Nearly half the votes in favor of this tax plan were cast in Illinois. In seven states not a single vote was cast for the proposition.

The results of this referendum show conclusively that more than ninety-nine per cent of the Farm Bureau members voting on this proposition are opposed to it. Aside from demonstrating this fact in a forcible manner, this referendum has illustrated the practicability of quickly ascertaining the sentiment of the farmers of the country on any important question of public policy. Steps were taken at this meeting to submit a number of other questions in a similar manner in the near future, as a guide to the efforts which will be made by the executive committee along legislative lines.

Car Short- age and Grain Prices

THOSE who have carefully followed the trend of the market for cereal grains during recent weeks, will have noted that shipments have been intermittent, depending on the car supply, and that prices have fluctuated accordingly, to the advantage of the grain handlers and speculators in the primary markets. The logical explanation has been advanced that the switchmen's strike resulted in an accumulation of cars in the market centers, and that as a shortage of spot grains became apparent long strings of these empties were rushed to the grain producing areas to replenish the dwindling stocks. This resulted in the bunching of abnormally heavy shipments, of which grain merchants and speculators took advantage to bear the price, only to promptly advance it as current receipts again fell off for the reason above noted.

While this unfavorable market influence may have developed wholly as a result of the unusual transportation conditions due to the switchmen's

strike, its perpetuation would be greatly to the advantage of the speculative factor of the grain trade. The committee on available car supply, appointed by the American Federation of Farm Bureaus last week, has an important work to do in this connection and its appointment just at this time is a fortunate factor in the solution of the transportation problem.

American Farm Bureau

Executive Meeting

FOURTEEN members of the executive committee of the American Farm Bureau Federation met in Chicago, June 2-3-4, and accomplished some definite pieces of work. Three working departments were created and appropriations made and committees appointed for putting them into immediate operation.

An appropriation of \$40,000 was made for the American Farm Bureau Federation Educational Bureau.

A Bureau of Farm Economics and Statistics was allowed an appropriation of \$35,000 for the remainder of the year. The purpose of this bureau is to collect information and figures having a bearing upon the production of farm crops and live stock and giving knowledge of the world supply and demand. Its field for investigation is to be the world, or such part of the world as may control, or have an influence upon the prices of American agricultural products. The establishment of such a department was urged at a recent meeting of the executives of the mid-west state bureau federations at the call of the Illinois Agricultural Association. It was shown that in some instances American products were sold cheaper in foreign markets than at home.

A third important department that will be put into actual and active operation in the near future is the Bureau of Transportation. This department will investigate both railroad and water rates on farm products to secure, if possible, an equitable basis of charges for handling these products and other commodities. The reasons for the prevailing car shortage is another matter that is to be investigated and an effort will be made to minimize this hindrance to profitable marketing. Clifford Thorne, railroad rate attorney, who is employed by the A. F. B. F. to represent them before the Interstate Commerce Commission, reported some of his findings at the meeting.

The executive committee went on record as favoring equitable proportionment of rate increases, between freight and passenger rates. Fifteen thousand dollars was appropriated to begin work in the bureau of transportation.

A. H. True, director of the States Relation Service of the Department of Agriculture at Washington, declared that in his department only men who have reached the age where they have become settled and a change of work is undesirable or young inexperienced men will accept the salary allowed. After Dr. True's report a resolution was passed urgently requesting congress to reclassify the salaries of the United States Department of Agriculture at an early date during the next session, and to remove limitations of the salaries to be paid to scientific and research specialists of the department and that of the first assistant to the secretary of agriculture.

The work of the live stock producers' committee of fifteen was assumed by the federation and referred to the department of farm economics. The Washington office was enlarged and two thousand dollars a month allowed for its maintenance. Concerning other farmer organizations being taken into the federation en masse, it was decided that the constitution prohibited such procedure.

In view of the fact that many matters will be coming up for consideration with the establishing of the new departments, it was decided by the executive committee that more frequent meetings be held. The next meeting will be called in August at Denver. The date of the 1920 annual meeting of the American Farm Bureau Federation at Indianapolis will be the second week in December. Howard Leonard, of the Illinois Agricultural Association, was an urgent supporter of more frequent meetings, his appeal being that the work of the committee was too important to let rest for months at a time.—CARSON.

News of the Week

Wednesday, June 2.

PRESIDENT WILSON'S plea for an American mandate over Armenia is rejected by the United States Senate.—Congress moves to adjourn on Saturday, June 5.—The supreme court decides that ratification of a constitutional amendment is not subject to submission to a popular referendum, thus sustaining the position of the dyes.—Anthracite miners and operators accept the President's offer to appoint a commission for deciding the coal wage controversy.—A million dollars' worth of Yucatan sisal is destroyed by fire at Galveston, Texas.

Thursday, June 3.

A SEVERE wind storm destroys a half million dollars' worth of property near Blanchardville, Wis.—Polish troops attack the Russian Bolshevik forces along the Beresina river, with the Polish offensive progressing favorably.—Soviet Russia is seeking to establish commercial relations with western Europe, in order to secure needed manufactured articles.—The tentative draft of the Republican national platform is given its finishing touches at conferences held in Chicago.—At least six men were killed by an explosion in a coal shaft near Cokesburg, Pa.

Friday, June 4.

BY a vote of 323-3 the house adopts and sends to the senate a resolution repealing all war-time laws except the Lever Food Control Act and the Trading-with-the-enemy Act.—Congress passes measure providing increased pay for postal employees.—The United States will not be officially represented in the coming conference of the allies with the Germans at Spa.—The Louisiana house of representatives adopts the federal suffrage amendment, while the senate federal relations committee reports favorably on its ratification.

Saturday, June 5.

PRESIDENT WILSON vetoes United States budget bill which he believes to be unconstitutional, and appoints a commission of three men to settle the wage controversy between anthracite coal miners and operators.—French aeroplane Goliath breaks all world records for continuous flight by remaining in the air over twenty-four hours, in which it covered a distance of 1,915 kilometers.—Troops have restored order following industrial riots at Bristol, R. I.—Fifty-eight measures, including the merchant marine bill, and one providing for the exclusion and expulsion of aliens from the United States are approved by the President.

Sunday, June 6.

THE census bureau announces that the population of New York City on January 2 was 5,621,151, an increase of 17.9 per cent over 1910; of Boston, 747,923, an increase of 11.5 per cent; of Buffalo, 505,875, an increase of 19.4 per cent.—The British establish a naval base at Reval on the Baltic, which gives that country commanding ports over European Russia.—It is reported by the car service commission that the freight congestion in this country is slowly improving.—Parcel post service between the United States and Hungary is suspended because the latter country cannot guarantee delivery of packages.

Monday, June 7.

BRITISH warships open fire on positions held by the Turks near Toulon on the sea of Marmora.—To counteract the effect of British dealings with Soviet Russia, France recognizes the Turks under Mustapha Kemal Pasha.—Five persons are killed when an interurban car strikes an automobile near Jenison, Michigan.—A redraft of the expenses of the American army of occupation which Germany must pay will be submitted at Paris this week.—Indications are that the Spa conference will be postponed until July.



An Hour With the Sorter

Wool Pooling Makes Farm Bureau Warehouse a Busy Place Where Farmers Gather Some Practical Ideas.—W. Trube.

HERE we are!" This exclamation was sung out by a trio of Eaton county farmers who pulled up to the end of a long line of vehicles at the warehouse of the Michigan State Farm Bureau with an auto load of wool. Every sort of vehicle from a clumsy wheelbarrow to a substantial motor truck was in that line. Farmers from far and near were there delivering their 1920 wool clip. The general conversation of those waiting for their turn at unloading, showed a spirit of wholesome enterprise and good nature which suggests big developments in the cooperative movement in this state.

"You'll learn something here today," was the greeting of a neighbor to the trio as he hurried home in his car to hustle up the farm work.

"Here's hoping," went back the reply as the hum of the motor died away in the distance. Inside the building, standing behind a table in the sorting room they found the sorter, an agreeable personage, intent upon his work. He was classifying the fleeces of a flockmaster living near Mason. As fast as one fleece was disposed of another was put into the sorter's hands by a helper.

As the newcomers watched the man at his work, they could see no rule or reason for dividing the fleeces into the various piles about the table. But when these men who had produced the wool for several years had made a survey of the warehouse and observed the wool in the different rooms they could see at once the uniformity of the fiber of the fleeces in each pile and from this they concluded that the man, in some mysterious manner, was doing his job well.

"Why did you throw that fleece aside?" asked a ruddy-faced member of the group.

"A dead fleece," came back the reply of the sorter who never took his eyes from his work, but who seemed willing to talk. "And this one goes out because the owner was careless in placing it upon a floor strewn with chaff. In the last load we had a few fleeces that were taken from the sheep's backs when wet." After a moment of silence he continued, "Here is a bad piece of business. These tags

should be kept separate from the fleece and put in a sack," and he pulled out a bunch of the dirtiest sort of taggings which had been wrapped into the center of the fleece. "Some sheep men think they can fool the sorter, but they don't."

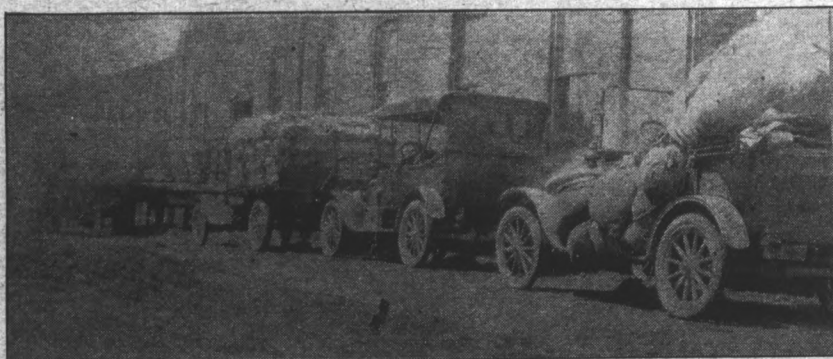
Some of the fleeces he passed with little examination, while others were literally torn to pieces. Coming to one which fell in the latter class, and which unfortunately was tied firmly with three strands of string each way, this skilled man was led to give the audience a sermonette on the use of twine. "You farmers use more twine than is necessary," he continued as he wiped the perspiration from his forehead with the sleeve on his left arm. "Usually two strings each way around the fleece is sufficient, and often where

"And here is another little matter longer expect returns on work he has not done.

At the office it was learned that to date there had been received at the warehouse 126,385 pounds of wool. This amount had all been brought in by auto, truck, wagon, bicycle, wheelbarrow, and generally from territory within a radius of fifty miles of Lansing. Some farmers had essayed to come much farther, even up to a hundred miles, to see, they said, how the wool was graded. Of this 126,385 pounds, about 110,000 pounds had already been sorted and the following figures show how it has been running: There were 10,688 pounds of half-blood staple; 4,690 pounds of delaine; 39,741 pounds of three-eighths-blood combing; 8,232 pounds of three-eighths-blood clothing; 34,584 pounds of quarter-blood combing; 4,236 pounds of fine clothing.

To furnish a basis for comparing the values of the various grades, quotations from a Chicago house are given and also the prices received last year by the Illinois Agricultural Association. For one-half-blood staple the Chicago house quotes seventy to seventy-five cents, and the Illinois farmers were paid seventy-three cents last year; for delaine the respective figures are seventy to seventy-five cents and seventy-eight cents; three-eighths-blood combing fifty-one to fifty-six cents, and sixty-four to sixty-eight and sixty-one to sixty-three cents; one-fourth-blood combing forty-nine to fifty-three and sixty cents; fine clothing forty to forty-five and fifty-nine cents.

After a consignment is graded each grade is weighed and the quantity credited to the owner. The various grades are then put in their respective piles which, before the season is well along will, in case of some grades, grow into the hundreds of thousands of pounds. Having these large lines of single grades it is possible for the farmers cooperating through the Farm Bureau and the Wool Growers' Association to secure returns that could not have been obtained had the wool been offered in individual allotments. Back of the whole arrangement, however, stands the faithful work of the wool sorter.



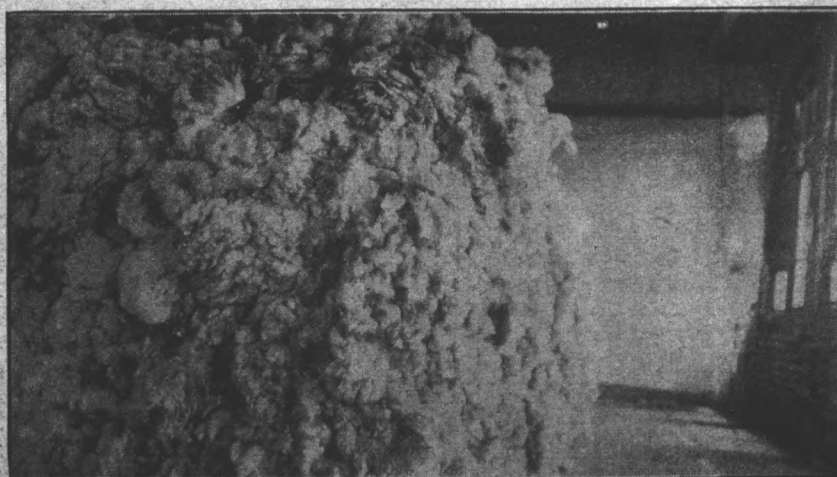
If You Haven't a Truck—Well, Do It Anyway.

the clip has been properly taken from the sheep's back, is of medium size and well rolled, one string each way is ample. The use of binder twine was quite common at one time, but the idea has been pretty well worked out of the minds of sheep owners. About the only time we now have to contend with it, is where the farmer runs out of wool twine and is unable to get enough to tie the last few fleeces so he has recourse to binder twine. The reason it is objectionable is because the vegetable fibre will not take the dyes the same as does the wool, and since the fibres, once caught in the fleece, cannot be removed the wool must be used for purposes where cheaper wools are used, and so is sold on the basis of the inferior classes."

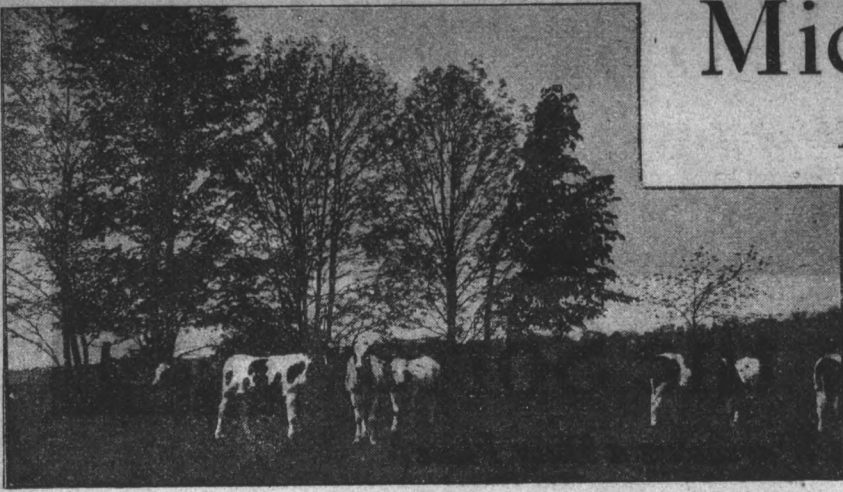
And by this time the trio and the other farmers who had gathered about the table were convinced that this new scheme of handling wool put the trading on a business basis. There was nothing just about the old method; it penalized the man who exercised care in growing the wool and in preparing it for market, while the careless fellow was given a premium. But here, under this new plan, the wool was being put on the market strictly upon its merit. The flockmaster who sees that his sheep are supplied with sufficient food and water, are housed against extreme weather conditions, and are kept in a healthy state throughout the year is paid for this trouble in the better price that his wool brings. The lazy man, on the other hand, can no



Each Grade Was Piled by Itself.



A Close-up View of One of the Grades.



A Bunch of Out-standing Holsteins on the Hartland Farms.

AGRICULTURALLY it ranks second in the United States. Commercially, Lenawee county is the first county in Michigan where farmers, business men and bankers have adopted a working program to develop farm resources, improve business methods, and finance the business of farming. Socially, it is the first place this side of Utopia where the farmers, business men and bankers meet on common ground, understand each others' problems and work in harmony for community betterment.

Natural then, and not strange, is it that the County Farm Bureau has the enthusiastic support of farmers, business men and bankers who are all working to develop the natural resources and make Lenawee county an ideal community in which to live and do business.

A. E. Illenden, who has served as president of the County Farm Bureau since it was organized seven years ago, believes that the first essential of prosperity in a rural community is a better understanding of farmers and their problems among business men and bankers and a better knowledge of business and financial problems among farmers. His experience in Farm Bureau and Grange work has convinced him that much of the unrest among the farmers is the result of a short-sighted policy on the part of business men and bankers who have neglected to cultivate the farmer, study his requirements and give him service in keeping with the value of his business, and, likewise, to the fact that farmers have failed to know the business man and banker and understand their problems. "In Lenawee county," says Mr. Illenden, "we have made every effort possible to have business men come out to our picnics and Grange meetings and get acquainted with us. In that way they have come to know us better and have a more thorough understanding of our business and problems. In return the business men and bankers have done many things to entertain us and foster a friendly feeling. Efforts along these lines have contributed largely to our mutual prosperity and happiness. I doubt if there is another county in Michigan where farmers, business men and bankers are working in more perfect harmony. Of course, there is more or less unrest among our farmers at the present time, but most of these troubles come from outside



Renner Bullion, the Thousand Dollar Hereford Sire Owned by Cole & Gardner.

sources rather than from within the county. We are confident that the Michigan State Farm Bureau can be of great benefit to us in handling some of these outside problems.

"Before the recent drive which gave us a total of nearly two thousand four hundred members," says President Illenden, "we had perfected plans to centralize the buying power of all our local cooperative associations, so that we could pool orders for feeder cattle, sheep, fertilizers, coal, feeds and seeds. Just how we will handle this business under the new order is another problem, but we are in hopes that we can get away from too many small associations and duplication of effort. We have several plans under consideration whereby we can give the needed service and not make it necessary to have an elaborate and complicated system



King Alfonso Lyons, Junior Herd Sire at Maple City Stock Farm.

of financing the business. We believe that every man who has paid in his ten dollars is entitled to some kind of service without being forced to help finance another scheme to get any benefits from his investment."

THE National Bank of Commerce at Adrian stands out as a notable exception to the trend of bankers to ignore the farmer. Its record is in marked contrast with that of many other Michigan banks whose ethics bear all the earmarks of their Jewish prototypes. The contrast continues as one travels over some of the other counties where the bankers have refused to finance farmers' cooperative organizations and endeavored to hold up appropriations for County Farm Bureau projects. When asked how the bankers of Michigan could best serve the farmer, President R. C. Rothfuss promptly replied: "Get back of the County Farm Bureau. Ask the farmer what he wants and what he needs to make possible an increase in production on a basis which will yield a living profit for himself, and at the same time provide the amount of food necessary to feed the people and avert the conditions of radicalism now threatening us. The cost of tile, fence, posts, seed, machinery, and everything which goes into the cost of operating a farm has increased, so that the net profits from many farms are actually

less today than under pre-war conditions. It is time we did something for the farmer as well as for the benefit of the consumer.

"It is my judgment that if the farmers are provided with financial aid and the proper cooperation of various governmental agencies controlling transportation, marketing and distribution they will be able to work out their problems in their own way, for the benefit both of themselves and the consumer. Faulty marketing facilities, excessive transportation costs and excessive profits to the middlemen have more to do with the high cost of living than insufficient production. The railroads and other agencies of distribution are absorbing most of the profits of farming. The failure of the government to furnish reliable statistical information in regard to production of crops and the demand for them in the markets of the world, and proper means of distributing them quickly and cheaply to the points where they are needed compels the farmer to offer the fruits of his labor in a speculative market and accept whatever price is offered. If the government does not see fit to correct some of these glaring faults in our system of distributing farm products, the farmer must set about it in his own way. He does not want advice on how to pro-

duce more crops, but he does want assistance in producing more cheaply and in marketing them at less cost. The business of the farmer is to produce crops. The business of the banker is to assist him in financing his farming operations and the various agencies upon which he is dependent for the things necessary in the production of crops. There you have the crux of the whole situation. The banker is outside of his proper sphere when he undertakes to do for the farmer anything but to finance his proper requirements.

lack of understanding of its purposes, judging from the manner in which they ignore it and fail to acquaint their customers with its advantages. The Farm Bureau was organized for the sole purpose of providing a central organization in each county to which all farmers, whether members or not, might look for information in regard to all farm problems. It is in charge of a man who is acquainted with every phase of country life and capable of giving definite advice and securing information on all matters pertaining to agriculture, such as soil fertility, testing of seeds, prevention of disease, organization of cooperative marketing associations and Boys' and Girls' Club work. The county agents have in nearly every instance measured up to the job and are furnishing this kind of information and assistance to all who apply, and are seeking by every means at their command to widen the sphere of their influence. I cannot understand why the country banker has so consistently and persistently ignored the County Farm Bureau.

"The purchase of good seeds and purebred live stock is a kind of work bankers should support." It would be hard to estimate the annual loss in crops to the state of Michigan through the sowing of poor seed and feeding poor live stock. Every county agent through his sources of information is in a position to correct these things if his services are needed, and every banker should lend financial assistance. The banks can render service to the farmer through the Farm Bureau by assisting in the organization of farmers' shipping associations and local marketing plans and many other lines of work. Cattle and sheep feeding is another phase of business to which bankers in many counties are not giving proper support, and by their neglect they are overlooking a great opportunity. In Lenawee county, where the feeding of live stock has become more general than in any other county in the state, during the past year over one thousand carloads, or approximately three million dollars worth of cattle and sheep were shipped in, fed during the winter, and shipped out during the spring worth five million dollars. It was estimated by Mr. Coffeen, county agent for Lenawee county last year, that the total value of live stock shipped out of the county was about ten million dollars. Add to this the monthly pay roll of six hundred thousand dollars, or seven million annually, and you have some idea of the gross income from live stock operations in Lenawee county.

HAVING assisted in the organization of the Farm Bureau, what is the apparent attitude of many bankers, both collectively and individually, at the present time? Some of them seem to have forgotten its very existence, or at least they display a complete



Mr. Illenden, of Adrian, can Well Feel Proud of this 20-acre Field of Alfalfa.

Bureau's and Their Work

Rider with Agricultural Agent Carr, visits the many in Establishing a National Reputation

pendent banks and borrow it, and if he can't get it there, join the Federal Reserve System and put himself in a position to serve farmers as they are entitled to be served. If his deposits are less than the needs of his community, how can he expect that they will ever be any greater, if he does nothing to make the farmers realize more from their business. If something is not done to build up the fertility of our soils through the feeding of better live stock, bank deposits will be less ten years from now than they are today. If the farmers are paying out thousands of dollars a year for commercial fertilizers that money is going out of the community for something which should be left without cost if the farmers were stocked with all the live stock they could carry."

RALPH J. CARR, who accepted the position made vacant by County Agent Coffeen's resignation the first of April, is thoroughly qualified to carry on the work so well organized in Lenawee county. Mr. Carr graduated from M. A. C. in 1908, spent two years at the University of Missouri, three years with the United States Bureau of Animal Industry at Washington, D. C., one year on a dairy farm in Livingston county and two years as county agent of Monroe county, Michigan.

In discussing his work in Lenawee county Mr. Carr gave the following outline of his aims and projects: To improve marketing conditions and to strengthen the present organizations and to give the best service possible to every Farm Bureau member without additional cost, rather than develop new associations without proper financial resources. In fact, the views of Mr. Carr and the members of the executive committee may be summed up about as follows: For the Farm Bureau of Lenawee county to pay cash for every carload of supplies purchased through the Michigan State Farm Bureau and to distribute it to the local cooperative associations. To make managers of these associations bonded agents of the County Farm Bureau to collect and remit to the County Farm Bureau. Mr. Illenden, the president, believes that the farmers in a community that is well served by local merchants and dealers should be slow to form cooperative associations through which they must assume the risks and absorb the shocks the business is sure to meet with if they undertake to handle too many lines. Just how far the farmers may have to go to improve conditions in their particular localities depends precisely upon how the local merchants and dealers meet the situation and seek to improve their service. What the farmer wants, and what he is going to have, is straightaway business methods. If the local merchants and dealers are willing to get down to brass tacks and give the farmers of their communities the needed service there is no reason why their business should suffer. On the other hand, if

some of them continue to buck the old game and refuse to give such service as the farmers need, then the farmers can determine which of these men can give the service if properly sustained and give them their business. And if these methods fail to get results they can organize a cooperative association, hire a competent manager and run the business themselves. In some communities the farmers are saving money in buying seeds, feeds, fertilizers, coal and general farm supplies. This difficulty added to the attitude of the local merchants in one or two rural communities in the country have forced the farmers to get together, not to promote their own selfish interests, but to secure a square deal in prices and quality of goods purchased. Fortunately this condition does not obtain in many communities in Lenawee county.

BOYS' and Girls' Club work is to be given proper attention, and plans have already been perfected to put calves and pigs out to as many boys and girls as possible this year. Mr. Harwood, of the County Holstein Breeders' Association, and Mr. Rothfuss, the banker, are assisting in this work. The day Mr. Rothfuss consented to drive out and have his picture snapped with the club leader, boy and calf, he said: "Understand, I am not



The Kind that E. A. Beamer Likes to Have Around.

promoting the work, but merely helping Mr. Carr put it on a sound financial basis. He is anxious to get the work under way, and the only thing he lacks is financial backing to take care of the loans and prizes. It is a splendid opportunity for me to do something which will be appreciated by the boys and girls and by their parents. Of course, it is good advertising, but I want to forget all about personal profit or advertising and get a comprehensive plan of financing the work under way. We have other public-spirited bankers in Lenawee county. I want you to give Mr. Carr and the Farm Bureau all of the credit, for we are leaving it to him to work out the details."

Poultry work is another project in which Mr. Carr is interested and which he aims to put on a solid foundation in Lenawee county. Dates have been arranged for culling demonstrations and field work will be vigorously pushed during the season. The use of bet-

ter seed is being encouraged and there will be the closest cooperation with the new seed department of the State Farm Bureau. Other projects will not be neglected during the year.

LENAWEE county is well organized cooperatively. Over at Blissfield the "Circuit Rider" met George L. Porter, of the Farmers' Cooperative Grain and Produce Company. Mr. Porter, decked in his blue jeans (and by the way, they were not the fancy kind worn by city clerks who draw \$30 per week, but the regular old farmer jeans), was calmly dictating letters to his secretary and looking after a little business that totals more than a million dollars a year. The association has two hundred and ten members and pays dividends on the amount of business done through its office. R.

C. Clement is president and the directors are: A. E. Bradley, H. F. Knoblauch, A. E. Parker, H. H. Atwell, E. A. Beamer and O. D. Porter. The business is about equally divided between farm crops and live stock.

At Onsted the Cooperative Shipping Association has a turn-over of two hundred thousand dollars a year. B. A. Onsted is manager. The president is F. B. Stoddard, and the directors are: A. F. Maxwell, W. G. Shepard, Wm. Newell, George L. Smith and Percy Alderdyce.

The Morenci Cooperative Shipping Association did more than \$120,000 worth of business last year. The president is Will Shafer, and V. B. Colgrove is manager. The past year's business consisted chiefly of stock shipping, but the seed and fertilizer business is steadily growing.

The Munson Cooperative Association did something like 200,000 worth of business last year. Philip Colegrove is manager; S. Venson, president. Will Joughin, I. E. Seathers, Andrew Ferris, N. B. Ferris, Melvin Wright and W. R. Poucher, directors.

At Tecumseh the Cooperative Association does an annual business of a little over \$400,000. The manager is John McIntyre; the president is A. O. Howard. Directors are: John Calhoun, Wm. Wilson, C. H. Bramble, Ernest Daisher and Lee McConnel. The business consists of stock shipping and general farm supplies.

The Adrian Cooperative Association with L. W. Harwood, president, and

E. L. Smith, Frank J. Willett, E. H. Fairbanks, Arthur A. Smith, W. H. Knight and T. C. Elinger, directors, has a turn-over of \$225,000 a year. Live stock and farm supplies are handled. M. W. Farrah is manager.

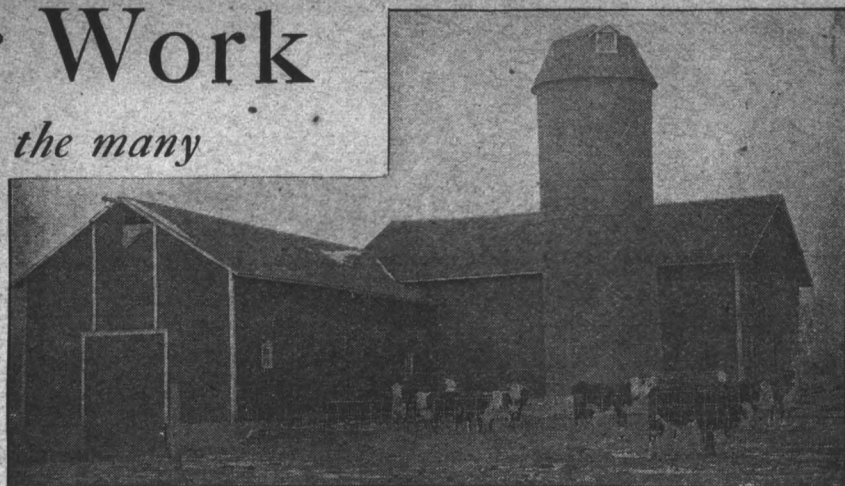
The Clayton Cooperative Association handled \$200,000 worth of produce and farm supplies last year, and expects to do a much larger business this year. D. C. Gage is manager; C. J. Hart, president, and the directors are: N. J. Morey, George McClouth, Ralph Tew, Earl Colbath, M. A. Baker and L. B. Carr.

At Hudson the Cooperative Association handled \$257,000 worth of stock last year. Earl Bates is president, and the directors are: R. H. Wade, M. E. Tripp, Charles E. Osbourn, Lewis Johnson, A. W. Nye and J. L. Beale. This year it is the Farm Bureau receiving station for wool.

ANOTHER institution, the Community Market at Adrian, while not strictly a cooperative enterprise, is representative of the cooperative spirit between the business men and farmers of Lenawee county. It is financed by the business men of Adrian and its purpose is to handle small lots of farm produce on practically a cost basis. Its volume of business is large and the farmers are always assured of a place to dispose of small lots of farm produce which in the aggregate amount to thousands of dollars a month. It is doing a great work in fostering the community spirit in the county. The manager is L. H. Remus.

Seneca and Addison also have cooperative associations which do about \$100,000 worth of business a year. Exact figures were not available from these associations as the managers were not at their offices when we made the rounds.

After visiting some of these prosperous cooperative associations it certainly tries one's patience to hear a lot of poor boobs shouting that farmers don't know enough to manage their own business. Some of these old Thaddeus Holdbacks, who are always pulling in the breeching instead of the collar, should take a few days off and visit some of the modern cooperative organizations and see how the business is transacted. Then they could go home and be of some use to their communities, instead of sitting down and yelping like a hound pup about the poor, abused farmer. It is just such weak-kneed, jelly-spined individuals



The Home of Some of Michigan's Finest Herefords.



Mr. Lawrence's Four-year-old Alfalfa Field at Hudson as it Looked May 26.



Miles Beamer, the Championship Feeder of the Calf Clubs of Lenawee.

who are holding back their communities from making any progress and allowing the other fellow to absorb all their profits.

THE Lenawee County Holstein Breeders' Association is organized for business. The officers are: E. L. Smith, president; L. W. Harwood, manager and vice-president, and C. A. Reed, secretary-treasurer. There are about fifty-five members and twenty of the herds are under federal inspection. Among the active breeders are R. P. Clement, of Adrian, who has for a herd sire Royalton Canary Prince by Canary Mercedes Pieterje Hartog and out of Royalton De Kol Fern with a seven-days' record of 34.6 pounds of butter, 628 pounds of milk. He has sixty-five Holsteins and thirty are the daughters of his herd sire.

C. E. Winnie has fifty-five head of purebreds, headed by King Segis Lakeside De Kol who has ten A. R. O. daughters. Mr. Clement has recently purchased a half interest in Mr. Winnie's herd sire. For a junior sire Mr. Winnie has a King Lyons bull from a twenty-six-pound three-year-old heifer. The farms are at Adrian.

R. A. Baker, of Adrian, keeps about twenty purebred Holsteins and is the third generation of a family of Holstein breeders. His herd sire is Ogden Juffron Butter Boy, a thirty-pound bull and a twenty-seven-pound sire. Mr. C. B. Faler owns a half interest in this sire and keeps about fifteen females.

C. J. Hart has about thirty-five head of purebreds and his herd sire is a thirty-pound son of King Lyons. Mr. Hart's farm is situated near Clayton.

Mr. Will Gallop, of Medina, has the honor of having bred that great cow Lenawee Calamity Pet. Mr. Gallop has some excellent daughters of Johanna Concordia Champion in his herd. He is breeding these cows to a son of Inez Pierteje.

Oscar Carlson began with one Holstein cow, McKinley Beauty, seven years ago, and at the present time he is the owner of one hundred acres of land and has a herd of ten daughters and granddaughters of McKinley Beauty and one of the best herds in Lenawee county. Mr. Carlson's farm is near Adrian.

Fred Knoff, of Blissfield, keeps about thirty purebreds and has Traverse

Dutch Buckeye De Kol at the head of his herd. This bull is a great show animal and Mr. Knoff has some excellent daughters from him.

F. R. Myers has twelve grand females headed by a son of The Mighty Monarch, and whose dam was a daughter of King Korndyke Sadie Vale. N. S. Curtis & Son, of Adrian, have a fine herd, headed by a son of King Pontiac Champion, and from a twenty-six-pound daughter of Korndyke Segis Johanna.

F. S. Layer, E. L. Smith and L. W. Harwood have about seventy-five purebreds, mostly daughters of Royal Ormsby 3rd, King Segis Lakeside De Kol and Korndyke Hengerveld De Kol 9th. They are breeding these females to a son of Pabst King Pontiac Lad, who carries a double cross of King Pontiac Champion, his dam being a daughter of Korndyke Segis Johanna. For a junior sire they are using a line-bred Ormsby bull sired by Sir Ormsby Banostine Champion, a son of Duchess Skylark Ormsby. His dam is a thirty-pound daughter of Sir Pieterje Ormsby Mercedes.

OVER at Hudson we visited E. E. Cole, of Cole & Gardner, breeders of Polled Herefords. Like many other breeders of beef cattle, Mr. Cole found the dairy business too confining and decided to keep beef cattle. Always an admirer of the whitefaces because of their uniformity of color and markings he naturally invested in them. Convinced that the demands of the future will call for polled cattle he is changing his herd over to that type. Some of his polled cows and his herd sire, Renner Bullion, a son of the famous \$9,500 sire, Bullion 4th, and from the good cow May Renner, show the ideal blocky, meat-making type so much prized by the best breeders of Hereford cattle. Two classy heifers from that famous sire, Imp. Constellation, a half-brother of Starlight the bull that sold for \$45,000 in England, are being bred to Renner Bullion, and Mr. Cole is looking for great results. Messrs. Cole and Gardner have three farms and are well equipped to handle purebred cattle. At present they have about thirty Herefords and plan to get in the business on a larger scale during the next few years.

Another interesting breeding farm is the Phillips' Brothers, just out of Riga. Here we found one hundred and twenty-five Duroc Jersey swine of the most popular lines of breeding. Their herd sire, Walt's Orion, is one of the outstanding boars of the breed. His dam is a daughter of the great Joe Orion, one of the really great sires of the breed. Walt's Orion won first prize in the senior yearling class at the Detroit, Grand Rapids, Saginaw and Jackson fairs last fall. The boys have a splendid bunch of sows and nearly all of them are of the large, upstanding type so much in favor at the present time. This spring's pig crop is coming along nicely and the animals that are to be taken to the fall shows are a choice lot. If nothing occurs between now and September they expect to exhibit on the western circuit this fall.

At Tecumseh is the famous Bidwell Stock Farm where they breed some of the best Shorthorns in Michigan. Bidwell has one of the best equipped breeding plants in the country and the owner has spared no pains or money in getting together a herd of excellent cattle. Some of the animals are of Scotch breeding and the bunch of Scotch-topped young stuff has quality to spare. The herd is under federal inspection, and the animals are kept in ideal breeding condition.

OLIVER LAWRENCE, Class of 1910 at M. A. C., is putting into practice on his two-hundred-acre farm some of the things he learned at East Lansing. His herd of twenty grade Holstein cows averaged 7,568 pounds of milk per cow last year. It is a good example of what weighing, testing, culling and the use of a purebred sire will do in improving a dairy herd. The cows are not fed on heavy concentrates and receive only ordinary farm care. The flock of three hundred and fifty White Leghorn hens averaged one hundred and fifty-six eggs per hen last year. Mr. Lawrence has his farm well seeded with alfalfa and alsike, and is convinced that this mixture gives a thicker stand and yields more tons of good hay than when the alfalfa is seeded alone, especially on fields where the soil varies in character. A close student of farm management and an active worker in the Farm Bureau he is

a first-class farmer and an interesting man to meet.

Over near Plymyra, H. H. Driggs keeps two hundred and twenty-five purebred Holsteins and has an elaborately equipped dairy plant. No records have been made with the cows and the business is conducted strictly as a milk-making proposition. The herd sire is King Pontiac Jewel Segis.

W. B. Ford, of Blissfield, invited us to go over his one hundred and thirty-acre farm where he grows clover, alfalfa, wheat and sugar beets, and feeds six hundred lambs a year. Mr. Ford has put in eleven miles of tile-drains and recently he refused an offer of \$320 an acre for the farm. He is one of the leaders in his part of the county.

At Britton we found Thomas J. Rixom preparing one hundred and ninety acres of ground for corn. Three tractors were being used and the work was nearly completed. Mr. Rixom has five hundred and twenty acres of wonderfully productive land. He feeds about one hundred head of cattle, six hundred lambs and two or three carloads of hogs a year. He is feeding a carload of cattle to show at the Buffalo Fat Stock Show along in December.

At Fruitridge we visited some of the dairy farms owned by George B. Horton, who was formerly Master of the State Grange. Mr. Horton has a one hundred and twenty-acre timber lot for which he recently refused an offer of \$80,000 for the timber over one foot in diameter. The farms contain nearly fifteen hundred acres and are operated by tenants on the partnership lease system. At present he is contract agent for the Grange and a member of its executive committee.

AT Blissfield the "Circuit Rider" interviewed the president and cashier of the Jipson-Carter State Bank. The enormous business handled by the banks of Blissfield in financing the cattle and sheep feeding business which had its beginning less than twenty years ago should prove interesting to farmers in communities where good bankers are scarcer than hen's teeth. According to the information furnished by these gentlemen the first carload of feeding steers was unloaded at Blissfield and paid for with money (Continued on page 920).

News of the Agricultural World

PROPOSES COOPERATIVE SUGAR BEET REFINERIES.

NOW that the Sugar Beet Growers' Association's efforts to win a new price scale on the 1920 crop from the sugar refiners by refusing to plant beets have proven vain, the Michigan State Farm Bureau has entered the controversy with an entirely different program intended to obtain for the beet growers a more favorable price for their product in 1921. Efforts will be made by the Farm Bureau to establish cooperative sugar beet refineries in the sugar beet territory between now and the time the 1921 crop is out of the ground.

This announcement was made by representatives of the State Farm Bureau at a meeting of the directors of the Sugar Beet Association when their records for the year were closed. The beet growers' directors appointed a committee to assist in the execution of the Farm Bureau program.

Reports presented at the meeting and a survey made previously by the Farm Bureau showed that approximately only half of the normal beet acreage in Michigan has been planted this year, a condition that is sure to curtail extensively the operation of the dozen factories refining Michigan beets. Labor conditions all through

the beet district are so serious as to indicate that even much of the crop in the ground is not apt to be placed on the market. This labor shortage was one of the main reasons for the demand of growers for a new contract.

A COUNTY SEED DEPARTMENT.

EATON county has established a seed department as a branch of the State Farm Bureau Seed Department. This will operate in the county exactly as the state organization does over the larger territory, keeping its product in quantity sufficient to meet the demand at home and marketing only the surplus outside through the medium of the state office. Requirements will be met similarly.

COAL SITUATION SERIOUS.

EFFORTS are being made by the Marketing Department to arrange to meet the coal requirements this summer of the various county and local Farm Bureaus. The coal situation is a difficult one. The market is distinctly a sellers' demand exceeding supply, and if Michigan farms are to obtain coal necessary for threshing and other uses this summer, in full measure, indications are that they indeed will be fortunate. It is not so

much a question of price, as getting the coal. Units are urged to ascertain what they can do locally in purchases, advising the state office as to price and quality of coal obtainable. The price of the coal the State Farm Bureau will purchase will be at the prevailing market figure. Units desiring the Marketing Department's aid in the purchasing of coal should communicate that fact as early as possible, together with definite orders, the only basis upon which the department can do business.

BILL FOR STUDY OF MARKETS ABROAD FOR FARM PRODUCTS.

A BILL establishing a commission to investigate conditions in foreign countries relative to markets for agricultural products of the United States has been introduced in the senate by Senator Smith, of South Carolina.

The bill provides that a commission of five members shall be appointed by the President, two of whom shall represent the portion of the country where wheat, corn, or cattle are grown or produced; two shall represent the cotton section, and one, the portion where cotton or cotton products are manufactured. Each shall receive a salary of \$5,000.

It further provides that the commission shall investigate conditions in foreign countries relative to the creation, expansion, or development of markets for products of the United States, such as wheat, corn, cattle, and cotton and products thereof and shall determine, as far as possible, the manner and means for creating, expanding, or developing such markets.

FARM BUREAU KEEPS BUSY.

WOOL is coming into the Farm Bureau warehouse at Lansing in such large quantities that arrangements have been made for the securing of another building in the capital city. Already more than a half million pounds of wool have been assembled for the pool, indicating that early estimates of a total pool of two million pounds were ultra-conservative. Farmers of forty-seven counties in the state are cooperating in the pool, the first ever attempted on a statewide scale in Michigan.

Definite arrangements for the operation this year of a State Cooperative Elevator Exchange will be made June 29-30 at East Lansing, when representatives of the memberships of twenty cooperative elevator associations will be called together by the State Farm Bureau. A preliminary meeting was held two months ago at Saginaw.

Increasing Bees Without Swarming

By Hy W. Sanders

UNDER the conditions that used to apply in years gone by, the bees that inhabited the straw skeps, or box hives kept by our fathers, lived their lives in peace, undisturbed by any interference from the beekeeper. All that individual had to do was to sit and watch the coming and going of his little servants, and when a swarm issued from a hive to persuade it, by means known to every beekeeper, to enter and occupy a spare hive. Then when the honey season had passed, the heavier of the hives were set over a pit and the bees killed with sulphur so that the honey could be cut out and used. In many an old farmhouse in Ontario today can be found a pile of hives up in the attic, from which honey can be cut with a knife, and the bees of which were killed off in this way. The system is simple and easy, and the only objection to it is that whereas ten to fifteen pounds of honey used to be considered a fair crop, under modern methods we can get eighty; one hundred, or even in a good season, one hundred and fifty pounds of honey from a single colony and at that we do not need to kill a single bee.

To do this, however, we have to prevent swarming. Every up-to-date beekeeper knows that the hive that does not swarm is the one that will head the list in honey production, and most of the methods of management used in modern bee-culture revolve around the problem of swarm control. The bee has two dominant instincts, that of honey gathering and that of swarming, the latter being the mode of natural reproduction. If we prevent swarming, they will continue to gather honey without stopping, and it is under these conditions that the large crops are secured.

It has been found that when too great a number of colonies of bees are kept in one locality, there is trouble owing to overcrowding. Bees will fly a couple of miles for nectar, but even within that radius they will begin to crowd each other if more than a certain number of colonies are kept in one place. When it is considered that a strong colony numbers about thirty thousand bees it will be seen that hundreds of colonies need many miles of country as "pasturage." The large beekeeper produces honey by the carload and to do this he needs to

keep colonies of bees in hundreds, and even in thousands, locating them in yards of from fifty to one hundred colonies three or four miles apart, according to the locality, and traveling around to work them in an automobile.

It would be impossible for beekeepers upon this scale to allow natural swarming. They cannot be present in all their yards and to maintain a man at each yard would be a great expense. Every swarm that issued would fly off and be lost, and with it most of the expected crop of that season. So here again the problem of swarm control has to be considered.

"How do you stop them from swarming," is a question often asked and when the methods outlined are explained, "How do you increase your bees, if they cannot swarm?" Even under the best of conditions there will be some lost in winter, and there is

size colony by making three colonies into four, or four into five, by taking a couple of frames of brood and bees from each and putting them into an empty hive, giving the new colony a queen or queen-cell as before.

Queens are sold regularly by the breeders, and many beekeepers find it best to send away and buy them. They come through the mail in little cages, and the breeder guarantees safe arrival. If they are purchased, it is a very easy matter to make an increase. On the other hand, if one has time it is not very hard to raise queens. The hives should be regularly gone through in the early summer, and the presence of queen cells on the combs indicates that the bees are preparing to swarm. This inspection should be made at least once a week and when a colony is found in this condition the bees may be shaken or brushed off the

are needed for making increase as described above will any cells be kept, in all other cases they should be destroyed. Where needed they may be kept a few days till sealed over, and then they can be given to the new hives.

When handling queen-cells care should be taken that they be not jarred or shaken at all, for the queen inside will surely suffer if handled roughly. They must not be chilled or exposed to the hot sun, and they must be introduced to bees that are in the right state of mind to receive them. Now that seems like a large order, but in reality it is very simple. Here is the plan that we use in our own apiary and it is nearly always successful.

When "swarming time" has arrived we shake the bees off as described, and kill all cells except a few from the best queen. These we leave in the upper story of her hive to mature. Three days later we take frames of brood and bees and make our hives up, placing them where they are to remain permanently, and closing the entrances with grass, stuffed in tight, so that the bees can return to their old homes. The next day we take the brood combs from the breeding queen, each with one or more queen cells, and carefully distribute them to the new colonies. These bees will eagerly accept them because they have been queenless for a day, and we are careful to keep the cells from heat, cold, or rough handling.

The new hives are just left as they are, and in time will release themselves as the grass in the entrances withers. By this time they have forgotten their old home, the young queen will have hatched out, and in due time will mate and lay eggs. If this process is carefully attended to as good colonies as were ever obtained from swarms will be the result.

The number of combs taken for each new colony varies according to the season. At the opening of the summer two frames will do, but as the season shortens more must be taken as they will have less time to build up. In July we generally take three, early in August four, and after August 10, only full colonies are made with six or more frames. It is useless going into our long northern winter with a weak hive for it will be sure to perish.



In Large Commercial Apiaries the Hives Are Often Arranged in Groups.

usually a need for expansion, so that we want to make new colonies artificially.

Two ways are used by the big beekeeper to make increase. In one he makes little colonies called nuclei, consisting of two or three frames of brood and bees, to which a queen-cell or queen is given, and which, if made early in the season will grow into a full size colony in time for winter. The other method is to make a full

combs onto empty ones, or sheets of foundation, and the brood put above a queen excluder in the upper part of the hive. This will prevent swarming and as the young bees hatch out the cells will be filled with honey and can be extracted later. Care must be taken, however, that no queen cell is allowed to mature on these combs, for if a young queen should emerge it might cause the colony to swarm in spite of all precautions. Only where queens

Feed Prices and Prospects—By Sanders Sosland

FEEDERS have abundant reason for balking at current high prices for feedstuffs. Their objection to paying high prices for feeds is growing. Whether it will result in a lower market in coming months is, however, a mooted question. The fact that money is tight and that deflation in business has begun in earnest are favorable to lower prices. Another influence which increases the hope that values will turn down is the broadening use of pastures over the country and the consequent reduction in consumptive demand for feeds. Lower prices for cattle and hogs also are bearish. But the transportation situation is adverse to the righting of prices on feeds to a level in line with the returns from the live stock and dairy products.

Harvest of new crop feeds has begun in a small way, which, together with the ripening of pastures, has augmented the supply of commodities used in live stock feeding operations. Cutting of the first crop of alfalfa in the south-

west will soon be completed over the entire producing territory, and the hay of the 1920 crop now is moving marketward, though only in a small way at this time. Advent of the movement of new alfalfa is usually a sign of a readjustment in prices. Hay markets already are undergoing such a change.

Why do feeders continue to pay abnormally high prices for feeds in the face of depression in live stock markets? In recent months this query has been quite often heard. A perplexed bear, who had placed so much confidence in his belief for lower feed prices because of the sharp declines in cattle and hogs, is seeking light on the question. He has wondered why the feeder continued to buy feverishly in the face of heavy losses that have been suffered on fattening operations. Apparently the feeder is now beginning to see light, indicated by the fact that stock hogs, which normally command a premium of about \$1.00 per hundredweight on markets at this sea-

son over fat hogs, now are being offered freely at a discount of approximately \$1.50 to \$2.00 per hundredweight under matured weight hogs. Stocker and feeder cattle also have recently declined sharply. While the strained credit situation is an important factor tending to reduce purchases of live stock for feeding the anomalous position of feeds is discouraging any broadening of beef-making activities. This is being felt more and more in feed markets, not only bringing about reduced demand for feeds on markets, but allowing a larger surplus of feeds in the country flow into commercial channels.

CORN is fluctuating sharply, but advances predominate. The grain in the past few weeks sold well above \$2.00 a bushel, \$2.17 having been paid by feeders in Chicago. The advance is accounted for by the same explanation that has been used since values began soaring upward late in the win-

ter season. Congested transportation its resulting strain on markets, lack of corn in terminal elevators and insufficient receipts to meet the current demand, is the answer. The situation has not materially changed. A sharp break in prices, amounting to about twenty-five cents a bushel in a single week, resulted from an order by the Interstate Commerce Commission at Washington requiring eastern and southern lines to provide a total of six hundred and sixty empty cars daily to western roads for thirty days. Without attempting to analyze the car order, market operators rushed to sell corn, both cash and the deferred deliveries, fearing a heavy movement of the grain to terminals. The trade recognizes that only lack of cars is holding up the market, and any action tending to relieve the strain causes selling pressure. The speculative interests, however, failed to closely analyze the order. No preferential treatment is re-

(Continued on page 918).

Farmers Neglected by Congress

Lawmakers Fail To Get Some Needed Measures on Federal Statute Books.

FOR several days prior to the adjournment of congress it was apparent to observers here in Washington that the four or five important agricultural measures for which the farm organizations have contended throughout the long session, would not be passed. It is true the house on Memorial Day, by a vote of two hundred and thirty-three to fifty-eight, passed the Volstead farmers' collective bargaining bill and it was sent to the senate. And by unanimous vote the senate agriculture committee ordered a favorable report on the Wadsworth-Kahn bill authorizing the operation by the war department of nitrate fixation plants at Muscle Shoals and Sheffield, Alabama, through a corporation to be organized under the direction of the secretary of war. This bill has had to meet strong opposition in the house, but it is believed that this would have been largely removed if it had provided for the naming of the commission by congress or by the farm organizations.

Congress has had a long drawn out session, characterized by much discussion and playing politics, with little accomplished in beneficial legislation. More than nine hundred bills have been introduced. Of these only a few more than three hundred have become laws, and they are mostly appropriations for bridges, individual pensions, relief for contracting companies and other local objects. The Cummins-Esch railroad law returning the railroads to their owners is probably the most important act in which farmers are especially interested.

With nearly six hundred bills on the calendar to be acted upon less than a week before the date set for adjournment, and every one of these bills backed by a senator or representative, or a faction demanding attention, it could be readily seen that there was little chance for agricultural legislation, although the farm organization representatives have made a strong fight up to the very last day of the session.

A number of new propositions are being promoted here which will undoubtedly be presented in congress next fall and are worthy the attention of farmers and discussions in farm organization meetings.

A REPRESENTATIVE of the fruit and vegetable shippers has come before the Interstate Commerce Commission with a proposal to finance the needs of the railroads for refrigerator cars, on plans for the apportionment among the carriers of the \$300,000,000 revolving fund provided by the government. He suggests that the commission authorize the formation of a corporation along the lines of the Pullman Company to procure the needed equipment and have charge of the distribution of refrigerator cars in facilitating crop movements. It was explained that such an arrangement would remove the necessity of many refrigerator cars lying idle during the off season, and give more efficient service in all sections during the shipping season. It was agreed by E. V. Brown, chairman of the equipment committee of the Association of Railway Executives, that such a corporation might be successful during the present emergency.

Senator Edge, of New Jersey, proposes legislation that will place the vice-president in charge of the national budget, which is to be developed by the government, making his office one of greater usefulness and importance.

Governor Allen, of Kansas, recently appeared before the senate labor committee, and urged the establishment of a federal court of industrial relations similar to the Kansas industrial settlement court. It is evident that the people will demand legislation providing for protection from strikes which paralyze and tie up transportation systems. Labor organizations are opposing both the Kansas industrial court and Senator Poindexter's anti-strike bill. But when a railway chief comes before the public and declares that he will feel compelled to refrain from trying to prevent the men from striking unless they are awarded a minimum wage of \$2,500 a year, there is a sentiment developing quite strongly in and out of government circles, that the country will demand one or the other of these alternatives, an industrial court in which all labor disputes on transportation systems must be settled, or an effective anti-strike law. The Poindexter bill as reported by the senate interstate commerce committee, would make a felony of any proven intent to obstruct or prevent the movement of commodities in interstate commerce by persuading persons to quit work or by destroying property, and would provide for the punishment of persons who through violence or threats, prevent employees from continuing work. The anti-strike provision of the Cummins railroad bill as added to the Poindexter bill, would prohibit two or

more persons from conspiring to bring about a strike that would tie up interstate commerce.

A RESOLUTION introduced by Senator Cummins, of Iowa, calls upon the naval affairs committee of the senate to inquire into the advisability of the United States government owning and operating coal fields capable of supplying fuel for the navy, the army transports and the merchant marine. This plan, like the Muscle Shoals nitrate plant, is proposed as a measure of national defenses as it would insure the government a supply of fuel at all times and at a minimum cost. The supply of gasoline and oil is running short, and therefore this government coal mine development could be a measure of conservation, leaving the gasoline supply for motor use.

It has been suggested to the naval affairs committee that coal fields adjacent to the Virginian railway in West Virginia be purchased by the government along with the railroad which extends to the naval base near Norfolk. There are 125,000 acres of coal lands which are undeveloped, and fifty-six operating coal mines, that can be purchased, and would, it is estimated, furnish four billion tons of coal. The government is now paying \$6.25 a ton for this grade of coal. It has been shown by experts that if the government owned the coal road to the seaboard, it could put the coal into the hold of its warships at Norfolk at

\$4.20 a ton. It is claimed that this proposed plan will come before congress for action next winter.

THE need of a better system of loans and credits for farmers was very emphatically impressed upon the senate finance committee a few days ago, by representatives of farm organizations. Senator Capper, as spokesman for the farmers, said that discount rates recently established by the federal reserve board are pinching farmers and in Kansas are forcing them to pay nine per cent for their money. "Our pastures are empty in many places, a condition which has never existed in Kansas before. Farmers cannot afford to borrow at present interest rates," said Senator Capper.

In its report just made public, the agriculture committee of the republican party's policies, of which Senator Capper is chairman, urges that a national commission be appointed to coordinate all rail, water and motor transport with adequate facilities for receiving, handling and transporting food between cities. The importance of this proposal is emphasized by the present situation of the New York state barge canal. This great waterway, with magnificent harbors in the cities through which it runs, constructed at a cost of hundreds of millions, is practically idle. Few boats disturb its waters. Its harbors are unoccupied. This condition is due to the fact that the terminal railroads, although congested with western freight, refuse to turn it over to the canal for shipment. It is argued that a law which will compel the practical coordination of rail, canal, river and motor traffic will be an effective means of improving our transportation service and prevent freight congestions and embargoes.

The Farmers' National Council, which maintains headquarters in Washington, has sent to each of the two leading political party national committees a statement of policies which it asserts is endorsed by 750,000 farmers. The main plank in this platform declares for government ownership and control of railroads and government ownership of the merchant marine. Other planks are the "restoration of personal liberty" by repeal of the espionage and sedition acts, exempting farmers' cooperative organizations from prosecution under the anti-trust laws, and a tax on land and other natural resources held for speculation. Whether the author of this platform had in mind the Nolan Land Tax bill in his reference to this matter I cannot say, but it is a fact well established that the representatives of the Farmers' National Council are closely allied with the American Federation of Labor leaders, among whom are Congressman Nolan, introducer, and Attorney Ralston, author of the Nolan land tax scheme.

FEDERAL control of wheat products ended June 1, which means the passing of the government guarantee of \$2.20 a bushel for wheat established during the war. As soon as a few existing contracts with dealers are completed the United States Grain Corporation will wind up its affairs and pass out of existence. Dealers, except those having contracts at fixed figures, are now free to buy and sell at such prices as the market demands. The grain corporation has operated at a small profit. A powerful effort was (Continued on page 923).

Yellow Jacket---

Watch Out For It!

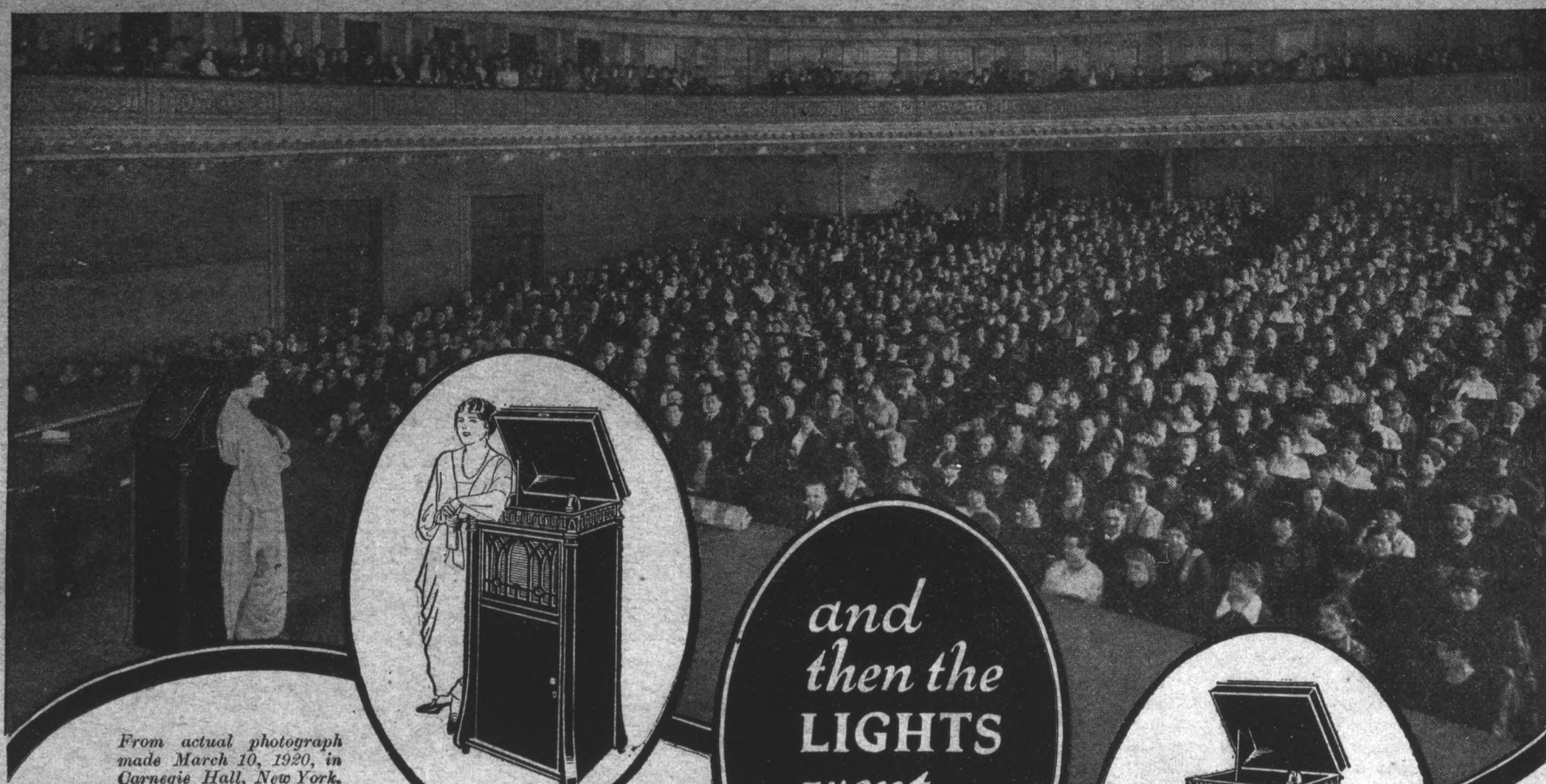
FARMERS throughout the state, or at least throughout the lower half of the lower peninsula, should be on the watch now for the plant known variously as Yellow Rocket, Winter Cress, Bitter Cress, Saint Barbara's Grass, etc. This is a weed which has been introduced into Michigan during the past few years, but which has spread very rapidly in a short time.

The plants are beginning to head out now and resemble bunched, very much branched mustard plants. The leaves are shiny, and somewhat divided, and the flowers are exactly like mustard flowers except for their considerably smaller size. Mustard, however, will not be in flower for six or eight weeks or more and will then have a single tap-root and one main stem with comparatively few branches. Yellow Rocket, on the other hand, has many large, heavy roots, and usually from three to a dozen or more stems, each very much branched. The number of flowers produced is enormous, the seeds ripening from the tenth of June until the end of that month, rarely longer. A good-sized plant, by no means of unusual size, will produce over three hundred thousand seeds. These seeds mostly germinate during the summer or fall, producing tufts of shiny, dark green, somewhat divided leaves, but without any visible stem. These leaves live over winter. In England and other parts of Europe on Saint Barbara's Day, December 4, the people go out and dig up this plant for greens, sometimes digging away the snow in order to find it. This accounts for the name Winter Cress, Saint Barbara's Grass, etc. When spring comes the plant has a thick crown and well-developed roots and is able to start

growing as soon as the weather begins to warm up.

Because of the large number of seeds produced, one plant allowed to go to seed will sometimes seed down a field so thoroughly that thousands of plants will appear the next year. For this reason it is highly desirable that steps be taken now before the seeds are matured, to destroy whatever plants are not easily pulled up, but are best spudded out with an implement like a duck spud. A few hours of labor may mean the saving of days of work next year. Mowing will not prevent the plants from seeding, as the lower branches are horizontal below the level of the cutting bar on the mowing machine so that although the top of the plant may be cut off these lower branches produce large numbers of seed. Although the plant usually dies after the seeds are mature, if it is continually cut off as in mowing the plant may remain alive throughout the season and live over until next year to produce its seeds then. When the seeds are ripe many of the pods remain on the dead stalk which breaks off and may blow around in the wind for some distance, scattering the seeds as it goes. The writer observed this in one garden in East Lansing, where the plants from a neighboring field blew over and lodged in a row of string beans. That fall there were thousands of young plants of the Yellow Rocket where the bean row had stood, and next year there were a great many plants to be dug up to prevent their going to seed. The leaves are so smooth that poisonous applications, such as are used for wild mustard, slip right off and are mostly ineffective.

E. A. BESSEY,
Professor of Botany, M. A. C.



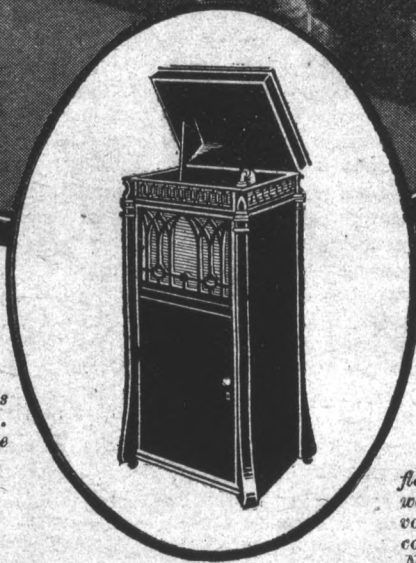
From actual photograph made March 10, 1920, in Carnegie Hall, New York.



Miss Case stood beside the New Edison and sang.

and
then the
LIGHTS
went
OUT

The lights went out. Case's voice continued.



The lights flashed on. Case was gone. Her voice had been coming from the New Edison.

The miracle at New York City

Great audience of 2,800 people couldn't tell which was singing—the New Edison or Anna Case. Startling "Dark-Scene" Test ends in overwhelming triumph for Mr. Edison's new phonograph. James Montgomery Flagg tells the story.

(See New York papers of March 11th: "Times", "Sun and New York Herald", "Morning Telegraph", "Evening Mail", "Evening Sun", "Globe" and "Evening Telegram".)

Suppose you could have in your own home a phonograph exactly like the famous Official Laboratory Model which triumphed in this startling test!

—a phonograph that had actually rivalled one of the world's greatest sopranos!

—a phonograph which, by its marvelous art, had kept 2,800 New Yorkers glued to their seats!

Well, it was just a regular Official Laboratory Model which Mr. Edison used in this astonishing proof of the New Edison's realism.

Carnegie Hall, New York

On March 10th, 1920, in Carnegie Hall, New York City, the great event came off. Anna Case, the superb American soprano, was there; she had been asked by Mr. Edison to make the test. Noted music critics, newspaper men and James Montgomery Flagg were there; they had been asked to witness the test.

The famous auditorium was packed to its top-most gallery. Curiosity ran high. Everybody was wondering what Mr. Edison was going to do.

Mr. Flagg's Story

"A pleasant gentleman in an Ascot tie," writes Mr. Flagg, "introduced the phonograph, which

stood unemotionally in the center of the stage. Then Miss Case. She draped her beautiful self in an almost affectionate posture against the phonograph. One of her own song recordings was put on the instrument, and they, Miss Case and the phonograph, sang together. Then she would stop, and her other self would continue—then together again—I looked away and then back again—and it puzzled me to determine which was at the bat! She sang a charming duet with herself, too—one of them doing the alto business—I couldn't say which.

"Then the tallest pianist in the civilized world, sometimes called Victor Young, played a charming thing, accompanied by himself via the phonograph—lifting his fingers away from the keys now and again. I could SEE him stop playing, but I couldn't HEAR him stop. It was remarkable.

The Dark Test

"Then the big stunt of the recital—the dark scene.

"Miss Case began singing with the phonograph. At a certain stanza, the house was suddenly darkened. The song went on. I was shooting out my ears like periscopes to detect the second when she would stop and leave the stage. I was sure I got it! But she seemed to be back again! Then I knew I was being completely deceived.

"The flood of light came on again—but no Anna! Only the self-possessed and urbane phonograph standing there, singing away.

"It was quite wonderful. The audience applauded. Two girls behind me said, 'Goo-gracious!' It was both charming and astonishing."

—James Montgomery Flagg.

Guaranteed Duplicates

You can have an instrument every bit as good as the one that performed so wonderfully in Carnegie Hall.

The instrument used in Carnegie Hall, New York City, on March 10th, 1920, was an exact duplicate of Mr. Edison's original Official Laboratory Model, which cost him three million dollars to perfect.

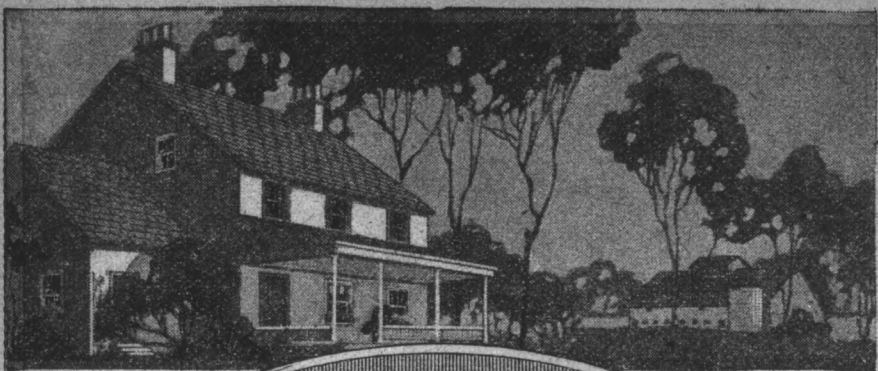
Your local Edison dealer also has a duplicate of this famous three million dollar original. He'll be glad to show it to you. What's more—he'll guarantee this instrument to be able to sustain precisely the same test as that made at New York City on March 10th.

Look in your local newspaper for your Edison dealer's advertisements. Take the whole family along when you go in to see the famous Official Laboratory Model.

NOTE—If you don't know who your nearest Edison dealer is, drop us a postal. We'll tell you his name and address, and mail you, with our compliments, a copy of that fascinating book, "Edison and Music."

THOMAS A. EDISON, Inc., Orange, N. J.

The NEW EDISON
"The Phonograph with a Soul"



Horse Sense about Roofing—

ROOFING that won't last isn't worth putting on. For it takes just as much time to lay a "roof-peddler's bargain" as it does to lay the best roofing your money can buy. And the cost of labor is a big item these days.

The only way to get your money's worth is to use roofings that are sure to give you long service. That's horse sense, isn't it?

You can't go wrong if you use Barrett Everlastic Roofings. They are made of high-grade waterproofing materials and have back of them sixty years of manufacturing experience.

They sell at a low price, and you have your choice of four styles described below—suitable for all kinds of steep-roofed buildings.

Everlastic "Rubber" Roofing

A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. It is easy to lay; no skilled labor required. Nails and cement in centre of roll.

Everlastic Slate-Surfaced Roofing

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

Everlastic Multi-Shingles (4 in One)

Made of high-grade thoroughly waterproofed felt and surfaced with crushed slate in beautiful natural slate colors, either red or green. Laid in strips of four shingles in one at far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

Everlastic Tylike Shingles

Made of the same durable slate-surfaced (red or green) material as Everlastic Multi-Shingles but cut into individual shingles, 8x12 1/2 inches. Laid like wooden shingles but cost less per year of service. Need no painting.

Write nearest office for free booklets descriptive of the style you prefer.

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These buildings covered with
Everlastic "Rubber" Roofing.



MINERAL HEAVE COMPOUND
CURES HEAVES
Bottle Free
\$3.25 Box guaranteed to give satisfaction or money back.
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NEWTON'S FOR HORSES, CATTLE, HOGS.

HEAVES, COUGHS, COLDS,
DISTRESS, INFLUENZA,
Choke Hooves by correcting the
cause—Indigestion. Prevents
Colic, Staggers, etc. Best Con-
ditioner and Worm Ex-
peller. Three large
cans guaranteed to
cure Heaves or money refunded.
\$1.00 and \$1.50 per can (Includes War Tax). At dealers or
mail. Largest packages. Dose is small. Cheapest to use.
THE NEWTON REMEDY COMPANY, Toledo, Ohio.

SELDOM SEE

a big knee like this, but your horse
may have a bunch or bruise on his
ankle, hock, stifle, knee or throat.

ABSORBINE
TRADE MARK REG. U. S. PAT. OFF.

will clean it off without laying up
the horse. No blister, no hair
gone. Concentrated—only a few
drops required at an application. \$2.50 per
bottle delivered. Describe your case for special instructions,
and Book & R. free. **ABSORBINE, JR.**, the anti-
septic liniment for man, horse, dog, cat, etc., reduces Painful Swellings,
Enlarged Glands, Wens, Bruises, Varicose Veins; allays
Pain and Inflammation. Price \$1.25 a bottle at druggists or
delivered. Liberal trial bottle postpaid for 10c.
W. F. YOUNG, INC., 288 Temple St., Springfield, Mass.

The Water Supply for the Farm

(Continued from first page).

the house and barn and about the farm, and from the pump must be carefully determined so that loss of efficiency due to head and friction may be low. Suction to pump at its open end in the reservoir must be provided with a foot valve and check valve, with valve placed upon the discharge close to the pump.

The elevated reserve supply may be retained in a masonry reservoir built at some high point upon the property, from which a gravity flow to the points demanding service may be obtainable, or it may be built of wood or steel, elevated to the desired height upon a suitable structure, as shown in Fig. 2, and located at any suitable point. The capacity must be such that there may

always be maintained a reserve supply for three or four days' use in case of the latter, and at least a week's supply in the case of the former, but which in the case of the latter should not be of smaller capacity than eight hundred and fifty gallons. The superstructure for sustaining the tank may be of steel, if the tank be of large dimensions; of wood or pipe if the size be moderate. It must be well built, to easily sustain the imposed weight of the tank and contents, and resist any wind pressure. The tank must be provided with a frost-proof conical cover with scuttel, shown in Fig. 2, separate, frost-proof, valved

The mechanical principles involved in the simple pump are most elementary and consist of a cylinder, with inlet and outlet connections, which are provided with check valves, and through which cylinder actuates a piston rod with piston head at end, containing valves which open with downward stroke and close with upward.

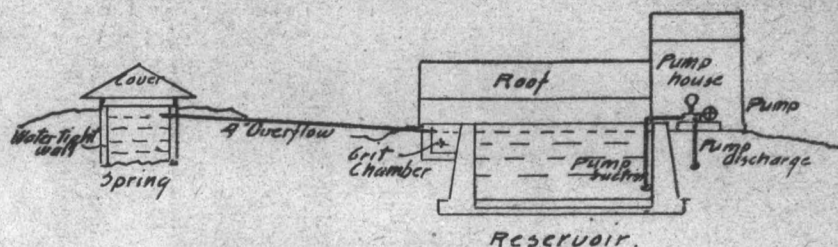


Fig. 1.—Spring and Reservoir with Pump.

always be maintained a reserve supply for three or four days' use in case of the latter, and at least a week's supply in the case of the former, but which in the case of the latter should not be of smaller capacity than eight hundred and fifty gallons. The superstructure for sustaining the tank may be of steel, if the tank be of large dimensions; of wood or pipe if the size be moderate. It must be well built, to easily sustain the imposed weight of the tank and contents, and resist any wind pressure. The tank must be provided with a frost-proof conical cover with scuttel, shown in Fig. 2, separate, frost-proof, valved

THE oldest, simplest and most economical method of pumping of modern times is by means of the windmill, but its source of motive power is unreliable, necessitating a large reserve supply.

The red hot-air pumping engine of our boyhood days has given excellent service, is simply built and fairly efficient in operation, but has been generally superseded by more modern equipment.

Pumping by gas engine motive power has become most general. It is simple in construction and economical and efficient in operation. It should be used in conjunction with a triplex power pump, but may also be employed in connection with deep well work. The pump may be driven from the engine through reduction gearing or belting, the latter being less noisy.

The use of electricity as the motive power for pumping is most ideal, is usually available at all times, and is under absolute and instant control.

Raising water by means of the centrifugal pump is rarely used for small units, but is most popular for broad irrigation work upon a large scale, where suction lift is low. It is most economical in operation and is usually used in conjunction with an electric motor.

The pressure system of water supply for the entire farm where the points demanding its use are somewhat separated, has not been found efficient or economical, but it has a wide demand where the area of its use is limited. It is most simple in construction, can be placed in any desired location, under certain conditions, is practically automatic in operation, but in appropriate sizes for work to be performed will be found to cost more to install and maintain. The apparatus consists of a steel retaining cylinder, which is automatically kept filled and under pressure by an electric motor and pump mounted upon the same bed plate. The method of operation is sim-

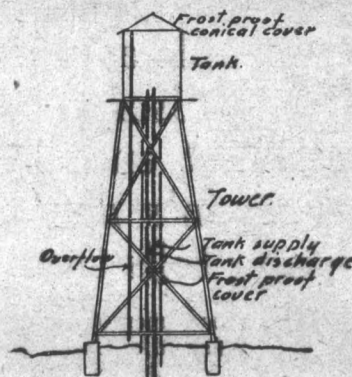
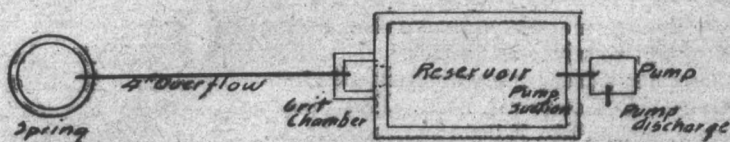


Fig. 2.—Elevated Tank and Tower.

supply and discharge pipes through the bottom, and overflow, which must extend to the ground.

TO lift water to the desired elevation, pumping will have to be employed. The pumping equipment best adapted for the problem under consideration will have to be carefully studied, so that the highest efficiency with low cost may be obtainable. There are a variety from which to choose, which differ but little in principal with the exception of the centrifugal pump.

It is good judgment to place the equipment in close proximity to the reservoir, or suction supply, for effi-



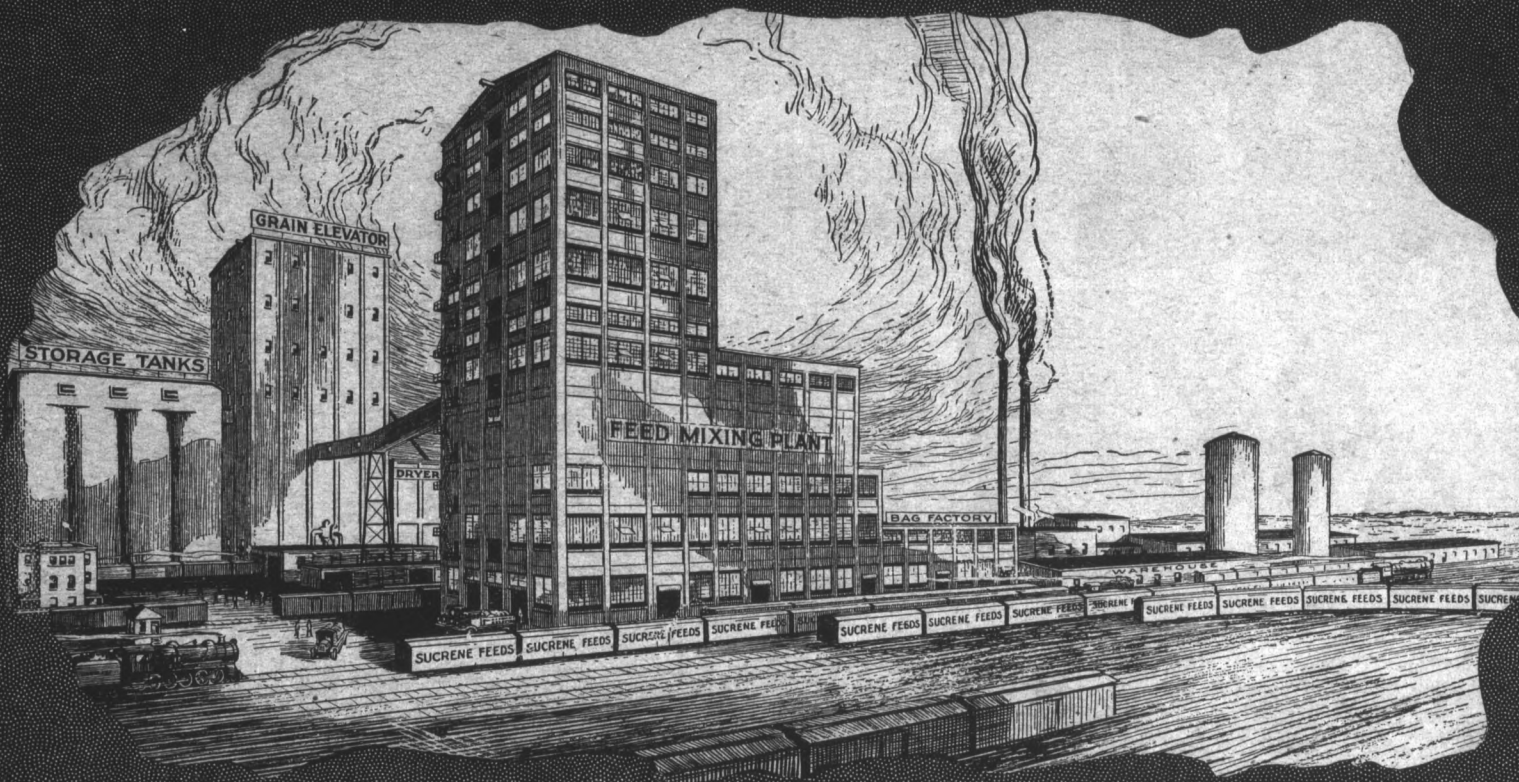
Section of Water Supply.

ciency in operation, and that both may be housed under one roof for protection against freezing and mischief. The air, which maintains the desired vertical distance between the inlet of the suction pipe and suction connection at the pump for economy of operation should not exceed twenty feet. The sizes of suction and discharge to

(Continued on page 923).

When You Write to Advertisers Please Say "I Saw Your Ad. in The Michigan Farmer."

NEW PLANT FOR SUCRENE FEEDS



OUR new \$2,000,000 plant is now in operation. It has a capacity of over 1,000 tons daily and is the largest and most modern exclusive mixed feed mill in the country.

This plant takes the place of the one destroyed by fire January 1, 1919; and to guard against a repetition of such a catastrophe, the new mill and all accessory buildings—elevator, storage tanks, bag factory, warehouse, etc.—are built fireproof of concrete and steel.

In the design, construction and operation of this plant we have provided for all the most advanced appliances and processes which science, mechanical skill and long manufacturing experience have developed for the economical, large-volume production of uniformly high quality feeds which can be sold at money-saving prices to stock feeders.

Sucrene Feeds are pioneers—the first feeds regularly manufactured according to approved scientific feeding formulæ, combining grain and grain products, with molasses for maximum palatability, digestibility and nutrition. Today Sucrene Feeds represent twenty years' devotion to the gospel of more productive and more economical feeding of live stock and poultry; twenty years of specialization to create and maintain a high standard of quality in ready-to-feed rations; twenty years of investigation and care in selection of materials, practical application of latest scientific discoveries by experts in animal needs and nutritive value of materials; invention and adoption of improved machinery for accurate mixing of dependable rations for specific feeding purposes.

20 Years' Success Proves Quality

Sucrene Feeds have a national reputation for promoting animal health and thrift, and for bringing maximum results per dollar of feed cost—in milk, veal, pork, beef, horse power and poultry products. Every sack of Sucrene Feed must conform accurately to the specifications called for by our experts, who know animals and feeds.

Among the materials of unquestionable nutritive value used in the various Sucrene Feeds are corn, oats, wheat, buckwheat, barley, cottonseed meal, linseed meal, alfalfa meal, cocoanut

meal, peanut meal, distillers' dried grains, wheat bran, molasses, corn feed meal, corn gluten feed, bone meal, blood flour, dried buttermilk, malt flour and soluble starch.

Try Sucrene Feeds. You will find them more profitable than ordinary feeds. Ask your dealer about them. If he cannot supply you write us and we will see that your order is filled promptly. The coupon or a post-card brings you free information on any Sucrene Feeds in which you are interested.

AMERICAN MILLING COMPANY
Dept. 44
Peoria, Ill.

Summer Feeding of Dairy Cows

"The cow's stomach cannot contain grass enough to supply the required nutrients for maximum milk production; therefore a part of the ration should be of a more concentrated nature." Bulletin No. 743, U. S. Dept. of Agriculture.

Cows fed Sucrene Dairy Feed while on pasture show a heavier milk flow, not only while pasture is greenest, but the effect of summer feeding of Sucrene shows itself in greater milk yield all through the year.

Sucrene Dairy Feed backs up the stimulating effects of grass with substantial milk-making and body-building nutrients. It is composed of prime cottonseed meal, wheat bran, linseed meal, cocoanut meal, corn gluten feed, corn feed meal, ground and bolted grain screenings, clipped oat by-product, molasses, salt and calcium carbonate.

Drive your cows home to a ration of Sucrene Dairy Feed every evening. You'll find it a profit making practice.

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Dept. 44 Peoria, Ill.

Please send me illustrated literature on feeds checked below:

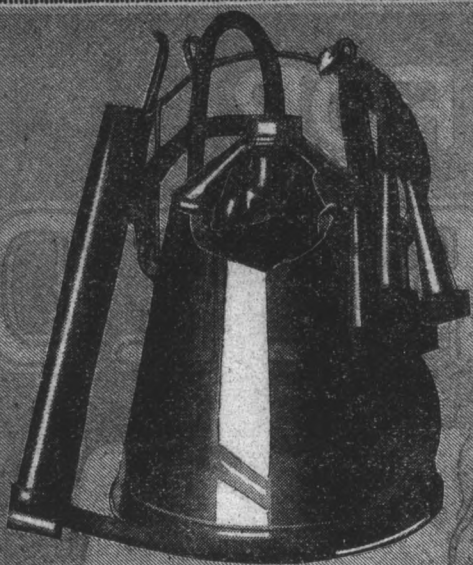
Sucrene Dairy Feed	Sucrene Calf Meal
Sucrene Hog Meal	Sucrene Poultry Mash
Empire 20% Dairy Feed	Sucrene Scratch Feed
Amco Fat Maker (for steers)	Sucrene Chick Feed
	Sucrene Horse Feed

My Dealer's Name

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My Name

P. O. State



The Secret of Simplicity

The patented Valve-in-chamber of Hinman Milkers and the Individual Pumps are the "secrets" of the extreme simplicity and efficiency of the Hinman. The Valve-in-chamber works automatically by suction of gravity—it can't fail. There isn't even a *spring* to wear or get out of order; and it is as easy to clean as a glass tumbler.

HINMAN MILKER

The milker with the gradual suction and complete stopping of suction, that is so comfortable and natural to the cows. With the simple teat cups, a size to fit different cows, and so easy to keep clean and sanitary. Lower in cost than others because it requires no big stationary pump, vacuum tank, gauge, relief valve, pipeline or pulsator. That, too, is why the Hinman requires far less power to operate than others.

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Time flies—make every minute profitable by using labor saving methods. Put a silo on your farm and get double the results from every acre.

Put a Saginaw on your farm. Anyone of the four different Saginaws will pay its way the first year.

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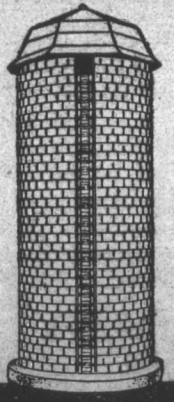
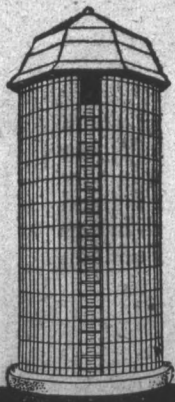
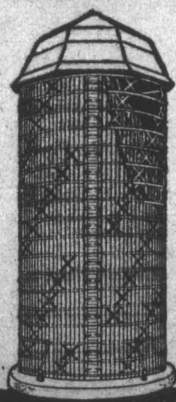
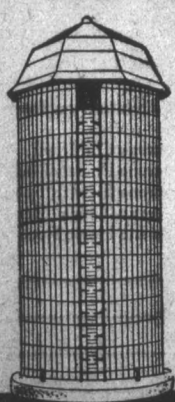
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Wood Stave
with Cross-Ties

Saginaw Ladder
Wood Stave
Silo

Saginaw
Purified
Clay Silo



Mention The Michigan Farmer When Writing to Advertisers.

Our Service Department

FERTILIZER FOR POTATOES.

I have a five-acre field of rye stubble which has raised a crop of beans since a clover sod was plowed down, but has not had manure for several years. I wish to plant this field to potatoes. Have no manure so will have to buy commercial fertilizer. The land varies from clay loam to sand loam. The potatoes are to be hand-planted and fertilizer sown broadcast. What kind and how much would you advise me to buy? Should it be sown before or after planting?

S. T. L.

Inasmuch as two crops have been grown on this field since you turned down a clover sod and with no stable manure, it is quite probable that the land is deficient in nitrogen to grow a good crop of potatoes, so a complete fertilizer, that is one containing nitrogen, phosphoric acid and potash, would be desirable. You want a high-grade fertilizer, three or four per cent ammonia, eight to ten per cent of phosphoric acid, and three to five per cent of potash.

If you want to raise a big crop of potatoes, fertilize heavily. There is some little risk in putting so much money into fertilizer, not knowing what the season will be, but there is one thing sure, you cannot raise a big crop of potatoes unless you have plenty of plant food in the soil, and for potatoes, of all crops, this plant food should be available. I would recommend that you use not less than five hundred pounds per acre. Use four hundred pounds broadcast and one hundred pounds at the time of planting in the row. Many of the most successful potato growers in the United States use as high as one thousand five hundred to two thousand pounds per acre. The potatoes do not use all of this fertilizer, but it is necessary to have it present in liberal quantities to give best results, then the crop that follows the potatoes does not need fertilizer but will utilize what the potato crop leaves.

C. C. L.

CORNSTALK SILAGE.

I have been thinking of filling my silo with just cornstalks and have the cobs taken out and crushed with oats and feed it to cows that way. Is there any appreciable difference in the way the corn is fed?

Macomb Co.

A. A. P.

Dry cornstalks can be made into quite a palatable food when cut up and run into the silo, using plenty of water so that the mass will settle down, become practically air-tight, and ferment. This can be done in any good silo. This is getting to be quite a common practice where one wants to sell the corn or feed it as a grain; in fact, there are huskers and silo fillers on the market now so that one can husk the corn with a machine and run the stalks into the silo for ensilage.

It is a question whether one would get better results in this way, than he would to cut the corn and the ears, stalks and all, into the silo at the proper stage of maturity. A careful experiment would seem to show that you would get greater returns by putting the whole plant into the silo, but if you do need the ear corn for feeding then it can be husked and stalks ensiled separately. If the corn is not husked then you could feed the crushed oats as a grain ration with silage, and get as good or better results.

C. C. L.

THE RENTER'S SHARE.

What share should the renter have where the owner plows and harrows the land and furnishes the seed, while

the renter marks, plants, cultivates, and husks the crop?

S. L. C.

I think the best way to adjust a case like this would be to charge so much for plowing and harrowing, the market price, and also the market price on seed corn. This can be paid back in corn at the market price if you choose.

The usual custom is to have the renter do all the work, furnish the seed and get two-thirds of the resulting crops, the land drawing one-third. However, this is only a general outline. Most always some special bargain is made between the parties governed by conditions. For instance, if the land is in splendid shape for corn, a man can afford to grow a crop for a smaller part of it than he could if the land was only average land. So in almost every case conditions demand that a special bargain be agreed upon between the renter and the landlord.

C. C. L.

CALF MEAL FOR PIGS.

I have some pigs about four weeks old that I am raising by hand. I have been told that calf meal is good to feed them. What is your opinion of it? Also, how much could be fed at one time to five pigs and how would you prepare it? I have milk to feed with meal.

H. G.

This product ought to be a good feed for real young pigs. Calf meal is supposed to contain food nutrients in similar proportion to the nutrients found in milk so that it can be used as a substitute for milk in feeding young calves. It would seem to be equally as valuable for pigs.

I would recommend that you make this into a thin gruel and feed it warm at first. As the pigs grow older you can substitute one-half wheat middlings for calf meal which will make the ration a little bit cheaper and gradually you can substitute wheat middlings entirely. If you could spare a little milk at first to mix with the calf meal gruel it would be all the better.

C. C. L.

SURFACE WATER AND DITCHES.

A neighbor and myself disagree about my surface water. Across one corner of my place the water drains onto him and he claims that I will have to put tile across him about twenty rods to a county ditch. Some of this water comes across the line from another neighbor. Please tell me what I can do in a case like this.—P. J. H.

Neither party owes any duty or has any right to make drains on the land of the other to carry off surface water in the absence of binding contract. If they cannot agree recourse must be had to a public drain by applying to the drain commissioner under the statute to lay out the drain and have it put in and apportion the tax for same.

J. R. R.

THE NOTICE TO THE FENCE-VIEWERS.

I wish to know if it is necessary to serve a written notice on the highway commissioner in order to have him serve notice on a neighbor to have him build a line fence? I served verbal notice about two years ago and the commissioner took no action.

J. R.

The statute says nothing about the notice being in writing, though that would be better; but it does require the notice to be given to two or more fence-viewers of the town. Perhaps the failure to notify two was the highway commissioner's reason for not acting.

J. R. R.

SEEDING MUCK LAND.

I would like some advice on getting a catch of grass seed on muck ground. I have seeded this land spring and fall for three years and failed to get a catch. There will be a ditch put through this year which will drain the land. Would it be a good plan to burn off the muck, as it is only a foot deep and has a good clay bottom?

St. Clair Co. H. S.

Securing a catch of grass seed on muck depends on a number of things. It depends not only on the kind of muck but also on its condition. Some of the reasons for a failure of seeding in the spring, on muck, are these:

When seeded with oats or barley the grass seed may be smothered out. If the soil is not rolled thoroughly the grass will dry out and die at the first hot, dry spell. A frost very often at the critical time after germination will kill the seeding. The absence of the minerals, particularly phosphorus and potash on muck, which has been run, may cause a loss of seeding. A fall seeding will fail because of the effects of freezing and thawing, which pulls the plants.

Keeping these points in mind, the following suggestions may be noted: First of all the soil should be thoroughly prepared, which includes thorough rolling. A large part of the type of muck which is in St. Clair county is deficient in phosphorus and will certainly show results if phosphorus has not been applied recently. It must be remembered that when grass seed is planted with a grain it is subject to the smothering influence of the rank growth of stems and leaves which the grain makes on muck.

The most successful seedings have been made on thoroughly prepared ground just after the oats have been taken off. The grass will make a strong growth during the summer and fall. It should be rolled before going into the winter. In the spring it should be rolled again. Too much emphasis cannot be placed on this latter suggestion. If the muck is rolled in the spring a large number of the plants which would have otherwise died will grow.

In view of the fact that alsike is a grass which will stand considerable moisture we have assumed that alsike and timothy is the best type of grass for muck. This is true to a large extent but on many of our mucks which are well drained and which dry out in the summer, the alsike and timothy fails. Observation has been made along the lines of other grasses which will be valuable for this purpose. Some work has been done with white sweet clover. Alfalfa, as a rule, will not thrive on muck. A mixture which has been known to be very adaptable for hay and also for pasture has been alsike, timothy and red-top and perhaps some orchard grass mixed with it.

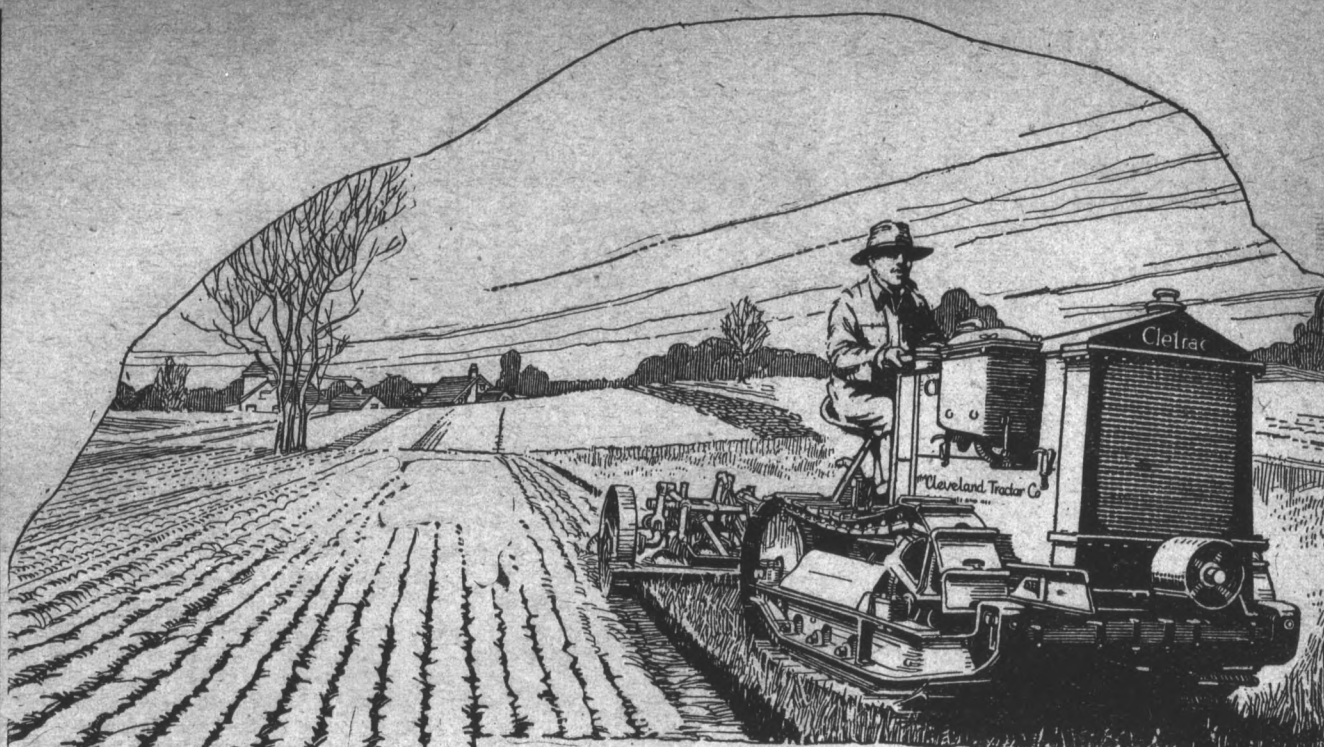
I would not under any circumstances burn off the muck, if it is only a foot deep. Gradually, as this soil is worked the clay will work up into the muck and make a high quality soil. In all probability if the muck were burned over, the stiff clay would become poor after the ashes from the muck had been utilized by the first two or three crops.

This is a subject which has not received sufficient attention, but along which lines we are gathering information. We would be pleased to hear from any of our muck farmers as to their experiments with this important problem.

EZRA LEVIN.

FEED IT MODERATELY.

When cottonseed meal first came into use, serious results were common. Steers fed on it became blind and hogs following them died. Udder trouble followed its use in the dairy herd and calves to which it was fed died. Not more than two pounds should be fed daily per cow.



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Farmers everywhere are enthusiastic over the big work-capacity of the compact, powerful little tank-type Cletrac.

In all tillage operations the Cletrac pulls steadily and easily over rough ground, fresh-plowed earth or soft-seedbeds.

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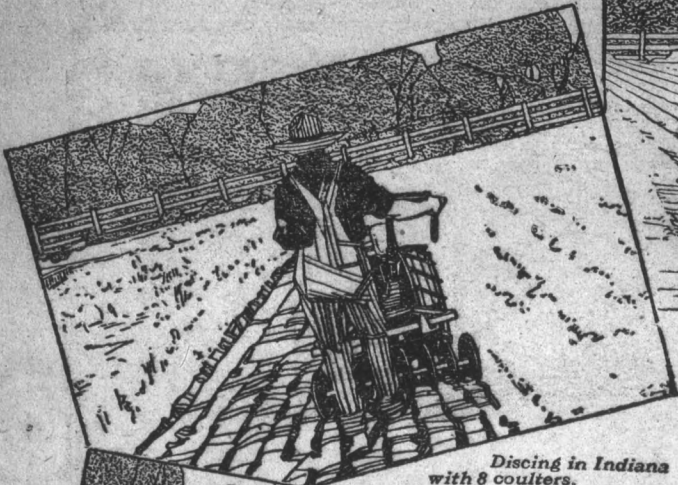
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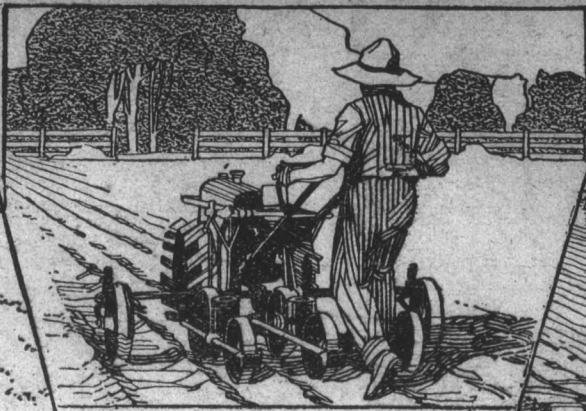
The PREMIO JR. MODEL B is a well-made, substantial, reliable camera in every respect. This camera has to stand the usual rigid tests which are applied to all cameras made by The Eastman Kodak Co. It loads and unloads in daylight with the Premo Film Pack of 12 exposures. It makes pictures $2\frac{1}{4} \times 3\frac{1}{4}$ inches in size and the negatives are of such quality that excellent enlargements can be made from them.

The instrument is fitted with an automatic shutter, which works for both time and "snap shot" exposures, and the best grade of single achromatic lens that can be obtained. It has two finders, one for vertical, the other for horizontal pictures,—in fact, it is as well equipped a camera as could be wished for in the box type. It will produce first-class results in all ordinary amateur photographic work, such as snapshots in good light, time exposures, home portraits, landscape and street photography, and the like. This camera is unusually simple to load and operate. A complete book of instructions is included with each one, and even a schoolboy who never had a camera in his hands before, can make good pictures with the Model B Premo Jr. within half an hour after getting it. Sent charges prepaid for 3 Subscriptions, or for One Subscription and \$1.50 additional.

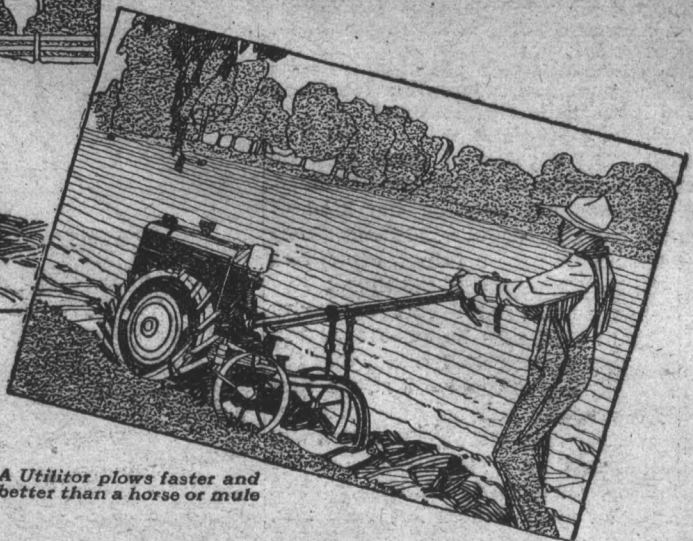
The Michigan Farmer, Detroit, Mich.



Discing in Indiana with 8 coulters.



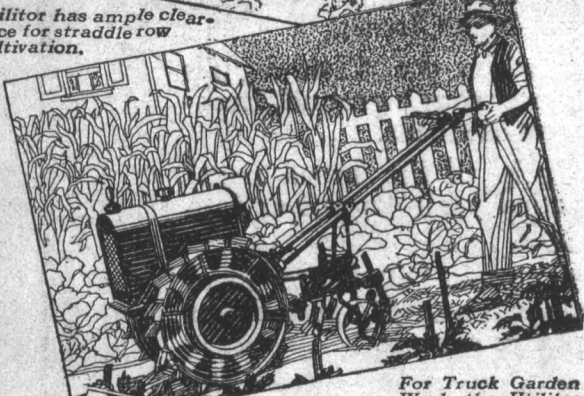
Utilitor operating 3 row, gang seeder.



A Utilitor plows faster and better than a horse or mule



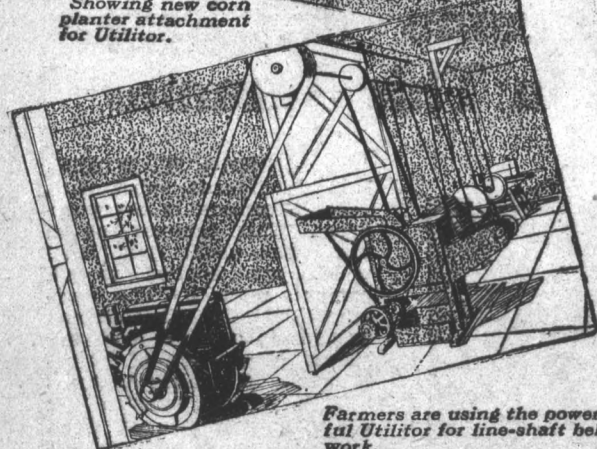
Utilitor has ample clearance for straddle row cultivation.



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The Men Who Sell It Wanted to Know So They Used 4000 Acres to Find Out

Your protection in buying a Utilitor lies in the fact that this machine has been forced to prove its own dependability and usefulness before any man would attempt to sell it to you.

Long before we attempted to establish a selling organization for the Utilitor, we sent our engineers and agricultural experts over the country and told them to stay until they had proved beyond the shadow of a doubt that the Utilitor would perform satisfactorily under the conditions placed upon it.

They tried the Utilitor in all kinds of soil breaking, cultivating, seeding, truck garden work, nursery work, fruit cultivation and last but not least they conducted an exhaustive test of the Utilitor on belt work from running a grindstone to cutting wood.

We found that in certain parts of the country for field work special rims were necessary; in other parts of the country we found that guards on the machine to protect the plants were necessary. In fact we found many things to correct and several things that the Utilitor could not do, such as working on steep hill sides and in swampy lands.

But we proved above all else that with the adoption of the changes found necessary as a result of the many gruelling tests, that the Utilitor was unquestionably a power farming utility that would appeal to the practical farmer and food raiser as a cost-cutting, profit-building piece of machinery. * * * * *

We then told the selling field that we were ready to do business with them. Now here is where all this begins to concern you.

These hard-headed keen merchandisers had no trouble in seeing the necessity for such a machine as the Utilitor, but they were not content to accept our word *alone* for what the Utilitor would do—how it would hold up—how well it would work.

They readily saw that the resources and experience of the Midwest Engine Company were behind every Utilitor in the form of the most comprehensive service-system to owners which they had ever seen instituted.

Still they were not satisfied. They wanted to know first hand what the Utilitor would do in usage, because **THEY** were the men who had to show **YOU** what the Utilitor **WOULD DO**.

So they conducted their **OWN** tests. It has been estimated conservatively that the Utilitor has undergone tests in the hands of salesmen and dealers involving practically every possible use—some 4000 ACRES having been used to **PROVE** to these men that the Utilitor **IS BUILT RIGHT, STAYS RIGHT** and is applicable to the work for which it is intended.

What happened is this—the Utilitor sold itself to the men who would **SELL IT TO YOU**.

Can you ask for a better, a safer method of investigating the Utilitor than to **KNOW FIRST** that the man who sells it knows that it thoroughly lives up to the expectations of **EVERY** man who sells it.

But Regardless of All This, Here is What We Want You to Do When You Are Ready

Don't accept anybody's word for the Utilitor's performance but your **OWN**. Let all that we have told you simply be an incentive to want to know more about this machine for **YOURSELF**. Any Utilitor dealer in your vicinity will give you a demonstration of the

Utilitor doing the sort of work done on your place. You can rest assured that he will tell you very frankly if the Utilitor **WON'T** do your work. You will be under no obligation to buy a Utilitor if you are not completely satisfied with the Utilitor in every respect—mechanically, economically and otherwise.

If you don't know the Utilitor dealer in your locality, fill out the coupon and mail it to us and we will send you his name. We will be glad to send you any special information on the Utilitor which you may require.

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Cut around the dotted line and paste this address on a post card if you do not care to send coupon.

Gentlemen—Please send me without obligation on my part, your booklet, "BEATING THE GAME," and the name of your nearest dealer.

I am giving you the following information so that you can show me how I can use the Utilitor profitably on my place.

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My soil is.....I produced last year.....

Name.....sandy, marshy, rolling

City.....

County.....State.....

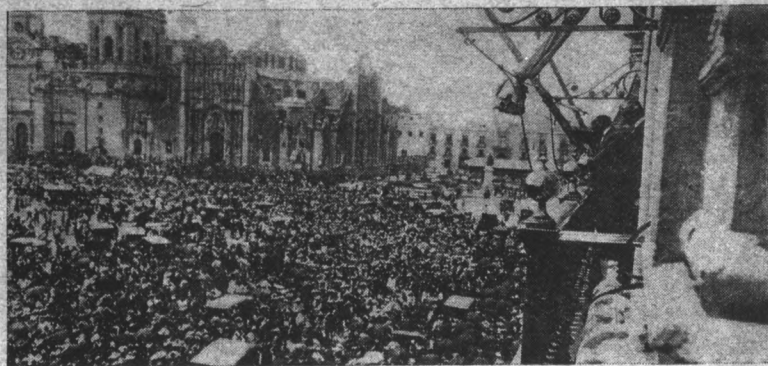
MIDWEST ENGINE CO., Indianapolis, U. S. A.

Dependable Power

WORLD EVENTS IN PICTURES



Thomas R. Zann and his pet lion, "Jim," as they appeared while stopping off at a New York hotel on the way to Southern Africa where Mr. Zann hopes to emulate "Tarzan of the Apes," with "Jim" as his best man.



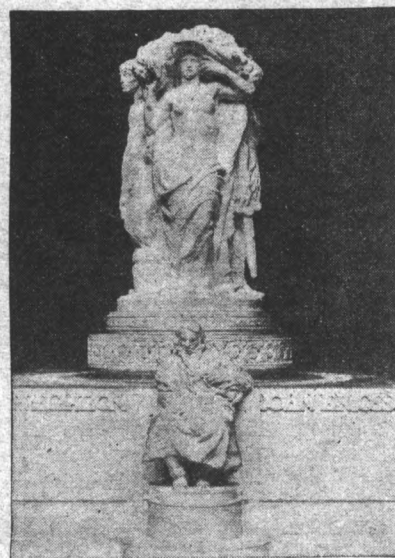
Great crowds of Mexicans gather to witness the triumphant entry of General Obregon into Mexico City following his recent military successes against the Carranza regime.



Herbert Louis Samuel, soon to be appointed High Commissioner for Palestine.



America's postal employees seek a just wage standard.



Monument erected in honor of Ericsson, inventor of monitor and propeller.



This fully equipped motor car, capable of a speed of sixty miles an hour on land, becomes a serviceable boat in water with the power thrown from the wheels to a propeller at the rear.



Francisco Villa who is still an important factor in the political situation in Mexico, poses for a snap.



Cattle show amidst the ruins of war-swept Ypres, Belgium, was attended by members of the Allied Agricultural Relief committee.

then her lids were lowered and she bit her lip with vexation.

"Shirley," he said.

"You are presumptuous," she quavered.

"You set me an example in presumption," he retorted good humoredly. "Did you not call me by my first name a minute ago?" He glanced toward Colonel Pennington and observed the latter with his neck craned across his portecting stump. He was all ears. Bryce pointed sternly across the clearing, and the Colonel promptly abandoned his refuge and retreated hastily in the direction indicated.

The heir to Cardigan's Redwoods bent over the girl. "You spoke to me—after your promise not to, Shirley," he said gently. "You will always speak to me."

She commenced to cry softly. "I loathe you," she sobbed.

"For you I have the utmost respect and admiration," he replied.

"No, you haven't. If you had, you wouldn't hurt my uncle—the only human being in all this world who is dear to me."

"Gosh!" he murmured plaintively. "I'm jealous of that man. However, I'm sorry I hurt him. He is no longer young, while I—well, I forgot the chivalry my daddy taught me. I give you my word I came here to fight fairly—"

"He merely tried to stop you from fighting."

"No, he didn't, Shirley. He interfered and fouled me. Still, despite that, if I had known you were a spectator I think I should have controlled myself and refrained from pulling off my vengeance in your presence. I shall never cease to regret that I subjected you to such a distressing spectacle. I do hope, however, that you will believe me when I tell you I am not a bully, although when there is a fight worth while, I never dodge it. And this time I fought for the honor of the House of Cardigan."

"If you want me to believe that, you will beg my uncle's pardon."

"I can't do that. He is my enemy and I shall hate him forever; I shall fight him and his way of doing business until he reforms or I am exhausted."

She looked up at him, showing a face in which resentment, outrage and wistfulness were mirrored. "You realize, of course, what your insistence on that plan means, Mr. Cardigan?"

"Call me Bryce," he pleaded. "You are going to call me that some day anyhow, so why not start now?"

"You are altogether insufferable, sir. Please go away and never presume to address me again. You are quite impossible."

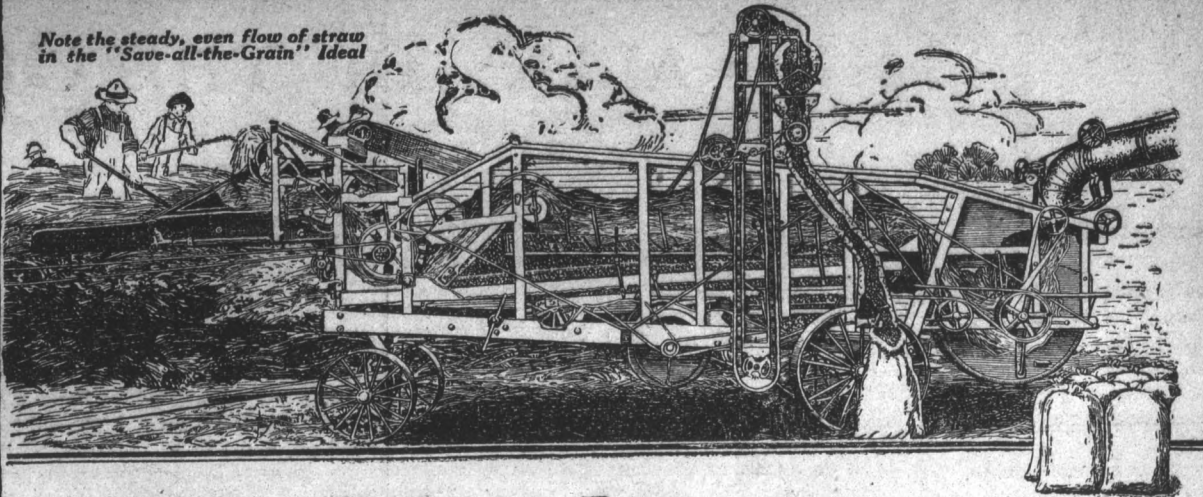
He shook his head. "I do not give up that readily, Shirley. I didn't know how dear—what your friendship meant to me, until you sent me away; I didn't think there was any hope until you warned me those dogs were hunting me—and called me Bryce." He held out his hand. "'God gave us our relations,'" he quoted, "but thank God, we can choose our friends." And I'll be a good friend to you, Shirley Summer, until I have earned the right to be something more. Won't you shake hands with me? Remember, this fight today is only the first skirmish in a war to the finish—and I am leading a forlorn hope. If I lose—well, this will be good-bye."

"I hate you," she answered drearily. "All our fine friendship—smashed—and you growing stupidly sentimental. I didn't think it of you. Please go away. You are distressing me."

He smiled at her tenderly, forgivingly, wistfully, but she did not see it. "Then it is really good-bye," he murmured with mock dolorousness.

She nodded her bowed head. "Yes," she whispered. "After all, I have some pride, you know. You mustn't presume (Continued on page 911).

Note the steady, even flow of straw in the "Save-all-the-Grain" Ideal



The Ideal Separator Provides -

Greater Grain Saving—A special grate design, right behind and beneath the cylinder—the Ideal traveling rake, that carries the straw from the cylinder in a steady, even flow—the Ideal straw rack, with its series of lifting fingers that tear the straw open, rake it, beat it from beneath, all contribute to compelling complete separation in the Ideal.

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Easier Operation—You don't have to crawl inside the Ideal to adjust and regulate the separator. All bearings, concave adjustments and regulations of the blast are on the outside of the machine, also all oil and grease cups, where you can take care of them even while the Ideal is running.

Stronger Construction—The Ideal frame has no spliced or bolted members—it is practically a one-piece job—sills, posts, deck rails. It simply can't pull apart, sag or rot. This, with the heavy, substantial trucks, and all shaker hanger bearings running in adjustable boxes, gives a construction that insures long life.

No Vibration—In the Ideal the cylinder is perfectly balanced and all moving parts are counterbalanced. This makes for steady, smooth running that eliminates harmful vibration, minimizes wear on the bearings, preserves alignment of shafts and greatly lengthens the life of the machine.

You have a choice of five sizes—22 x 36, 28 x 44, 28 x 48, 32 x 52 and 36 x 60. See your Rumely dealer or have us send you further information.

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Standard Binder Twine, 500 ft. to lb., 13 3/4¢ per lb. Less in carloads. Write for circular. Dept. M-14
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Sisal or Standard April carlots per bale \$6.65.
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200	Postpaid \$1.80	By express not prepaid \$1.60
600	" 5.10 "	" 4.50 "
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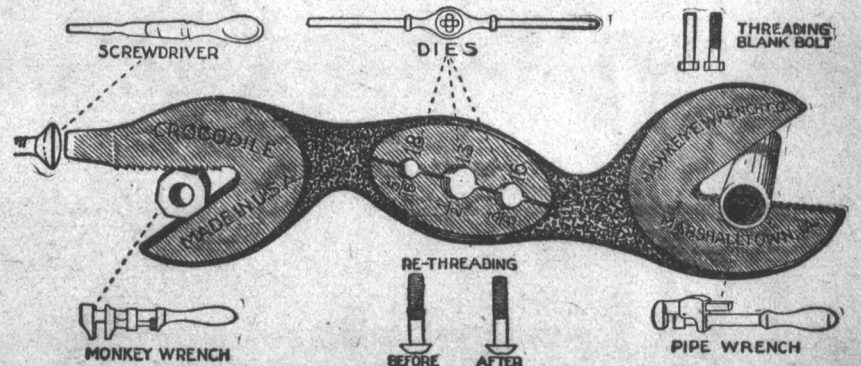
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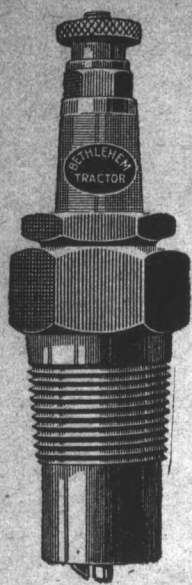


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IT'S annoying—and expensive—to be stranded in the field with a cultivator and an engine that has developed spark-plug trouble. The best assurance against this is to use Bethlehem Spark Plugs.

Consider Bethlehem construction. The mica in the Bethlehem de Luxe Tractor Plug is wrapped around the center spindle, then reinforced with mica washers, to make the plug stand the heavy strains put on it by tractor operation.

The great International Harvester Company, after exhaustive tests, has adopted Bethlehem Spark Plugs as standard equipment. You will find Bethlehem Automobile and Truck Plugs equally dependable. Studebaker and Marmon find them the best standard equipment. So do 48 other manufacturers.

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BETHLEHEM SPARK PLUG CORPORATION

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Bethlehem
SPARK PLUGS
"They Pull You Through"

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THE Grain-Saving Wind Stacker saves the grain wasted in the ordinary process. It saves enough, in fact, to pay the threshing bill.

For this reason the Grain-Saving Stacker is the most important improvement in threshing machinery that has been developed in the last twenty-five years.

On your job you can be sure that your grain will go to the sack where it belongs and not in the stack. Insist that the separator must be equipped with the Grain-Saving Wind Stacker.

Manufacturers of the famous makes equip with the Grain-Saving Stacker. Write to any of the list below for full information



See that this trade-mark—in colors—is on each side of the Wind Stacker you buy or hire. It indicates the Grain-Saving Wind Stacker.

The Grain-Saving Stacker Originated With the Indiana Manufacturing Co., Indianapolis, Ind., Who Also Originated the Wind Stacker.

LIST OF MANUFACTURERS

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Aultman & Taylor Machinery Co., Mansfield, Ohio.
Avery Company, Peoria, Ill.
A. D. Baker Company, Swanton, O.
Banting Manufacturing Co., Toledo, Ohio.
Batavia Machine Co., Batavia, N. Y.
Cape Mfg. Co., Cape Girardeau, Mo.
J. I. Case Threshing Machine Co., Racine, Wis.
Clark Machine Co., St. Johnsville, N. Y.
Ellis Keystone Agricultural Works, Pottstown, Pa.
Emerson-Brantingham Co., Rockford, Ill.
Farmers Independent Thresher Co., Springfield, Ill.
A. B. Farguhar Co., York, Pa.
Ferdinand Machine Works, Ferdinand, Ind.
Frick Company, Waynesboro, Pa.
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Minneapolis Threshing Machine Co., Hopkins, Minn.
Port Huron Engine & Thresher Co., Port Huron, Mich.
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Hergott Bros., Ltd., Mildmay, Ont.
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Stewart Sheaf Loader Co., Ltd., Winnipeg, Man.
Wallace Machine Works, Ltd., Sussex, N. B.
Waterloo Manufacturing Co., Ltd., Waterloo, Ont.
R. Watt Machine Works, Ltd., Ridgeway, Ont.
George White & Sons Co., Ltd., London, Ont.

"Never Went to Church"

Our Weekly Sermon—By N. A. McCune

A MAN said to me not long ago, "my parents never went to church. We children never went to church unless we wanted to." He then added that he thought his parents had made a serious mistake. He wanted his children to associate with the church, and he and his wife intended to unite with the church. There is a tendency now for people who have been brought up in religious homes to take a lax attitude toward the church. A man will say, "Well, I had to go to church when I was a boy, and now I don't go, and I don't make my children go." It is as if he were to say, "I had to be honest and tell the truth when a boy, but now I cheat whenever I can, and I never tell the truth if I can lie."

It is true that parents will sometimes make religion hateful to their children, by constantly nagging about it, or by emphasizing the stern and hard aspects of it. But for one father who does that today there are ten who do not emphasize it enough. The fact is, parents do not realize that they are swindling the child out of his greatest heritage, when they neglect his religious development. They may think that it is a favor to the growing boy to let him go his own way, and become religious or not, as he pleases. But it is a favor that turns later into a curse.

SYSTEMATIC and loving care of the child's religious life is the greatest bulwark against wrongdoing later. Judge Fawcett, of Brooklyn, bears this testimony: "Approximately two thousand seven hundred cases have been before me in my five and a half years of service on the bench. During all this time I have never had to try a man who was at the time of the offense or ever had been, an active member of the church. I have asked each young defendant if he was a member or an attendant at a Sunday School, and I have never been answered 'Yes.' The fact is, religious training is a tremendous help in many ways, to the growing child. The most powerful personality the writer ever studied under, in the class room, is a Scotchman. He is a professor now in an eastern university. He is the son of a Scotch Presbyterian minister, who was the dominie in a small village for fifty-one years. This professor is one of the authorities now on Shakespeare, and has edited an edition of the great dramatist. He told me one day how he first became interested in Shakespeare. "My father made all us children sit around the table every morning after breakfast, and read the Bible and Shakespeare, for an hour. And we couldn't get out of it, either."

"Well," said I, "it didn't seem to turn you against either the Bible or Shakespeare." "Not at all," said he. "It was the biggest piece of early training I had." Another man said less than a month ago that his father read a chapter of the Bible after every meal, three times a day, and the children lived through it. This man's knowledge of the Bible today is deep and lasting. He, too, is an educator of prominence. Look at the case of the late Dr. J. L. Snyder, president of the Michigan Agricultural College for twenty years. It was another instance where a religious mother and a little country church scored heavily. The Snyders were of the United Presbyterian faith. They all went to church. There was no organ. No hymns were sung, only psalms. The sermons were inclined to length. And yet out of this family that worked hard six days and worshipped the seventh day, there came a college president, a judge, a physician, an agricultural expert, a minister and two public school teachers.

THE figures on home influence as brought out by interchurch survey are interesting and vital. There are one hundred and sixty-eight hours in the week. Of these the boy or girl spends twenty-five in school, and two (we hope) in church and Sunday School, while fifty-six hours are spent in sleep. That leaves eighty-five hours during which the child is under home control. He spends three times as many waking hours at home as he does in school, and forty-two times as many as he does in both church and Sunday School. If there is not some religious influence brought to bear on him, where does the fault lie? Experience shows that the country is the best spot for the growing boy. Bad boys are being taken constantly from institutions to farms and there they are being remade. The old saw, that "God made the country, man made the city and the devil made the little country town," does not hold true, when results are figured up. And where the church has an alert, earnest minister in the country or the village, and the school is good, that is as good a place as can be found in this world for the child or the youth. The best men in the history of the nation have come from such surroundings. But the greatest educational force of all, is the home where religion is lived simply and taught tactfully.

Sunshine Hollow Items

By Rube Rubicon

When Eliza Swaty came to our little village and started the Gem Lunch she had only twenty-five cents in cash. She worked hard for many years and served fine meals, which were the talk of the farmers who dropped in for lunch on marketing days. Eliza died the other day and after the bills were paid even the original capital of twenty-five cents was missing. But she had lots of friends and everybody misses the little Gem Lunch.

Mort Higgins is now out of a job. He used to mash potatoes at the Gem Lunch because he had a wooden leg and would work cheap. He says a man with a wooden leg has advantages. He can fasten up his socks with thumb tacks and it don't take so long to take a bath.

When Walter Jones went down to the store after overalls last week he found that Milton Dobson, the bank clerk had bought the last pair. Walter hunted up Milton and bought the overalls at half-price. Milton had only worn them half a day and then hung them in the attic. Folks can't economize through buying something they don't need. Milton already had four suits while Walter never has more than one besides his overalls.

Dan Maltby has sent his mother a bonus for services rendered from 1885 to 1895 rocking his cradle, filling his bottle and other duties too numerous to mention. Dan's mother really needed the money and folks say she has bought lots of things which will make life pleasanter around the old home.



to be the butterfly preaching contentment to the toad in the dust."

"As you will it, Shirley." He turned away. "I'll send your axe back with the first trainload of logs from my camp, Colonel," he called out to Pennington.

Once more he strode away into the timber. Shirley watched him pass out of her life, and gloried in what she conceived to be his agony, for she had both temper and spirit, and Bryce Cardigan calmly, blunderingly, rather stupidly (she thought) had presumed flagrantly on brief acquaintance. Her uncle was right. He was not of their kind of people, and it was well she had discovered this before permitting herself to develop a livelier feeling of friendship for him. It was true he possessed certain manly virtues, but his crudities by far outweighed these.

The Colonel's voice broke in upon her bitter reflections. "That fellow Cardigan is a hard nut to crack—I'll say that for him." He had crossed the clearing to her side and was addressing her with his customary air of expansiveness. "I think, my dear, you had better go back into the caboose, away from the prying eyes of these rough fellows. I'm sorry you came, Shirley. I'll never forgive myself for bringing you. If I had thought—but how could I know that scoundrel was coming here to raise a disturbance? And only last night he was at our house for dinner!"

"That's just what makes it so terrible, Uncle Seth," she quavered.

"It is hard to believe that a man of young Cardigan's evident intelligence and advantages could be such a boor, Shirley. However, I, for one, am not surprised. You will recall that I warned you he might be his father's son. The best course to pursue now is to forget that you have ever met the fellow."

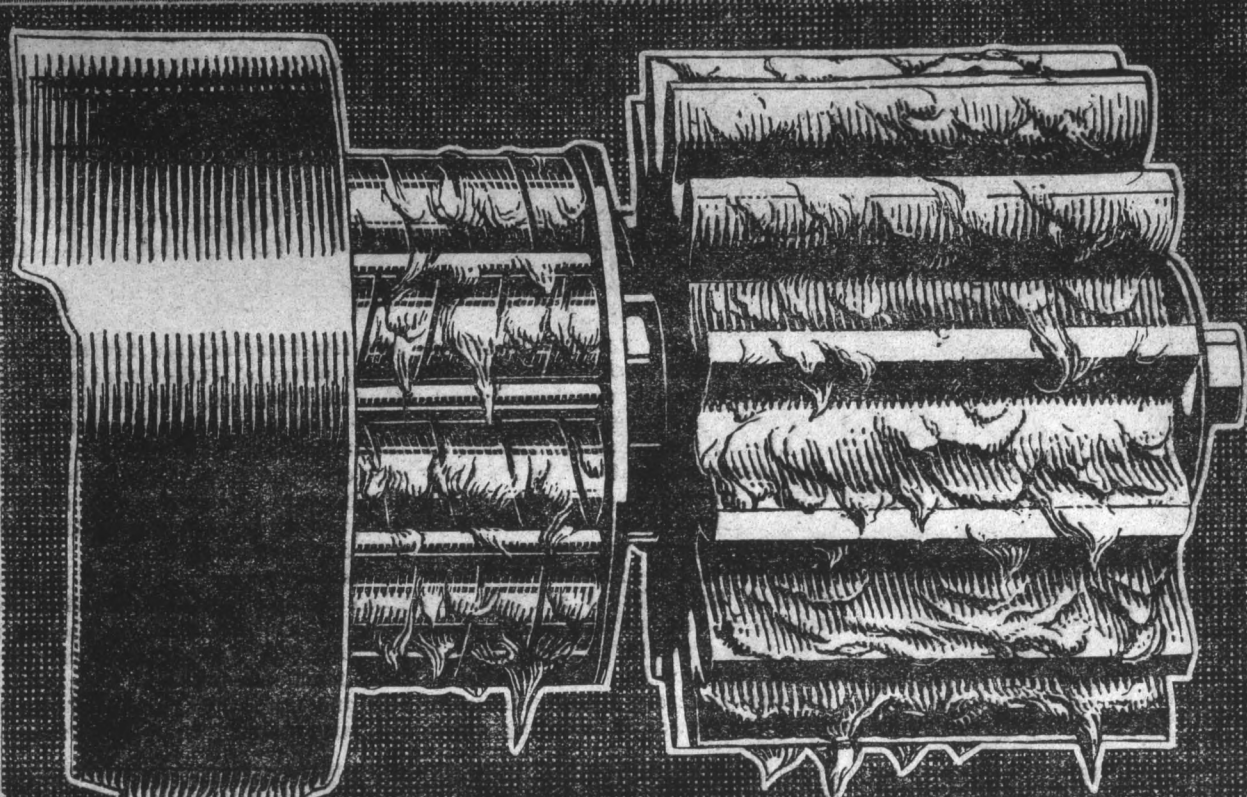
"I wonder what could have occurred to make such a madman of him?" the girl queried wonderingly. "He acted more like a demon than a human being."

"Just like his old father," the Colonel purred benevolently. "When he can't get what he wants, he sulks. I'll tell you what got on his confounded nerves. I've been freighting logs for the senior Cardigan over my railroad; the contract for hauling them was a heritage from old Bill Henderson, from whom I bought the mill and timberlands; and of course as his assignee it was incumbent upon me to fulfill Henderson's contract with Cardigan, even though the freight-rate was ruinous.

"Well, this morning young Cardigan came to my office, reminded me that the contract would expire by limitation next year and asked me to renew it, and at the same freight-rate. I offered to renew the contract but at a higher freight-rate, and explained to him that I could not possibly continue to haul his logs at a loss. Well, right away he flew into a rage and called me a robber; whereupon I informed him that since he thought me a robber, perhaps we had better not attempt to have any business dealings with each other—that I really didn't want his contract at any price, having scarcely sufficient rolling-stock to handle my own logs. That made him calm down, but in a little while he lost his head again and grew snarly and abusive—to such an extent, indeed, that finally I was forced to ask him to leave my office."

"Nevertheless, Uncle Seth, I cannot understand why he should make such a furious attack upon your employe."

(Continued next week.)

At the Bull Pinion

THE bull pinion bearing carries the heaviest load of any bearing in the tractor.

That Hyatt Roller Bearings are built for this hard and continuous service is demonstrated by their successful use at this position in 90-per cent of all prominent makes of tractors.

At the bull pinion Hyatt Roller Bearings are a protection against wear and loss of power—they maintain true shaft alignment and proper mesh of gears—they insure uninterrupted service without adjustment.

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HYATT

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Only \$2 DOWN ONE YEAR TO PAY

\$38 Buys the New Butterfly Jr. No. 2 1/2. Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed **EASY TO CLEAN**

Lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here, sold on **30 DAYS' FREE TRIAL** and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.

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OFFER No. 107.

The Michigan Farmer, one year...\$1.00
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Total value\$2.75
All for \$2.25.

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The Michigan Farmer, one year...\$1.00
Metropolitan Magazine, one year 3.00
Boy's Life, one year 1.50

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All for \$4.25.

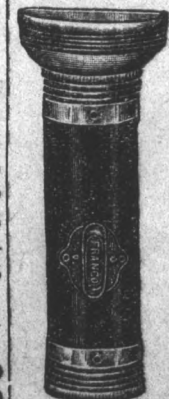
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Gentlewoman, one year..... .25
Household Journal, one year..... .35

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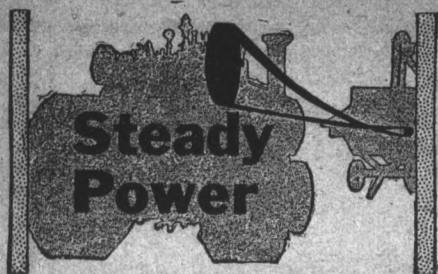
Yours Without Cost



The best flash light money can buy. 6 1/2 inches in length, comes equipped with 2-cell battery ready for use. Throws a clean, white light that wind cannot blow out. Lessens fire risks. Just the thing to light you on your short trips to barn and cellar."

If you will send us two yearly subscriptions your own may count as one, accompanying order with \$2.00 remittance, we will send you this Handy Flash Light ready for use all charges prepaid.

THE MICHIGAN FARMER,
Detroit, Michigan



Keeps the Outfit Going

The thresherman with a Nichols-Shepard steam engine is sure of keeping his outfit going. His power is dependable—easy to operate, and runs steady, which means good results and better pleased customers. It will run on almost any fuel, has less chances for trouble, and if trouble does occur he can remedy it himself and avoid long shut-downs. The

Nichols-Shepard Steam Engine

has proved its leadership through many years of service. It is built by men who have made a life specialty of building threshing outfits. Men who know from experience what the thresherman and his customer want.

Wm. Reitmair of Crookston, Minn., says "I have a Nichols-Shepard Steam Engine and a Red River Special Separator; run for the past 18 years, and the way the outfit is running this season I believe it will last 28 years more."

Write and let us tell you more about this popular threshing power. Ask for our catalog.

Also let us tell you about "Red River Special" Threshers—all sizes.

Write for Circulars

NICHOLS & SHEPARD CO.

(In Continuous Business Since 1848)

Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Traction Engines

Battle Creek

Michigan



You are not well dressed if your shoes need shining. If you take pride in the appearance of your car you will at once fit Schrader Kwik-on-an-off Dust Caps on all your tires. Not only do they give a touch of elegance to the car but they save time and effort in the attaching and detaching.

Price 50 cents per set of four.

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Immediate possession on our liberal Easy Monthly Payment plan—the most liberal terms ever offered on a high grade bicycle. **FACTORY TO RIDER** prices save you money. We make our bicycles in our own new model factory and sell direct to you. We put real quality in them and our bicycles must satisfy you. 44 STYLES, colors, and sizes to choose from in our famous RANGER line. Send for big, beautiful catalog. Many parents advance the first payment and energetic boys by odd jobs—paper routes, delivery for stores, etc., make the bicycle earn money to meet the small payments. **DELIVERED FREE** on Approval and 30 DAYS TRIAL. Select the bicycle you want and terms that suit you—cash or easy payments. **TIRES** wheels and parts for all bicycles—at half usual prices. **SEND NO MONEY** but write today for the big new catalog, prices and terms. **MEAD CYCLE COMPANY** Dept. B-77 Chicago

Trained American Fox Hounds Rabbit and Skunk dogs all ages. Send stamp. W. E. LECKY, Holmesville, Ohio

Our Boys' and Girls' Department

Father and Son Partnership

By Frank D. Tomson, Editor of The Shorthorn in America

LOOKING through the pages of the various agricultural and live stock publications, particularly the advertising section, one is impressed with the frequency of the Father & Son announcements. The sale catalogues coming from all parts of the great purebred live stock breeding ground to a very large extent are issued in the name of Father & Son or Father & Sons. It is a wholesome arrangement and one that comes about quite naturally—this Father & Son form of partnership.

Twenty years ago I began traveling among the scattered breeding estab-

lishments of Iowa and adjoining states. There were many boys, just manifesting their initial interest in the business of live stock improvement, doing the chores about the barns who have since become partners in the business along with their fathers and in not a few cases have succeeded to the business when the father tired or passed on. Not a few of these boys have attained very marked success and have become widely known and respected for the useful part they have played in the building up and broadening of a great industry.

What more logical plan could be followed than that the boys on the farm should become interested in the herd and in due time have a financial share in the returns and an inducement to encourage larger returns? There is always the incentive to take up such a plan if the live stock is of a high order. In this single fact lies the basis of many successful partnerships and a perpetuating influence in the business. But lacking this essential—live stock of a high standard of merit and attractiveness—many and many a young man, who would otherwise have made a useful asset in this constructive business, has left the farm to make his way elsewhere.

There come to mind a few who have gradually moved along up the ladder of progress who started in as boys, and a little below the bottom round. I think of Frank Harding, now general executive of the American Shorthorn Breeders' Association, the most influential post in Shorthorn circles in the world. I met him first in 1898 at the Trans-Mississippi Exposition where he was just getting a line on this interesting business. He was the junior member of the firm of George Harding & Son, Waukesha, Wisconsin, owners

of a few Shorthorns, a few sheep and a few acres of land—a modest breeding establishment, but it grew and since that day it has become one of the largest and best known in this or any other country. And it has done this because this young man staid on the job and gave to the business the best that he had in him. I remember so well, back in 1896, when the first purebred Shorthorn cow came to our farm down in Kansas at a cost of \$80. She was the only purebred female included in a neighbor's sale and my father purchased her for the price stated. There were three of

this great industry and the fine associations that are always a dominant factor in its progress. My younger brother James has been called many times to various parts of the country to act as judge in important shows the outgrowth of early study of the types we grew in the earlier years of our experience and the improvement we were able to make along through the years that followed.

I think of the firm of F. Bellows & Sons, of Missouri, in the days of low prices and hard times. And I think of Bellows Brothers now, and the part they play in the leading Shorthorn shows and the sale averages which they make at their annual sales at their farms ranging from over two thousand dollars downward. One after another the Bellows boys became partners of their father and now the second generation has reached maturity and has a share in the business which is conducted on more than a thousand acres.

In Michigan there is a firm, C. H. Prescott & Sons, of Tawas City, that has in a brief period shown the wisdom of Father & Son partnership and is doing untold service for the state because of the Shorthorn activities in which they are engaged. Prescott & Sons believe in high standards and are scattering over Michigan and other states the kind of Shorthorns that will add millions of dollars to the wealth and provide years of happy, prosperous activity to the thousands of young men who will become partners with their sires on many farms in the days that are yet ahead.

These father and son partnerships which I mentioned are in no way exceptional. There is a long, long list that I could name, the principals of which are winning success and attaining contact and reputation that is priceless and that cannot be attained in any other way. It is rather significant that most of those who are making their way upward in this alluring vocation would prefer to make one dollar in this line than several in any other. It is a compliment to the business and to the class who become affiliated with it.

There are many thousand boys and young men who would make useful partners with their fathers if encouraged to form this relation. The Father & Son style of firm is the ideal for this particular vocation. It inclines to a continuation of improvement. It carries on a work that may not be completed in a brief period. It serves to capitalize the good-will, the prestige, which the years have acquired. It aids in establishing an individual type. Scarcely any phase of the plan can be considered in any other than a highly favorable light. And how certain are the profits to accrue where reasonable judgment is displayed a fair amount of energy is applied.

The nature of the business is in itself an educator. There is frequent contact with the outside world—a great developer. There is always a broadening outlook with its encouragement. There is constantly the co-operative relations existing within the Shorthorn fraternity with its forty thousand or more breeders here in our country. From the local affairs to the international contact it is an inviting field. There is no other like it.

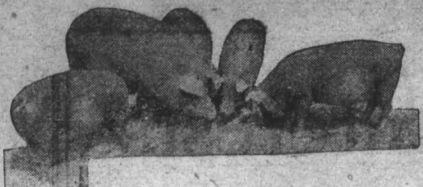


These boys grew enthusiastic over the live stock game when their father guided them beyond the common work of the ordinary stock owner to the finer and more subtle practices of the skilled breeder.

us boys and many a talk we had regarding the worth of such a cow and the possibilities of building a herd from her female offspring. Our neighbors, many of them, said she wasn't worth any more than a good grade cow. But somehow we felt that we could see something more in her. When her calf came it had level lines and a breedy look and we encouraged our father to buy a few more registered females for the herd. Then one day my father talked about a partnership arrangement and the firm became T. K. Tomson & Sons and was succeeded by Tomson Brothers when my father passed on ten years ago. We didn't have much land to begin with nor many cattle but we did have a large mortgage and other debts of varying amounts. In time the land increased in acreage several times its original area and the cattle increased in numbers and very much in quality and in value. And all the time we have had a growing attachment for the business and a lessening of the financial liability.

Now we have some boys coming along in their "teens" who are taking a little hand in the affairs. The prospect is that they will continue the business and the firm name long into the future.

Only a few weeks ago the American Shorthorn Breeders' Association presented an oil portrait to the Saddle & Sirloin Club, Chicago, an institution of unique and far-reaching influence in improved live stock affairs. I was invited to be present at the presentation. When the portrait was displayed I noted that it was my older brother, John R., who had just finished his second term as president of the Shorthorn Association. I couldn't help but recognize the value of the contact with



WOULD JOHNNIE RATHER RAISE HOGS THAN CORN?

ARE Johnnie and Mary more interested in raising hogs than corn? Summaries show that in sixty-four counties conducting Boys' and Girls' Agricultural Clubs, youngsters in fifty-seven counties are joining pig-raising clubs. They are forming corn clubs in but five counties. Interest in other live stock raising projects also exceeds that of crops. In thirty-one counties boys and girls have joined poultry clubs, and in twenty-seven counties, dairy and beef calf clubs. Garden and potato clubs will be conducted in only a few counties.

Among the girls, the canning and general preparation of foods is apparently four times as popular as the making of clothing, since food clubs will be conducted in fifty-four counties and clothing clubs in but twelve.

While the lines of club work in each county are selected by Boys' and Girls' Club leaders and representatives of schools, civic and other organizations, the choices are based on the interests of the boys and girls.

WHAT THE WOODSMAN SEES.

YOU can always tell a trained woodsman from a tenderfoot, because the tenderfoot sees only the obvious things that are plainly evident, but the trained woodsman notices the little things that are unusual or out of the ordinary. For example, the tenderfoot walking through the woods will see a lot of trees that look all alike. The skilled woodsman will notice that one tree is bent in a peculiar shape, or has a knob or burl on one side. When he sees that tree again he will recognize it and know he is on the right trail. The tenderfoot will be startled by the sound of two trees rubbing together or of bushes cracking with the wind. The woodsman recognizes these as ordinary sounds, but he hears the faintest snap of a twig, made by an animal stepping on it. The tenderfoot walking on a trail sees only the path in front of him, which looks all alike. The woodsman will notice the slightest mark in the trail that shows that some animal or person has passed before him, and he will be able to read these marks and tell the tale of what has happened.

"The first thing for a scout to learn in stalking is to notice little things that are out of the ordinary and learn what they mean; to read the record that every living creature leaves behind him, telling the story of his life and doings."—Boys' Life.

GIRLS TO ASSIST IN HARVESTING FRUIT CROPS.

The Horticultural Department of the Michigan Agricultural College informs us that girls may be secured for harvesting fruit crops in this state by writing to Miss Rosamond T. Bennett, Field Secretary Woman's National Farm and Garden Association, 1730 Stevens Building, Chicago.

Courses in agriculture, household art and household science, rural entertainment, rural education, nature study, general science, physical training and boys' and girls' club work will comprise the special program at the summer school at East Lansing.

The course in boys' and girls' club work will take up its relation to agricultural extension, with the organization and conducting of club groups, and with educational recreation and social phases of community activities.

Not A Kick In A Million Feet

A pledge. Yes, that's just exactly what the Mule-Hide slogan is.

It is our pledge to the users of our product of better service, longer life, and greater satisfaction.

When we adopted this slogan, we did so with a keen appreciation of what it meant.

We knew that we were setting a high standard and we have never forgotten for one minute that our customers depend on us to live up to the mark and we have, in spite of difficulties that have been rather hard to get around.

The elimination of kicks has meant the elimination of all but A-1 raw material—material that we knew would stand the gaff and our inability to supply more promptly the ever increasing demand is but a reflection of our close adherence to this standard.

Ask your dealer about Mule-Hide roofing and shingles. He may not be able to make *immediate* delivery, but his enthusiasm will impress you with the idea that Mule-Hide is what you need.



THE LEHON COMPANY *Manufacturers*

44th to 45th Street on Oakley Avenue, Chicago

Shoo Fly THE ANIMALS' FRIEND

For keeping Flies Gnats and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25% to 35% more milk during fly season if sprayed with Shoo-Fly.

\$1.50 worth saves \$20

in milk and flesh alone on each cow in a single season. Excellent for galls. Alleviates itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send \$1.50 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-inch gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.

SHOO-FLY MFG. CO., 1334 N. 10th St., Phila.

Milkoline for Hogs

W. H. Graham of Middleton, Mo., says in an actual test that 300 worth of Milkoline made him an extra profit of \$420. Hundreds of others from coast to coast say the same thing.

Hustles Heavy Hogs to Market

Is the title of a little booklet that tells all about Milkoline (buttermilk made better for feeding) and how when fed according to directions it costs but 2c a gallon. Makes hogs and poultry digest their feed—saves time and money. Ask for free copy of booklet and our thirty day trial offer.

MILKOLINE MFG. CO., 509 Creamery Bldg., Kansas City, Missouri.

WRITE GALLOWAY

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Wm. Galloway Co., Box 187 Waterloo, Iowa.

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Ranch for sale or trade for smaller property. Location Clare County, Mich. 7 miles from Harrison County seat. Terms reasonable, price right, 1922 acres, 200 acres cleared, two sets of buildings, can be sold in two parts, 333 and 669 acres, the best of soil. Can give immediate possession. Cause of selling, unable to work.

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but Postum is different because it contains no health-disturbing drug.
A saver in many ways.

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Woman's Interests

The Wedding Gown

JUNE is the month of roses and decrees that a bride must not appear in graduations; of canning strawberry with arms uncovered, so if you have roses and making currant jelly; this a short-sleeved gown, wear long white year, of national political conventions, gloves. With your gown you must and last—but most important of all to have white stockings and slippers, and the human race—of weddings. And dainty lingerie, so all these things though hard-headed old folks are must be reckoned in when you are growling that no one but the very rich counting up what you can spend for or that class which rushes in where the angels fear to tread, would ever marry.

If you decide in favor of a suit, ob- this year, engagements all point to a serve the same rule of simplicity. Buy bumper crop of June weddings for the best, and the simplest. Do not be 1920. In spite of twenty-two-cent sug- led away by a striking design which ar and \$7.00 spuds, threats of no crops will quickly be out of fashion. Navy

blue is the leading color this season, probably because every woman can wear it and it is always good, but tan, brown, copen, or gray may be chosen if you prefer. Buy the best material you can, as that is true economy in the end. Velours, silvertones and covert are good, and there is a beautifully soft material known as peachbloom. Tricotine, too, has its admirers. With the suit you must wear a hat, and the wedding veil may be replaced by one of the smart flowing veils which fashion favors this season.

The Wedding Breakfast.

If it is a morning wedding you may want to follow it by a wedding breakfast

A White Gown, Tulle and Flowers for the Day of Days.

to carry us through the coming year, for your attendants, the clergyman, and houses so scarce that landlords and perhaps a few friends. If it is an afternoon wedding, you can give a reception as large or as small as you wish. If you are giving a breakfast, the following suggestive menu may help you:

Strawberry Cocktail
Half a spring chicken Creamed peas
New Potatoes
Asparagus Salad
Silver Parfait Assorted Cakes
Coffee

To make the strawberry cocktail, mash the berries, and for every quart of berries used allow the juice of one lemon and of one orange, one cup of sugar and four cups of water. Chill, it, to have white satin, for that has and serve in cocktail glasses with a always been and always will be, the whole strawberry in each glass. In- typical gown. What girl ever dreamed stead of the cocktail, you may prefer of herself as a bride without a vision to serve strawberries au naturel, that of a satin gown, draped with net or is with the stems on and hulls unre- chiffon, and enveloped in a cloudy veil moved. They should be carefully of tulle? What movie bride ever wore cleaned and chilled, and served with anything else? And what grandmother powdered sugar into which they may ever told of any other sort of gown? be dipped.

Get satin, if you can afford all the accessories. A dainty asparagus salad is made by mixing chilled asparagus tips with

either French or mayonnaise dressing, good satin is so high in price this year served on the curled leaves of head I don't dare quote figures—do have a lettuce.

You can Silver parfait is made without a wear it for parties, if you don't have it freezer. To make one quart, boil one too elaborate, and your wedding gown cup of sugar with one of water until doesn't want to be overdone. Its charm it threads as for boiled frosting. Pour is in its simplicity. Get georgette, or onto the stiffly beaten whites of three crepe, or organdie or muslin, but do eggs, beat well, add one pint of whip- have a white wedding dress. Custom ped cream, beat again, flavor, pour into

a mold, and pack in salt and ice. Let stand four hours. A pail with a tight-fitting cover which will keep out the ice and salt may be used as a mold.

EATING IN PUBLIC PLACES.

MANY good people, particularly elderly people, lost much enjoyment by staying at home rather than eat at public places. Or if they do venture forth and have to eat in hotel, dining-car or restaurant, they worry continually for fear the food is not clean or that they will be poisoned by it. Of course, the accounts of ptomaine poisoning are far too numerous, particularly in summer, but even granting that it is risky to eat some things in public places there are still enough safe foods to insure against starvation, and no one need stay at home or carry a lunch for safety if a few general rules are observed.

First of all, avoid the particularly dangerous foods, and especially if the weather is mild. Most farmers have had experience of meat spoiling in a mild winter at some time, and every housekeeper knows how food decays in summer time, even food cooked in a clean kitchen and handled by clean hands. Cold boiled ham, pressed

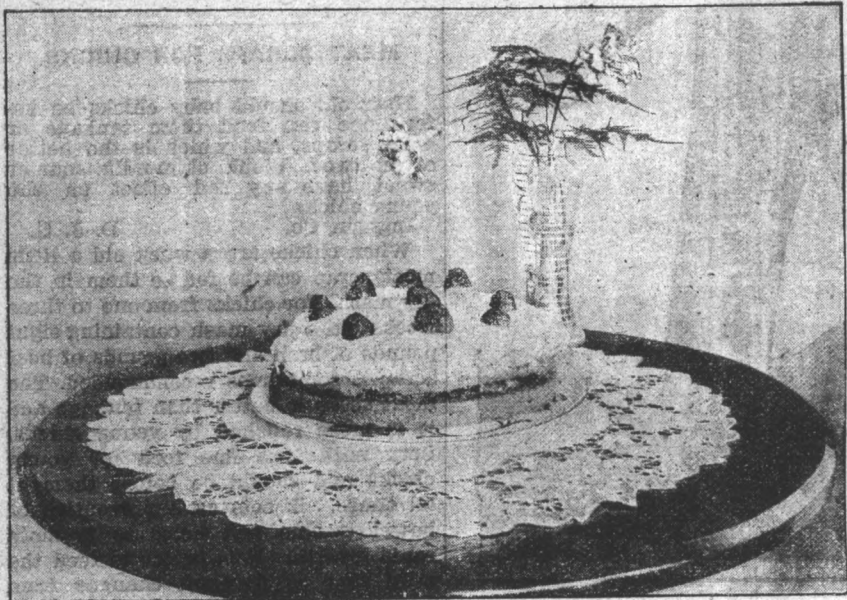
with rolls and butter if liked. For dinner a good dish of roast beef with baked potato or browned potato, a simple vegetable, such as a baked sweet potato, lima beans, corn on the cob, creamed turnip, browned parsnip, celery, radishes, lettuce, green onions or creamed onions, or baked beans will do very nicely, capped by a dessert of baked apple, a ripe banana, an orange, a ripe apple, a bunch of grapes, figs or some fruit that is above suspicion.

Eating between meals should be avoided by all, but a glass of cool milk will refresh and revive without deranging the stomach. A glass of buttermilk or grape juice will answer the same purpose and the appetite will be keen for the next meal. No one argues that food away from home is as satisfying as home cooking, but at least one can go away in comfort and safety by observing a few simple rules in eating.—HILDA RICHMOND.

TO COOK DRIED FOODS PROPERLY.

MODERN housekeepers with their improved methods of canning have had little experience with drying fruits and vegetables. Wartime emergencies led many to try drying, but

Grandmother's Strawberry Shortcake



TWO and one-half cups of sifted flour, one cup of sour cream, pinch of salt, one level teaspoon of soda, half teaspoon of baking powder. Sift the flour, salt, and baking powder together. Dissolve the soda in a tablespoonful of boiling water. Add to the cream. Stir into the dry ingredients, making a soft dough. Roll into a thick, round cake and bake in a quick oven. When done, split with a hot, sharp knife, butter lightly, fill with crushed, sweetened berries, cover the top with sweetened, whipped cream, decorate with a few whole ripe berries. Serve the sweetened strawberry juice in a pitcher by itself.—DORCAS WEBSTER.

chicken, oysters, fish, left-over meats made into loaves or salads, and such foods need not be touched at all if there is the slightest danger that warm weather or careless handling have ruined them.

Good, honest, roast beef is as satisfactory as anything, with baked potatoes, or potatoes roasted in the meat broth, while beef stew or short ribs with potatoes and gravy rarely cause trouble. Indeed, beef is far more satisfactory than pork or chicken away from home in almost any method of serving, unless it be hash or some "made dish" obviously composed of left-overs. Roast mutton is also good, but not so common. Veal should be avoided as it is immature meat and not satisfactory. Fish, oysters and lobster far from water and in warm weather should be viewed with suspicion.

Eggs in every form are always good, as a very stale egg will not poach or fry in a satisfactory manner. Eggs with toast for breakfast and a cereal with cream will usually satisfy even a hearty appetite and fruit can be added

the problem of cooking the dried food was a big one.

Dried vegetables should not be held over from year to year as they lose in quality. If you have both dried and canned food, use the dried first, reserving the canned until the spring.

Dried corn is one of the vegetables which keeps in good condition a long time, if it is good at the beginning.

Dried vegetables may be soaked two or three hours in warm or cold water, then cooked. Or they may be put at once into boiling water and simmered a long time.

Use only a small quantity of water for soaking, and cook in the same water. Three cups of water to one of dried vegetables is enough. It is wasteful to throw away the water in which the vegetables are soaked.

Salt towards the end of the cooking. Allow one cup of dried vegetables

to serve two persons.

In cooking dried fruits a better flavor obtains if they are cooked with one cup of water to one of fruit, in a tightly covered vessel so that little steam escapes.



Beat City Folks At Their Own Game

CITY people have an idea that they enjoy all sorts of comforts and luxuries unknown to country dwellers. Nothing is more absurd!

As a matter of fact, farmers can be as well off in the matter of conveniences as city folk.

Take the two vital matters of lighting and cooking, for instance. You, Mr. Farmer, can have light in your home just as efficient as city gas. Your wife can have every city cooking convenience. The

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CARBIDE LIGHTING AND COOKING PLANT

is self-operating and produces gas with scarcely any looking after at all.

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And in the kitchen the Colt Plant instantly provides the hottest cooking flame known to science. It does away with keeping a fire burning when you don't need it, insures a cool, clean kitchen even during the hottest weather. It abolishes muss-making fuel and the back-breaking work of carrying it.

In addition, it keeps a gas-burning iron piping hot just as long as you want to use it!

More Colt Carbide Lighting and Cooking plants are in use today than ever before. A sure indication that the American Farmer appreciates a home plant that will supply fuel that will both light and cook.

Why not have these advantages in your home? Write us for particulars and learn how easy it is to install and use a Colt Carbide Lighting and Cooking Plant—no need to experiment—investigate the one system that has been in successful operation for twenty-one years.

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Jobbers OverAll Co., Inc.
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Largest Manufacturers of Overalls
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RAISING DUCKLINGS.

I would like to know something about the care and feeding of ducklings.

Washtenaw Co.

L. P.

A good ration for ducklings consists of corn meal, one part, and bran, two parts. To this mixture can be added five per cent of beef scrap and a sprinkling of grit. This ration should be given five times each day until the ducklings are about five weeks old. Ducklings should not be fed until they are a little over thirty-six hours old.

Some breeders have success by feeding ducklings on hard-boiled eggs mixed with bread crumbs with a little coarse sand added to furnish grit. This is given the first three days and then the ration is changed to the corn meal and bran mixture mentioned above. Ducks need green feed and it can be given in the form of grass clippings or vegetables. Ducklings need plenty of water given in dishes deep enough so that the water will cover their nostrils. Sour milk can be given them in mashers. But do not give them sour milk to drink as their eyes and bills may become badly stuck up with it. Ducks do not need water for swimming but some breeders think they do better if they have access to a pond or stream. The presence of a body of water is apt to insure an abundance of frogs, insect life and green food, which helps to produce duck meat at a minimum cost per pound.—G. K.

MEAT SCRAPS FOR CHICKS.

How old should baby chicks be before one can feed them tankage or meat scraps, and which is the better of the two? Would skim-milk, sour or sweet, have any bad effect on the young chicks?

Ingham Co.

D. J. S.

When chicks are a week old a little meat scrap can be fed to them in the dry mash. For chicks from one to three weeks old a dry mash containing eight pounds of bran and two pounds of beef scrap is sometimes recommended. The meat scrap is better than tankage and it is more relished by young chicks. Sour milk is a fine feed for young chicks and should be before them at all times. It acts as a preventive of bowel trouble and helps to promote rapid growth. It is better to feed the milk sour as frequent changes from sweet to sour milk have been found to cause digestive disorders. Of course, the milk is very apt to sour in the dishes during warm weather so it pays to always use it sour. G. K.

HEAD TURNS DARK.

I bought a gobbler this spring, and he seemed all right until a couple of days ago. Now his head is getting quite black.

Genesee Co.

W. A.

The appearance of the head would indicate that the turkey has blackhead. This is a disease which nearly always kills the young poult it attacks, but an old bird may recover. It has been found to be caused by a connective tissue parasite. In some sections it has nearly put an end to the turkey business. If you have this trouble it will be necessary to disinfect the turkey roost thoroughly and be very careful to have vigorous breeding stock. We do not know of a cure that we can recommend for blackhead at this time. G. K.

WHEN EGGS ARE FERTILE.

I have a flock of sixteen Wyandotte hens. How long must I wait after putting a male bird with them before I can use the eggs for setting?

Emmet Co.

A. M. H.

The eggs will probably show a large per cent of fertility in a week or ten days. It will vary with different birds but we would consider it safe to use the eggs for hatching after that time. G. K.

POULTRY

Barred Rock Baby Chicks. Order your June chicks now. Apply for terms. H. H. PIERCE, Jerome, Mich.

CHICKS AND EGGS

Rose and Single Comb R. I. Reds. Barred Plymouth Rocks. Superior Color. Prolific Layers. Prepaid by parcel post and safe delivery guaranteed. Illustrated catalog free. INTERLAKES FARM, Box 39, Lawrence, Mich.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, at utility prices. Send for illustrated catalog and price list. Ohio Poultry Yard and Hatcheries, Dept. B, Marion, O.

Baby Chicks S. C. White Leghorns, bred to lay. After Apr. 1 will sell chicks and eggs from my exhibition pens, write for prices. HILLSIDE POULTRY FARM, Hillsdale, Mich.

BARRED ROCKS. Eggs from vigorous early maturing stock from heavy laying strain. \$2 per 15, \$5 per 45. Prepaid by parcel post. R. G. Kirby, Route 1, East Lansing, Mich.

Big Sturdy Baby Chicks and eggs for hatching. White Leghorns, Barred Rocks, R. I. Reds. Breeder and importer of Barron Strain White Leghorns the best layers obtainable. Safe delivery guaranteed. Catalogue free. Brummers Poultry Farm, Holland, Mich.

Buff Leghorn and White Leghorn Cockerels from 200 egg strains. Eggs and baby chicks. A few pens. Dr. WILLIAM SMITH, Petersburg, Mich.

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Orescent White Leghorns; also Anconas, Brown and Buff Leghorns, Black Minorcas, Reds, Rocks (Barred and White), and Wyandottes (Silver-laced and White). WE HATCH the eggs of Hologized flocks on range on separate farms. Orescent Egg Company, Allegan, Mich.

Chicks S. C. Brown, English White Leghorn and CShepard strain Anconas. Order now for June and July delivery. L. E. Brink, R. 1, Holland, Mich.

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20 cents each. From one of the largest flocks in the world. Can make prompt shipments. LAKESIDE FRUIT & STOCK FARM, Pinckney, Mich.

Baby Chix Whites and Brown Leghorns, B. P. Rocks, and Anconas at reduced prices for June and July. Catalog free. Knoll's Hatchery, R. 3, Holland, Mich.

EGGS from trapped S. C. White Leghorns, Barron Strain, also White Wyandottes that lay, at \$10.00 per hundred or \$2.00 per setting of 15 eggs. MACALWHITE POULTRY YARDS, Caro, Michigan

Attention Send for my special price on S. C. W. Leghorn June chicks. Safe arrival guaranteed. Postpaid. H. W. TIMMER, R. 5, Holland, Mich.

Buy Your June Chicks near home. White Leghorns \$17.00 per 100; 50, \$9.00; 25, \$4.50. Delivered parcels post paid. Send for price list of other varieties. Washtenaw Hatchery, Ann Arbor, Mich.

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12,000 chicks a week after Mar. 20. Grand laying strains utility S. C. White Leghorns and Mottled Anconas. Strong, sturdy chicks shipped everywhere parcel post guaranteed safe arrival in lots 25; 50; 100 or more. 12th season, order now. Fine free catalogue. W. VAN APPELDORN, R. 7, Holland, Mich.

Chicks Bred-to-Lay and Exhibition S. C. W. Leghorns, stock that produced the winners in the state demonstration farm work. Winners at Detroit, Toledo and Oil City, Pa. Shows. \$10.50 per 50, \$20 per 100, \$35 per 500. Safe delivery postage paid. Sunnybrook Poultry Farm, Hillsdale, Mich.

Chicks, Leghorns, Minorcas, Spanish, Houdans, Cam-pines, Reds, Rocks, Orpingtons, Brahmas, Wyandottes. Tyrone Poultry Farm, Fenton, Mich.

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

DAY OLD CHICKS S. C. W. Leghorns, Exclusively. Vigorous, sturdy chicks. From heavy laying strain. Seventh season. Send for price list to CITY LIMITS HATCHERY, B. No. 5, Box 11, Holland, Michigan

CHICKS We have shipped thousands each season since 1904. Are booking orders now for Spring delivery, booklet and testimonials. FREEPORT HATCHERY, Box 12, Freeport, Mich.

Edgewood Chicks S. C. White Leghorns, Barron Strain \$17 per 100. Guaranteed. EDGEWOOD POULTRY FARM, Brighton, Mich.

Fowler's Buff Rocks. We are now booking orders for eggs. A few choice cockerels left. R. B. FOWLER, Hartford, Mich.

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HATCHING EGGS Plymouth Rocks (all varieties.) Wyandotte, Anconas, and Ronen Ducks. Catalog 2c. Sheridan Poultry Yards, R. 4, Sheridan, Mich.

Rhode Island Whites

Are the best all purpose birds being year round layers. Egg and chicks and a few good males. R. H. JUMP, Jackson, Michigan.

Hatching eggs from a vigorous heavy laying stock, H. S. C. W. Leghorns, Barred Rocks, W. Wyandottes, Buff Orpingtons. 15, \$1.50; 50, \$4.50; 100, \$8.00. Shipped prepaid. Miller Poultry Farm, Nappanee, Ind.

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Standard Heavy and Laying Breeds.

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Send for new Catalog with illustrations: it will help you raise your Chicks. Also it explains the Homestead Farms plan of cooperation.

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LOOK! BABY CHICKS \$14 A 100 UP!

By insured parcel post, postage paid. 40 breeds chicks, 4 breeds ducks. Get May and June chicks for December layers. Catalog free, stamps appreciated. NABOB HATCHERIES, GAMBIER, OHIO

MICHIGAN POULTRY ASSOCIATION ELECTION.

The following officers were elected for the ensuing year in the Michigan Poultry Association, (State Branch of the American Poultry Association), in the election just closed:

President, John Conroy, of Battle Creek, Mich.; vice-president, J. W. Fleming, Muskegon, Mich.; secretary, C. H. Burgess, East Lansing, Mich.; treasurer, John Tomlinson, Dearborn, Mich.; executive committee, (one-year term), Henry Keenan, Detroit, Mich.; H. S. Nobel, Muskegon Heights, Mich.; (two-year term), Joseph Toynton, Pontiac, Mich.; Neil A. Dewar, Flint, Mich.; (three-year term), W. S. Beebe, Owosso, Mich.; Hazelton B. Smith, of Niles, Mich. J. W. Derees, election commissioner.

PREVENTING FEATHER EATING.

I have a flock of twenty chickens that have started to eat their feathers. Is there any cure for this? I have given them oyster shell, ground bone and everything I thought they required, but nothing seems to help them.

H. A. C.

Some breeders have found that feather eating can be stopped by painting the feathers near bare spots with powdered aloes dissolved in alcohol. This habit seldom occurs in flocks on farms that have free range. It can often be prevented among birds on limited range by giving them plenty of litter in the poultry house in which they can scratch and by feeding a balanced ration in the dry mash hopper. Plenty of beef scrap in the ration may satisfy their craving for the feathers and the bit of blood that they obtain on the end of each. Sometimes one bird may start the habit and if that bird is isolated or killed immediately it will stop the habit from spreading through the flock.

G. K.

INCUBATING GOOSE EGGS.

I bought several geese last winter and have a nice lot of eggs. I had intended using an incubator, but the neighbors tell me that goose eggs cannot be successfully hatched in the incubator. Is this right? I have two incubators and have been successful with chicks and ducks.

Gratiot Co.

B. T.

Most poultrymen find that it does not pay to try and hatch goose eggs with incubators. They take so long to hatch and so much turning and moisture that the best results seem to come from hatching under hens or geese. A hen will cover four or five goose eggs. Early in the season they can all be given to hens. Later the eggs are saved and placed under the goose when she becomes broody. We would not advise you to try and hatch goose eggs extensively with an incubator unless you can afford to experiment.

G. K.

POULTRY BUSINESS HINTS.

In the poultry business it is the man who sells the goods that makes the money. Therefore every poultryman must try to produce quality stock so that the other man will be anxious to that the other man will be anxious to buy. "Always something good for sale" is not a bad motto for the farmer poultryman who wishes to make the business pay.

Repeat orders are necessary in developing a profitable poultry business. The buyer who purchases a cockerel this fall may be in the market for hatching eggs next spring and several cockerels next fall. It is the satisfied customer who will come back again and possibly bring friends with him. Every poultryman must strive to please his customers, as they are the foundation of success.

TEXACO

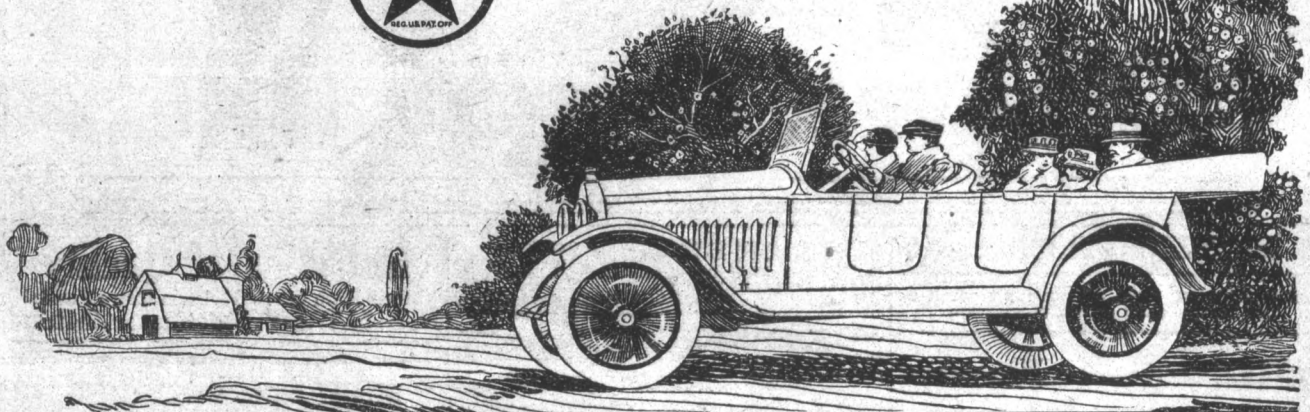
MOTOR OIL

There is nothing that takes the fun out of motoring so quickly as an engine that overheats and then knocks and sputters. And these are the symptoms of improper lubrication that indicate that bearing surfaces are touching and wearing, increasing upkeep cost and depreciation. But, with TEXACO OIL in your tank you can expect great things of your motor. You know it won't balk on the way to town, because TEXACO MOTOR OIL is the enemy of friction. It won't form hard, destructive carbon, and absolutely holds compression. It is a clear, bright oil, with splendid body, as carefully refined as we know how, in a grade to fit the requirements of every car. The red Star and green T marks TEXACO.

THE TEXAS COMPANY

Petroleum and Its Products

General Offices, Houston, Texas. Offices in Principal Cities



TEXACO TRACTOR OIL ★ THUBAN COMPOUND ★ HARVESTER OIL ★ AXLE GREASE

"SHOOT" CHICKEN LICE WITH INSECT GUN

Harmless to Man or Fowl—Kills These Pests by Thousands.

Free chickens, nests and coops from costly lice and mites with Hofstra. The yellow, round metal gun sprays a lighter-than-air powder. It closes the skin pores and kills these filthy pests.

Positively will not harm chickens, not even the smallest, nor injure hatching eggs. Harmless to humans for it is

and is used in great quantities by the Ford plant at Detroit, by hospitals, state institutions, etc., etc. Sure death to flies, mosquitoes, ants, roaches, bed bugs and many others.

Get loaded gun for 15 cents at grocer or druggist. Cheaply refilled with package Hofstra in 25c, 50c and \$1 sizes. If not at your dealer's we'll supply you by mail on receipt of 15 cents. HOFSTRA MFG. CO., 210 N. Cheyenne, Tulsa, Okla.



HOFSTRA
The Non-Poisonous Insecticide.

CHOICE EGGS

from Blue Andalusians, Silver Spangled Hamburgs, S. C. White Minorcas, Buff Minorcas, Buff Rocks, Mottled Java, Frizzles, Ducks Pekin, Buff Orpington, Fawn, also White Indian Runner and Wild Mallard \$2.00 for 15 eggs. White, Barred and Silver Rocks, Single and Rose Comb Reds, Buff Orpingtons, Silver Wyandottes, Black Spanish, S. C. Buff, Brown, White, Black and Silver Leghorns, Anconas, and Black Langshans, \$1.75 for 15 eggs. \$7.00 per hundred from Silver Wyandottes, Buff Orpingtons, White, Buff, Barred and Silver, Rocks. All eggs Parcel post Paid.
CEDAR LAWN POULTRY FARM, Wapakoneta, O.

CHICKS

200,000 strong, sturdy chicks for May and June. Delivered safely at your door by parcel post. From selected bred to lay strains.

All our chicks are from selected breeders, kept on free range. Get your order in for some of these high grade chicks and be a successful poultry breeder. Special price on 1000 lots

Wingarden Hatchery, Box M, Zeeland, Michigan

Special Prices on Chicks

From June 15th on
20,000 chicks per week.



Will ship any number from 25 on up.
S. C. White and Brown Leghorns at 13 cts. R. C. and S. C. Reds and Barred Rocks at 16 cts. S. C. Anconas at 15 cts. S. C. Black Minorcas at 18 cts. S. C. Buff Orpingtons at 20 cts. Odds and Ends at 12 cts. Send in your order direct from this ad. Or send for our free circular.

Hubers Reliable Hatchery,
East High St.,
Fostoria, Ohio.

PREPAID



CHICKS

Highest quality.

By parcel post prepaid
W. Leg. \$15 per 100
Br. Leg. \$15 " "
Eng. Leg. \$16 " "
Anconas \$16 " "

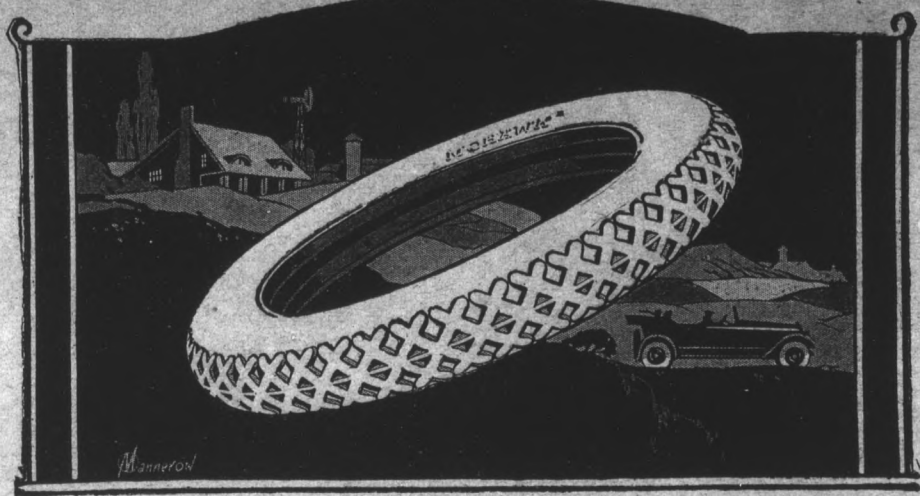
Single Comb BLACK MINORCAS

We are using a \$50 cock bird. A sire of winners, weighs 11½ lbs. Eggs \$4.00 per setting of 15.

R. W. MILLS,
Saline, Michigan

BABY CHICKS of superior quality, from record laying purebred stock. White Leghorns, Brown Leghorns, \$15 per 100; Anconas, \$20. Postpaid. Live arrival guaranteed. Why buy cheap stock when you get quality at low prices? Catalogs free. SUPERIOR QUALITY HATCHERY, Clinton, Mo.

Additional Poultry Ads on Page 923



How To Choose Quality Tires

The tire buyer has no means of examining the inner part of a tire, upon which the mileage really depends.

Cross sections of a tire are no proof. Rubber substitutes may look like pure rubber.

Experimenting with various kinds of brands may prove which is the best; but this is an expensive and troublesome method.

To know positively the kind of materials and workmanship which go into a tire—this is the safest method of choosing.

Good mileage isn't accidental. It depends entirely upon the honesty and sincerity of the manufacturer, in using such pure rubber, such

strong fabric, and such experienced workmanship that his products consistently stay well above the quality line which divides good tires from poor tires.

The best proof of how consistently the Mohawk Company has kept faith with the users of its product throughout the entire seven years of its history is shown by the number of permanent Mohawk users. Actual records kept by Mohawk dealers show that 85 per cent of all motorists who buy their first Mohawks use Mohawks exclusively thereafter.

Certainly this is proof of Mohawk quality of materials and workmanship which cannot be denied.

Made in Cord and Fabric Types—good dealers everywhere handle them

MOHAWK RUBBER COMPANY, AKRON, OHIO

Branch: 1507 South Michigan Ave., Chicago, Ill.

MOHAWK "Quality" TIRES

HAND MADE

BREEDERS' DIRECTORY

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

Wildwood Farms Angus

Home of Edgar of Dalmeny one of the world's greatest sires. He produced Erodemas, the grand champion bull at show in Perth, Scotland in Jan. 1919, and the produced Blue Bell a cross-bred heifer which was awarded the championship at the Smithfield, (Eng.) fat stock show in Dec. 1919. (The latter is England's equivalent of our Chicago International.)

Edgar is now an American Citizen, and is here for the purpose of bettering the breed in this country.

Edgar's calves are as yet too young to offer for sale but they are a promising lot and are being spoken for fast.

We have a few choice young bulls by Black Monarch III who won the Mich. State Fair Grand Championship in 1914-1915-1916, still for sale.

Our herd is under State and Federal supervision. A visit will interest you, write for particulars.

WILDWOOD FARMS

ORION, MICHIGAN

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

WOODCOTE ANGUS

Established in 1900

Trojan-Ericas and Blackbirds.

Write for 1920 Bull sale list.

WOODCOTE STOCK FARM,

Ionia, Mich.

For Sale At reasonable prices. Registered Aberdeen-Angus bulls from ten to twenty-two months of age. LANG BROS., Davison, Mich.

Three registered Guernsey bull calves. May Rose breeding, closely related to Spottwood Daisy Pearl. Dolly Dimples, Langwater Nancy, Langwater Hope, Langwater Daisy and imported Ichen Daisy 3rd, cows that have the higher milk and butter fat production of the breed. Calves sired by Albany's King of Anna Dean Farm; his grand dam Spottwood Daisy Pearl. Alec Harper, % Ed. Lowe, Robinson Rd. Grand Rapids, Mich.

Registered Guernseys Bull arrived fine one. O. T. Van Ham, Fenton, Mich. Just one left that will please you as well, ready for light service. J. M. WILLIAMS, No. Adams, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat. T. V. HICKS, Battle Creek, Mich.

FOR SALE Three Aberdeen-Angus bulls, age 20 months, nine months and seven months. Bred from the best stock in America. Also 320 acres land in Isabella County. BRINTON F. HALL, Belding, Michigan

Guernsey Bull Calf, Linded of Walter Phipps Farm. Born May 2-1919. \$100.00 f.o.b. Novi or Birmingham. Walter Phipps Farm, 80 Alfred St. Detroit, Mich.

For Sale Registered Guernsey bulls. May Rose breeding cheap if taken soon. Come or write. John Ebels R. 2 Holland, Michigan.

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

Herd Federal inspected. Bull calf Guernseys, 7 mos. old, sired by a son of Imp. Spottwoods Sequel. Dam, a high class cow of A. R. breeding. \$50 takes him. 6 others 3 to 6 mos. old. Most right. Satisfaction guaranteed. G. W. & H. G. Ray, Albion, Mich.

REGISTERED Holstein bulls sired by King Zerna Alcartra Pontiac, son of the \$50,000 bull; some from good A. R. O. cows. C. H. Giddings, Gobleville, Mich

Winnwood Herd

—SENIOR HERD SIRE—

Flint Maplecrest Boy (166974)

4 years old and weighs 3000 lbs. We have a few of his sons ready for service and some little fellows straight as a line and priced right the daughters of Flint Maplecrest Boy are making good.

—JUNIOR HERD SIRE—

Sir Ormsby Skylark Burke (249 66) A brother to the world champion cow over all breeds (Duchess Skylark Ormsby) 1506 lbs. of butter in one year. He is the best bred Ormsby bull in Michigan his dam a daughter of King Segis Pontiac she is a sister to King Segis Pontiac Count and the \$50,000 bull King Segis Pontiac Alcartra, we said get a better bull (we got ours) one of his sons out of a daughter of Flint Maplecrest Boy will make some herd sire.

JOHN H. WINN, (Inc.) ROSCOMMON, MICH.

BUTTER BOY ROSINA PRINCE 257572. Herd sire Son of King Ova. His sire in from a 30 lb. cow that made 1345 lbs. in one year, and Dam Butter Boy Rosina 2nd 200540 made 23 lbs., and almost 800 lbs. in ten months, she has a 33 and 34 lb. sister. Have some fine Bulls and Heifers and some heifers bred to him, all from A. R. O. Cows, with records from 22 to 30 lbs. Hampshire Hogs—Fall Boars ready for service, and gilts. Also looking orders for Spring Pigs, Belgium, Percheron Stallions and Mares. Imported and American bred. Write or come and see us. SAGINAW VALLEY STOCK FARM, Saginaw, W. S., Michigan. ELI SPRUNGER & SON, Proprietors.

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.

Holsteins of Quality

Fifteen High Grade Holstein Cows For Sale E. A. HARDY, Rochester, Mich.

OUR HERD SIRE Model King Segis Glista

By a 30 lb. son of Lakeside King Segis Alban De Kol. His dam Glista Fenelle 32.37 lbs. Her dam Glista Ernestine 35.98 lbs. His three nearest dams average over 33 lbs. and his forty-six nearest tested relatives average over 30 lbs. of butter in seven days. Write for prices on his sons.

Grand River Stock Farms C. C. Twiss, Mgr. Eaton Rapids, Mich.

A BULLY GOOD BULL CALF.

Born July 1919. His six nearest dams have good yearly records. Amongst them are three world's records. Good individual, nicely marked, and worth in any good herd all he will cost. You can't pay too much for this kind. I have a fine four months bull, not quite so well bred but a nice one. L. E. CONNELL, Fayette, Ohio

REG. Holstein Bull has been my Senior Herd sire. 20 dams average 31 lbs. must sell to avoid inbreeding as I have 18 daughters of his. J. R. Hicks, St. Johns, Mich.

HOLSTEIN BULL CALVES FOR SALE

From dams with good records. BULL CALVES Sired by 45 lb. BULL. BULL CALVES Sired by 34 lb. BULL. BULL CALVES Sired by 33 lb. BULL. PRICES VERY REASONABLE. Privilege of return if not satisfied.

A. W. COPLAND, Birmingham, Michigan. Herd under State and Federal Supervision.

Hatch Herd (State and Federal Tested)

Ypsilanti, Michigan

Offers young sires, yearlings and younger, out of choice advanced registry dams and King Korndyke Artis Vale: Own dam 34.16 lbs. butter in 7 days; average 2 nearest dams 37.61, 6 nearest 33.93, 20 nearest 27.83

FEED PRICES AND PROSPECTS.

(Continued from page 899).

quired in the use of cars, and in view of the fact that practically every commodity is suffering from shortage of rail equipment, there is no reason why corn will benefit particularly. Close observers of market conditions anticipate no material improvement in the corn situation on this account.

A division of sentiment prevails as to the probable course of prices for corn. The current market, around \$2.00 a bushel, is the highest on record for this period of the year, and about twenty cents a bushel from the peak of values reached in August of 1917. Despite the numerous bearish factors surrounding the trade, it is difficult to look forward to any general depression in prices, though further advances seem improbable for the immediate future. If there was a hope of improvement in the car supply, it would be safe to manifest a downward scale of prices, but until August, at least, the trade manifests little hope of bearish pressure. Weather conditions and progress of the corn crop should be followed closely, for these will be important influences on price fluctuations.

Backwardness of growing oats in many sections of the country have strengthened the new crop deliveries of the grain. The technical position of the market has not materially changed; the movement continues light, stocks are not increasing to any extent at terminals, while demand is being well maintained as the season advances. Carlots of oats are selling around \$1.05 to \$1.10 a bushel, having reacted from a top above \$1.20 in middle west markets, the highest level in the history of the grain trade. Oats are in a strong position, but a break in prices could come at any time, so care is necessary in making purchases.

THE high protein concentrates lack a consumptive demand. Cottonseed cake and meal are being offered freely in the southwest, but crushers are not making a determined effort to dispose of their product, fearing that too great pressure would bring about a break in prices. Stocks of cottonseed feed in hands of crushers are considerably above normal for this season of the year, and the market is expected to enter the summer in an easy position so far as supplies are concerned. Prices on forty-three per cent protein feed are holding around \$60 to \$62.50 per ton, for carlots, basis crushing plants in Texas and Oklahoma. Demand from feeders is extremely light. Such heavy losses have been suffered by cattle feeders in their fattening operations in recent months that they are disinclined to buy high-priced feeds, such as cake and meal. Consumption is very light in the feeding belt, cattle operators rationing their scant holdings with unusual care. Fertilizer manufacturers are buying small quantities of meal, largely off-colored offerings, paying around \$7.25 per ammonia unit, basis Memphis. Buying from this source is a strengthening influence in the general market.

While no excessive stocks of linseed cake and meal are available, the market for this protein feed is in a similar position to that of cottonseed products. Demand is lacking, and feeders manifest little if any interest in the market. More flaxseed is being received from the Argentine, but some difficulty has been experienced in recent weeks in moving the grain into the interior seaboard points. Crushers have some old orders on their books, but jobbers and other buying interests are not eager for their old contracts to be filled, owing to a dearth of buying orders. Some crushing plants are down because of the lack of demand, and the difficulty in shipping. At this writing linseed cake and meal is being

offered around \$64 a ton, basis Minneapolis, for spot or prompt shipment. Crushers are more bullish on the deferred deliveries, and prices for July or later shipment are around \$67 to \$68 a ton. There is prospect for a sharp increase in the acreage to be devoted to flaxseed in the northwest, which tends to add to the already weak tone of the market.

MILLFEEDS apparently have reached their top. Offerings available on markets of the country are increasing in volume, while demand has fallen off. But there is need for a conservative policy in the offal market even yet, as prices will probably not recede. An erroneous belief prevails among many members of the bran and shorts trade that if ever prices of the wheat offal start downward the recessions will be radical, owing to the present extraordinary level of prices. But this is not the case. Mill production of flour is increasing only slowly, the output being far below the actual grinding capacity of the plants. The out-turn of bran and shorts, therefore, is light, and there is no abundance of the feed on markets. Of course, were the feed to be offered in large volume a radical break in prices would doubtless result, but prospects for demand for flour are not encouraging to a heavy output the remainder of the old crop year.

Bran on the Minneapolis market is selling around \$52 a ton, higher than a month ago, but as much as \$3.00 a ton under the peak of prices. In Kansas City spot or prompt offerings of bran are bringing \$51 to \$52, \$50 for all June shipment, and \$46 to \$47 for July delivery. St. Louis quotes its market at \$55 to \$56, and Chicago is on practically the same basis. Enlarged use of pastures has materially reduced the interior demand for feed, while the approaching movement of new crop alfalfa to market is causing dairymen to hold off in the hope of purchasing the new hay at a lower figure. Bran should be bought only as it is needed. The time for heavy purchases will not come until the market in the middle west recedes to a level around \$40 or less. Drouth or other unfavorable weather would doubtless hold up the market at an extraordinary height, but with normal conditions, such as prevail at present, and with good grass prospects, bran should continue to work down.

Shorts are easing along with bran, but as anticipated, the premiums on the heavier offal is widening over bran. Gray shorts in Minneapolis are selling up to \$64 a ton, Kansas City quotes the market at \$59 to \$60, St. Louis around \$62.50, and Chicago \$60 to \$62 a ton. Hog producers are using the wheat offal sparingly. There is now a premium of about \$8.00 a ton on shorts over bran, which doubtless will be maintained for the next month or two. Any further recessions in bran, however, will be followed by a similar course on shorts.

THE position of the hay markets is bearish, more so, however, in prairie and alfalfa than in timothy and clover. Prairie, which has boomed in price in recent weeks as a result of enormous buying in the southwest by Canada and the Pacific Northwest, in which sections drouth conditions have caused much suffering, is again weakening, having declined more than \$5.00 a ton from its high point. It is very probable that prairie will continue to ease off in price as the season advances, use of pastures having cut down demand very sharply. Prairie in Kansas City is selling around \$13 to \$24 a ton, up to \$35 a ton in St. Louis, and as high as \$40 for choice grades on the Chicago market. Stocks of prairie hay in the country are liberal,

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Guaranteed to Outwear Two Pairs of Ordinary Overalls

We know what goes into Headlight Overalls. That's why we cover their service with an absolute guarantee. The extra quantity and extra quality of denim in Headlights insure extra comfort and extra wear. If you don't get double wear out of Headlights, you get your money back.

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World's Greatest Overall Makers

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(42)

Facts in BLACK & WHITE

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The total number of purebred Holstein-Friesian cattle imported from Holland was 7,752, and from these have sprung all the purebred Holsteins in the United States and Canada, as well as the numbers exported to Australia, South Africa, New Zealand, Mexico and elsewhere. The Herd-book of The Holstein-Friesian Association shows a total of 783,427 registrations and that of Canada 100,725. The transfer record indicates a state of demand, and it is of interest to know that in 1918, 94,465 transfers were recorded.

Europe will look to America to replace her breeding stock depleted by the war, and values of American Holsteins will make substantial advances.

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164 Hudson Street
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LONG DISTANCE

HOLSTEIN BULL CALF
Born Dec. 24, 1919. Seven close up dams average above 1200 lbs. butter and 24,000 lbs. milk in 1 yr. His dam untested \$100. A. Fleming, Lake, Mich.

"TOP NOTCH"

HOLSTEINS

McPHERSON FARMS COMPANY

has raised many great milk cows:—

1	"	"	842 lbs. milk in 7 days
1	"	"	3394 lbs. milk in 30 days
1	"	"	120 lbs. milk in 1 day
1	"	"	331 lbs. milk in 7 days
1	"	"	over 10000 lbs. milk in 100 days
1	"	"	105 lbs. milk in 1 day
1	"	"	606 lbs. milk in 7 days
1	"	"	2669 lbs. milk in 30 days
1	"	"	100 lbs. milk in 1 day
1	"	"	2084 lbs. milk in 1 year
1	"	"	100 lbs. milk in 1 day
1	"	"	659 lbs. milk in 7 days
1	"	"	18675 lbs. milk in 1 year

Others under test are making large milk records. A fine lot of young bulls from 3 months to 2 years old for sale. Get a "milk" bull, and increase milk production in your herd.

Our herds are under U. S. supervision.
McPHERSON FARMS CO., Howell, Mich.

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A Semi-Official Brad Bull to Head

Your Herd

Maplecrest Application Pontiac No. 132652, heads

Our Herd

His dam's record is 1344.3 lbs. butter 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 5156 lbs. milk in 7 days.

One of his sons from our good record dams will carry these great blood lines into Your Herd.

For Pedigrees and Prices write to
R. Bruce McPherson, Howell, Mich.

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.

Reg. Holstein Heifers. Will offer some choice ones at calf club sale here June 25, 1920. Write for catalog.
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42.5 lbs. butter 715 lbs. milk in 7 days Idleaze Pontiac Lass you can have her gdson for \$150 terms. His dam is daughter of Maplecrest Kora. Heng. M. L. McLAULIN, Redford, Mich.

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20 Cows and Heifers of popular breeding for sale also bulls not related.

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Herefords. Just purchased 3 new herds, now have 150 head; we offer you anything desired either sex, horned or polled, any age. Priced reasonable.
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Can spare a few females, cows with calf at side, open or bred heifers, also a few bulls old enough for service. Breeding and condition right.

Jay Harwood & Son, Ionia, Mich.
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Jersey Cattle, Majesty strain. Herd on State accredited list, R. of M. testing constantly done. Bulls for sale. **ALVIN BALDEN, Phone 148-5, Capac, Mich.**

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FOR SALE Jersey Bulls ready for service R. of M. ancestors. Raleigh-St. Lambert breeding. Jerseys stand for economy. Waterman & Waterman, Packard Rd. Ann Arbor, Mich.

For Sale Jersey bull calves of Vajesty breeding from good producing stock. Herd on Government "Accredited List." Write for price and pedigree to **C. A. TAGGETT, R. 2, Fairgrove, Mich.**

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Bulls ready for service from our herd bull Marguerite Premier, gdson of Patis 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.



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That is what Larro and the Larro guarantee reproduced at the left assure you—a *certainly* of increased production from your cows.

No matter how much milk your cows are giving on their present ration Larro must make them produce more.

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You get more milk with Larro because it isn't a one-sided ration, but a nutritious balanced food.

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The cows like Larro because it's palatable—tastes so good—and it's so digest-

ible that an unusually high percentage is utilized in actual milk production.

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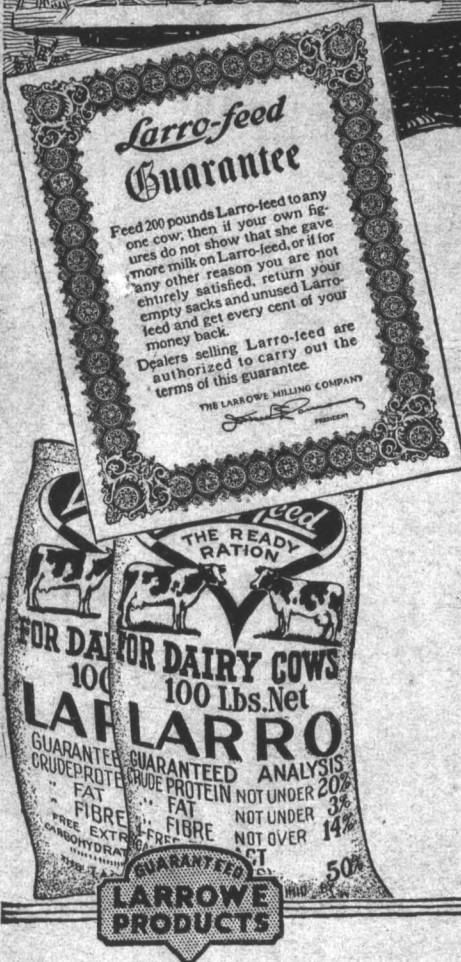
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For Sale. Jersey bull ready for service sired by Flying Fox's Gay Lad. Dam record 42.5 lbs. butter 66% lbs. milk. Notten Farm, Grass Lake, Mich.

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a bull that will put weights on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. A roan, senior yearling, a Missie of Villager breeding, a herd bull prospect, Federal Test.

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Royal Bruce 795521 heads our herd. Three 40 bulls, 38 females, write for new list. Duties of collyne's herd at \$21,000.00. One bull and a number of females for sale.
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Home of the Michigan Champions.
Shorthorn Sires in Service:

IMP. Lorne, IMP. Newton Champion, Sterling Supreme. Why not buy a young bull to head your herd that carries the blood that is making Shorthorn History. Only a few real headers left. Write your wants.

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Shorthorns Scotch and Scotch Topped bulls and heifers priced right. Sultan Champion heads herd, one Scotch two yr. old herd bull by Red Cumberland priced right.
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One Shorthorn bull, eleven months old, extra good.
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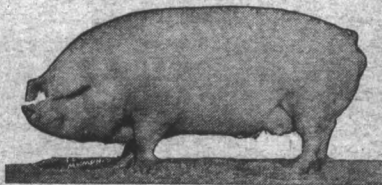
The Kent Co. Shorthorn Assn. have males and females of quality for sale.
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Milking SHORTHORNS. Clay bred bull calves Herds under Federal Supervision.
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Shorthorns Good Scotch bred bulls, cows and heifers, priced right.
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One of the Best Herds in Michigan

Spring gilts and fall yearlings bred for March, April and May litters. I ship C. O. D., pay express and register in buyer's name. If you want a BIG TYPE sow, guaranteed right in every way, write me.

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Reg. Red Polled cattle choice young bulls from 6 to 18 mo. old for sale.
FRANK KEBLER, R. 1, Grand Ledge, Mich.

For Sale One Thoroughbred Brown Swiss Bull. Nine months old.
E. H. EISELE, Manchester, Mich.

HOGS

Berkshires size with quality is our specialty. Write your wants to
M. G. MOSHER & SONS, Osseo, Mich.

Registered Berkshires, Gilts, and Sows bred for April May and June farrow. A yearling Boar and a few younger Spring pigs. Chase Stock Farm, Marlette, Mich.

Duroc sows and gilts bred to Walts King 92949, who has sired more 1st and 2nd prize pigs at the State Fair in last 2 years than any other Duroc boar. Everyone will be a money maker for the buyer. Cat. and price list.
NEWTON BARNHART, St. Johns, Mich.

Michigana Farm Durocs

We breed and sell good hogs.
O. F. FOSTER, Mgr., Pavillion, Michigan

DUROC JERSEYS. Spring pigs ready for delivery, \$10.00 each. LAKE SIDE STOCK FRUIT FARM, Pinckney, Michigan.

ROYAL BRED DUROC GILTS

Dams sired by Michigan Cherry Col. Bred to Jacks Cherry Orion King No. 169259. Son of the \$10,000 champion, Jacks Orion King 2nd, all high class stock, write for prices. The Jennings Farms, R. 1, Bailey, Mich.

and the carry-over into the new crop year will be larger than normal.

Dairymen of Michigan are interested in the market for new crop alfalfa, considerable quantities of the legume moving from Kansas and other southwestern states to points here. From the dairyman's standpoint, the first crop of alfalfa is not encouraging to the producer. The bulk of the first cutting over the southwest was of poor quality, much having been damaged by rains and unseasonably cool temperatures during the harvest period. The hay is very weedy as a rule, and not particularly desirable as a feed for dairy stock. In scattered localities where the first crop was put up in good shape, dealers bought the cutting around \$25 a ton, basis cars, for early market shipment. As a rule, however, little new hay in the southwest has sold above \$15 to \$17 a ton, this including the average grade. Early arrivals of alfalfa of good quality are bringing firm prices, but dealers are discounting sharply the damaged or unsound offerings. The market for old crop alfalfa is holding around \$38 a ton for the best, and down to \$19 a ton for the cheaper grades, but these figures will not hold when the new hay begins moving. Timothy and other tame hay displays strength, owing to the scant arrivals and strong southern and eastern demand. It is probable, too, that tame varieties will maintain a comparatively strong tone for some time yet, at least until the new crop is available for markets.

COUNTY FARM BUREAUS.

(Continued from page 898).

loaned to the farmer by them. Blissfield at that time had two banks with combined resources of less than \$200,000. The next year other farmers decided to try feeding steers and their experience was so satisfactory that cattle feeding soon became recognized as an important branch of agricultural



Sweet Clover Doing Fine on the Farm of Otis Wegner.

activity. The banks have several times found it necessary to arrange their resources so as to be prepared for a heavy demand for cattle loans in the fall of each year. The loans are carried until May or June of the following year, when the cattle are sold and the loans paid out of the proceeds. The banks are obliged to carry a large reserve through the summer months, or a large line of short-time investments, but the result of their foresight in encouraging this demand have justified this inconvenience and the sacrifice of interest rates. For today the two banks in Blissfield, located in a purely agricultural community, and with keen competition from banks within ten miles in every direction, now have resources of over \$2,200,000—more than eleven times their totals when the cattle feeding industry had its inception. Furthermore, the benefits from feeding cattle or sheep do not begin to be measured by the increase in banking resources. The increase in the fertility of the soil is of incalculable value. It has come to be almost a part of the religion of every farmer in Lenawee county that the

41 Stolen Cars Recovered From Farmers and Dealers in Shiawassee County

41 cars stolen out of the City of Detroit were sold in Shiawassee and Gratiot Counties and have now been recovered by the officers.

Three dealers and a number of farmers stand to suffer a heavy loss.

WARNING: Do not buy cars from strangers. Report suspicious cars to your Sheriff and the CITIZENS' MUTUAL AUTOMOBILE INSURANCE COMPANY of Howell, Michigan. The Company has about 45,000 car owners insured in the country districts of Michigan; has paid 3270 claims to May 1st, 1920, and a total of \$435,092.98.

The Company the past year has recovered many cars in the City of Detroit, and in the cities of Rochester, New York; Toledo, Ohio; Cleveland, Ohio; Chicago, Illinois; New Orleans, Louisiana; Kansas City, Missouri, and other places. When you notify this Company of a stolen car it is like notifying 45,000 car owners.

Insure your car today and get the benefit of the largest exclusive mutual automobile insurance company in the world. Call on the local agent or write

The Citizens' Mutual Automobile Insurance Company
of Howell, Michigan



Spring pigs by Walt's Orion, First Sr. Yearling Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros, Riga, Mich.

DUROC JERSEYS

Two sows of great breeding and choice individuals weighing about 300 lbs. each due to farrow in June price \$35 each, first checks get them. RUSH BROS., OAKWOOD FARM, Romeo, Mich.

DUROC JERSEYS

Bred gilts all sold. Get in your orders early for March and April pigs. Either sex or pairs not akin. F. J. DRODT, Monroe, Mich. R. 1.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Duroc bred sows and gilts sired by Orion Cherry King Col. 2nd. bred to All Col. of Sangamo 2nd. First class lot, reasonable. W. G. Taylor, Milan, Mich.

Duroc Jersey fall and spring pigs for sale. We sell you only the best, ship C. O. D. subject to your approval. Register in buyers name and guarantee satisfaction. W. E. BARTLEY, Alma, Michigan

CHESTERS, spring pigs in pairs or mature stock. A few gilts bred for May farrow. F. W. ALEXANDER, Vassar, 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 those who are only dealers—ready for market at six months old. Write for my plan. More Money from Hogs. S. S. BENJAMIN, R. F. D. 10, Portland, Michigan

only way to sell anything produced on the farm is "on the hoof." It is a larger part of the religion of the thrifty Amishmen of Lancaster county, Pennsylvania. That is why Lancaster leads Lenawee county in agriculture. Or in other words, just a few more cattle and sheep to supply fertilizer will put Lenawee county in the lead among the great counties of the United States. The Jipson-Carter State Bank believes in cooperative organizations and is willing to aid them in any undertaking which will build up the resources of the community and keep more Lenawee county money in Lenawee county.

H. W. Porter owns and operates three dairy farms consisting of five hundred and ten acres near Weston. Mr. Porter is also a banker and serves his community along the same lines as the other progressive bankers of his county. He operates his farms with tenants on a partnership basis. He is a booster for the Farm Bureau, and a successful banker and farmer. He is breeding purebred Holstein cattle on his farms.

Executive Board Lenawee County Farm Bureau.

A. E. Illenden, president, owns and operates a one hundred and sixty-acre farm near Adrian. He keeps Shorthorn cattle and Poland-China hogs and feeds about one thousand lambs each year. Corn and alfalfa are his chief crops.

Elmer A. Beamer, vice-president, is recognized as an expert cattle feeder. He owns and operates a splendidly equipped stock farm near Blissfield. Each year he feeds about seventy-five cattle and one hundred and fifty hogs. No roughage is sold and large quantities of grain are purchased. A leader in all movements that tend to improve the community in which he lives.

Otto Wegner, director, is recognized as a live-wire farmer. He owns one of the best one hundred and thirty-acre farms in Riga and feeds cattle and hogs. His chief crops are corn, barley, alfalfa and sugar beets. Everybody feels that the community is well represented.

John Hawkins, director, is a prominent farmer and breeder of Addison. His Poland-China hogs are known throughout the county and state. His four hundred-acre farm is devoted to plain farming and stock feeding. He is a new member and has never been active in public work. A good farmer and business man.

V. B. Colgrove, director, of Morenci, has served as township supervisor and is manager of the cooperative association at that place. In company with his father he owns two farms. He is an active worker and believes in the cooperative way of getting results.

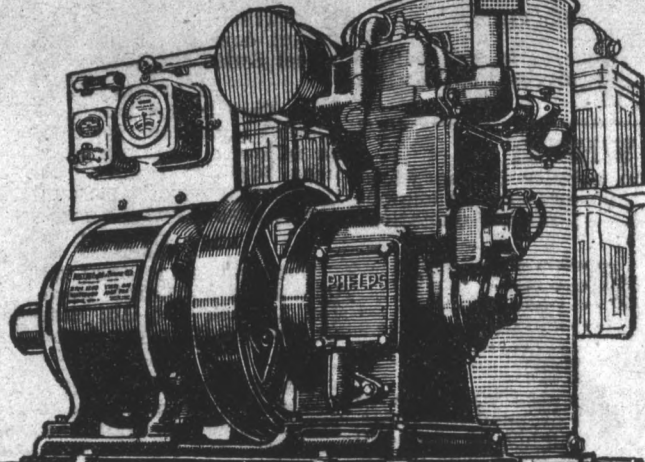
Charles M. Case, director, of Adrian, owns and operates a one hundred and eighty-acre farm and breeds Percheron horses and Hampshire hogs. Mr. Case is well known and it is generally conceded that the farmers will get able representation when he is on the board.

M. C. McMahon, director, of Deerfield, owns and operates an eighty-acre farm. He practices general farming and is an authority on all affairs that have to do with the management of a small farm. He has a thorough understanding of the problems of the men who are operating smaller farms and should give them the right kind of leadership on the board.

L. W. Collar, director, of Macon, owns a two hundred acre farm and practices a mixed system of crop growing and stock feeding. He was formerly a dairy farmer and has a broad knowledge of general farm management. He is progressive and active in all work for the betterment of the farmer and his family.

Ralph J. Carr, county farm agent, will serve as secretary. R. C. Rothfuss will serve as treasurer.

Phelps



PHELPS FARM POWER

THOUSANDS of housewives are warm supporters of the "Phelps." They would not do without it. And they would have no other. For chore drudgery is gone. In its place come hours and hours for rest and recreation.

A modern bath, power for every household task, electric power and light for every building on the farm—all this is possible with the "Phelps."

There are two reasons for "Phelps" success. 1. Does every power chore of less than tractor size. 2. Built so simply that on many farms the housewife takes care of it alone.

"Phelps" leads—it has no rival—where both power and light are wanted.

Every member of your family will enjoy and be benefited by "PHELPS" Farm POWER. Farm LIGHT. Write for catalog TODAY.

Phelps Light & Power Co.
607 First Street
ROCK ISLAND, ILL.



O. I. C. & Chester White Swine

Strictly big type with QUALITY. Spring pigs now ready to ship. Never had better ones. Remember I was breeding Big Type 20 years ago. They have a right to be big. Write us for prices. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C's. One Sept. boar. March farrowed pigs of either sex. Q. J. THOMPSON, Rockford, Mich.

O. I. C's A few choice late fall and winter boars, also a fine two year old boar. WEBER BROS., R. No. 2, Royal Oak, Mich.

O. I. C's. Big type serviceable boars. Gilts bred for May and June farrow. G. P. ANDREWS, DANVILLE, MICHIGAN

O. I. C's Gilts bred for March and April farrow, guaranteed with pigs. Fall pigs and a few service boars. Herd improved by D. T. F. C. Burgess, R. 3, Mason, Mich.

O. I. C's Eight young boars and spring pigs for June shipment. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's Booking orders for spring pigs, we register free and ship C. O. D. A. J. BARKER & SON, Belmont, Mich.

O. I. C's 5 last fall boars and 15 last fall gilts bred for fall farrow. Weight 230 to 325 lbs. extra good stock. Also this spring pigs not akin. 1/4 mile west of depot. Citizens phone 124. Otto B. Schulze, Nashville, Mich.

MILLER Meadow's L. T. F. C. boars all sold. Gilts raised by General Jones and bred to our young boar Alaska, address CLYDE WEAVER, Corasco, Mich.

L. S. P. C.

One 400 lb sow and 7 pigs by side, price \$100.00. One 275 lb. gilt and 6 pigs by side, price \$85.00. Two choice boars. H. O. SWARTZ, Schoolcraft, Mich.

Big Type Poland Chinas

Our herd is representative of the best in Big Type. The \$40,000.00 "The Yankee", the \$50,000.00 "The Clansman" and the priceless "Giant Buster" are all represented. We aim to keep up-to-date blood lines and only quality stuff. Come over and see us. PUBLIC SALE OCT. 26th. WESLEY HILL, R. 6, Ionia, Mich.

Bred Sow Sale at Fairgrounds

August 5th. Carey U. Edmonds, Hastings, Mich.

For Sale: Purebred O. I. C. pigs, eight weeks old, from the son of the noted sire, Callaway Ed. and O. C. Schoolmaster. Their dam by Longfellow. These pigs are well-grown and are good ones. For prices and particulars address C. S. MOTT, Flint, Mich.

B. T. P. C.

All sold out except some Fall Gilts. Thanking my customers. JOHN D. WILEY, Schoolcraft, Mich.

Big Type P. C. Bred gilts, Fall rearlings, prize winners, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Additional Stock Ads on Page 923

LATEST MARKET REPORTS

FIRST EDITION.

The market reports in this edition were revised and corrected on Tuesday noon, June 8, 1920.

WHEAT

There is no activity in the wheat market, and exporters are not anxious for shipments. At Detroit quotations are as follows:

No. 1 red	\$3.10
No. 1 mixed	3.08
No. 1 white	3.08
No. 2 red	3.07
No. 3 red	3.04

CORN

Very limited business was done on Monday and prices dropped five cents, although they are higher on the local market than general conditions in other markets warrant. Present quotations at Detroit are:

No. 3	\$1.97
No. 3 yellow	2.02
No. 4 yellow	1.97
No. 5 yellow	1.93
No. 6 yellow	1.90

OATS

Oats have not been coming in in sufficient quantities to keep dealers promptly supplied and the demand is active all the time. Present prices on the local market are as follows:

No. 2 white	\$1.23
No. 3 white	1.22
No. 4 white	1.21

RYE

The demand for rye is very light and the trade is dull. At Detroit Cash No. 2 rye is quoted at \$2.20 per bushel.

BEANS

Prices are easy and there is not much doing on the local market. Present quotations are \$7.65 per cwt. for choice pea beans. At New York choice pea beans are quoted at \$8.25 per cwt and red kidneys at \$15.75@16 per cwt.

SEEDS

There is very little doing in the seed trade and prices on the local market are as follows: Prime red clover at \$25.50; alsike \$25.50; timothy at \$5.60 per bushel.

FEEDS

The range of prices in mill feeds remains about the same as last week. Local quotations are as follows: Bran \$58@59; standard middlings \$59@60; fine middlings \$60@62; coarse corn meal \$75@77; cracked corn \$86; chop \$72@73 per ton in 100-pound sacks.

HAY

The supply is very light and prices on the local market are firm at the following quotations: No. 1 timothy \$37.50@38; standard \$36.50@37; light mixed \$36.50@37; No. 2 timothy \$35.50@36; No. 3 timothy \$32@35; No. 1 mixed \$35.50@36; No. 1 clover \$35.50@36; rye straw \$12.50@13; wheat and oat straw \$12.50@13 per ton in carlots.

At Pittsburgh conditions have about returned to normal and there is no surplus arriving. The market is strong at the following quotations: No. 1 timothy \$45@46; standard timothy at \$44@45; No. 2 timothy \$43@44; No. 3 timothy \$40@42; No. 1 oat straw at \$18.50@19; No. 2 oat straw \$18@18.50; No. 1 wheat straw \$18@18.50; No. 2 do \$17.50@18; No. 1 rye \$18.50@19; No. 2 do \$18@18.50.

POTATOES

The potato market is being supplied chiefly with importations from Denmark. No supplies are coming in from Michigan points and Canadian supplies are practically exhausted. At Detroit these Danish potatoes are quoted at \$13 per 150-pound sack. New potatoes from Florida are quoted at \$19@20 per barrel.

BUTTER

At Detroit No. 1 creamery butter is quoted at 49@50c per pound.

CHEESE

Prices are declining and the recent break in Wisconsin has affected sentiment in other markets. Offerings are increasing and present quotations on the local market are as follows: Michigan flats 25½@26c; New York flats, June make 32½c; brick 29c; longhorns 27c; Michigan single daisies 26½c; Wisconsin double daisies 26c; Wisconsin

sin twins 25@25½c; limburger 32@32½c; domestic block Swiss 32@36c; wheel Swiss 35@36c.

POULTRY

At Detroit the market is easy and present quotations for live poultry are as follows: Broilers 60@65c per lb; hens 36@37c; small hens 34@35c; roosters 21@22c; geese 25c; ducks 38@40c; turkeys 44@45c per pound.

EGGS

The market is easy and Monday's quotations at Detroit were as follows: No. 1 fresh 40@41c; storage packed extras, 42@42½c per dozen.

WOOL

While restricted credit is hampering the wool business all along the line, stocks have not accumulated in eastern centers. Just as the Boston and other eastern buyers were starting after the new clip in the west, the financiers of the country began the withdrawal of credit which, accompanied by general depression talk discouraged buying generally. Not only this, but in the fleece and several territory states the pooling of the clip by growers has been on a very large scale. Cars for shipping are also scarce. Hence the movement east has been small. British wools, however, are not selling well in Boston due, undoubtedly, to the credit situation. Buyers showed up at the Fall River mills this week which indicates that goods are in demand and that jobbers are not meeting the situation. It is difficult to interpret values. Boston dealers estimate the best unwashed delaine at 75c.

GRAND RAPIDS

Egg market this week is lower at 35@36c bid. Receipts have been larger than a week ago and three cars shipped. The hide market took another slump and is weak and very unsettled. Prices are: No. 1 green 14c pound; No. 2 12c; green calf No. 1 32c; No. 2 29½c. Wool is also much lower at the following prices: Fine and rejects 30c; medium unwashed 35c per pound. Farmers are marketing what surplus potatoes they have, selling on the city market at \$4.50@4.80 per bu. According to the report of the Michigan Potato Shippers' Association the

total number of cars has been 8,800 against 11,063 a year ago. Secretary A. C. Aspinwall states that approximately 95 per cent of last season's acreage is under cultivation this year. The crop bulletin issued by Meteorologist C. F. Schneider for this week, says it has been the best for all kinds of vegetation, germination and growth. Corn and sugar beet plant near completion; some corn and early potatoes are above ground; bean planting is in progress; winter wheat mostly in good condition, but some fields rather thin; winter rye in or near bloom and apple "blow" generally above the average. Farmers are marketing what surplus they have but prices are lower at \$29@30 per ton on the city market.

NEW YORK PRODUCE MARKET.

Butter.—The receipts of butter this week, while 25 per cent greater than for last week, are at least 50 per cent under normal for this season of the year. There is every indication now, however, that within the next few weeks production will be back to normal. Butter still shows the influence of winter feeding but the greater part of that arriving begins to show a decided grass flavor. As yet speculators are storing no butter as they do not consider the quality of that being received high enough for storage purposes. Without doubt, the coming week will witness free speculative buying. Speculators will move much more conservatively this year than in previous years because of the tightening up of banks so far as the loaning of money for speculative purposes is concerned. It is very probable that less butter will be stored this year than in former years because of the condition of the country's finances. The market took a decided slump because of the increase in receipts this week and the price fell five cents. However, it now seems that conditions are nearly normal and that we may expect a fairly stable market for some time to come. Without doubt, there will be some price fluctuations but none of any decided nature. Quotations at the close on Friday were: Extras 55c; higher scoring than extras 55½@56c; firsts

55@55½c; seconds 48@50c.

Cheese.—In sympathy with butter marketing conditions, the price of cheese declined considerably this week. It is very natural that there should be price declines because of the increased production. Prices are now getting near the point where it will be possible for speculators to lay in stocks. However, as yet there has been no speculative buying. General demand is lacking and stocks are accumulating. There is no export demand at the present time. Held cheese is moving fairly well but at reduced prices. Quotations on fresh cheese are: Fair to good 27@28c; average run 25½@26c; specials 26½@27c per pound.

Eggs.—Receipts of eggs have been fairly liberal and there has been a free speculative buying, with the result that prices of all grades of eggs have advanced. The average quality of eggs being received is below the average. Quotations are: Firsts 42@44c; extra firsts 45@47c; extras 48½@49c.

Poultry.—Receipts of live poultry have been fairly heavy but consumptive demand has been light. Prices of practically all grades of poultry, with the exception of broilers, which are in light supply, have declined to some extent. Established quotations are: Fowls 35@37c; broilers 65@75c; old roosters 18c; turkeys 32c; ducks 23@25c; geese 20@22c.

COMING LIVE STOCK SALES.

Poland-Chinas, Oct. 26, Wesley Hile, Ionia.
Big Type Poland-China Sale Circuit in Central Michigan, October 26-30.

Scours in Lambs.—I would like information about our lambs. We have fifty-three ewes; they started lambing about the middle of March. The first thirty did well enough, but about that time our well went dry. I then had to haul water from the swamp to supply them. Two days later all of our lambs, a day or two old, took scours and died within twenty-four hours. We changed back to well water, but our lambs continued to die as fast as they came, and they continue to die yet. We saved about half a dozen out of about forty. The first symptom we notice is their hind legs get wet, great weakness sets in and they soon die. Have fed the ewes dry chopped corn-stalks free of mould, mixed hay and mixed grain; oats, rye and peas. H. S., Prescott, Mich.—Such young lambs are not benefited by giving them drugs. Doubtless the change of water caused their sickness and death. Older lambs might perhaps have resisted the infection. I advise you to clean and disinfect the premises where they are kept and have been running. Spread powdered lime on the floor, wash walls with fresh lime wash. Clean up all refuse and excrement and either burn or lime it.

Live Stock Market Service

BUFFALO

Cattle prices are generally 50c higher than last week's close. Heavy hogs are 25c lower, although yorkers are 10c higher. Calves are mostly \$17; lambs bring \$16.50.

DETROIT

Cattle.

Receipts 446. Canners steady; other grades \$1 higher.
Best heavy steers \$13.00@14.00
Best handy wt bu steers 14.00@15.25
Mixed steers and heifers 11.50@12.75
Handy light butchers 10.50@11.25
Light butchers 9.00@10.25
Best cows 10.00@11.00
Butcher cows 8.50@ 9.25
Cutters 6.00
Canners 5.00@ 5.75
Best heavy bulls 9.50@10.25
Bologna bulls 9.00@ 9.50
Stock bulls 8.00@ 8.75
Feeders 10.00@11.75
Stockers 8.50@ 9.50
Milkers and springers ... \$ 85@ 115

Veal Calves.

Receipts 917. Market strong.
Best \$ 18.00
Others 10.00@16.00

Sheep and Lambs.

Receipts 244. Market dull.
Best lambs \$ 17.25
Fair lambs 13.00@15.00
Light to common 9.00@12.00
Fair to good sheep 9.00@10.00
Culls 3.00@ 7.00

Hogs.

Receipts 2,534. Market 25c higher.
Pigs \$12.50@12.75
Mixed hogs 14.50@14.60

CHICAGO

Hogs.

Estimated receipts today are 36,000; holdover 5,373. Market is 25c higher. Bulk of sales \$13.85@14.60; tops at \$14.70; heavy 250 lbs up medium, good

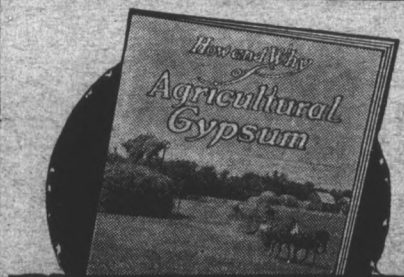
and choice \$13.65@14.45; medium 200 to 250 lbs medium, good and choice at \$14.20@14.70; light 150 to 200 lbs, medium, good and choice \$14.15@14.70; light lights 130 to 150 lbs common, medium, good and choice \$12.50@14.50; heavy packing sows 250 lbs up smooth \$12.40@13.35; packing sows 200 lbs up rough \$11.75@12.35; pigs 130 lbs down medium, good and choice \$10.25@12.75.

Cattle.

Estimated receipts today are 11,000. Canners, bulls and calves are steady; other classes 35@50c higher. Beef steers medium and heavy weight 1100 lbs up, choice and prime \$14.40@15.50; do medium and good \$12.75@14.50; do common \$11.35; light weight 1100 lbs down, good and choice at \$13.85@15.10; do common and medium \$11@13.85; butcher cattle, heifers, common, medium, good and choice \$8.40@13.75; cows, common, medium, good and choice \$8.15@12; bulls, bologna and beef \$7@11.50; caners and cutters, cows and heifers \$5@8.10; do canner steers \$6.50@8.50; veal calves, light and handyweight, medium, good and choice \$12.50@14.50; feeder steers, common, medium, good and choice at \$9.50@12.15; stocker steers, common, medium, good and choice \$8@11.40; stocker cows and heifers common, medium, good and choice \$7.25@9.75; do calves, common, medium, good and choice \$7.50@10.50.

Sheep and Lambs.

Estimated receipts today are 12,000. Market strong to higher. Lambs 84 lbs down, medium, good, choice and prime \$13.50@16.50; do 85 lbs up, medium, good, choice and prime \$12.75@16.25; do culls and common at \$9.50@12.50; feeder lambs, medium, good and choice \$13@17.25; spring lambs, medium, good, choice and prime \$9.50@13; ewes, medium, good and choice \$5.50@8.25; ewes, culls and common \$3@9.50; yearling wethers, medium, good and choice \$8@12.50.



FREE BOOK

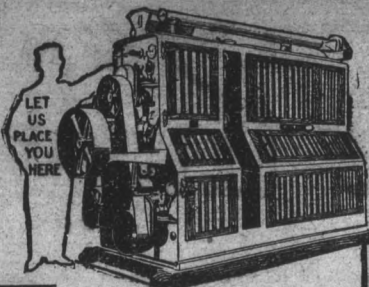
This book by a foremost agricultural expert will tell you how to produce many more tons per acre.

Agricultural Gypsum

supplies sulphate sulphur direct to alfalfa, clover and other legumes. It enormously increases growth and adds NITROGEN to the soil.

Your building supply dealer can furnish AGRICULTURAL GYPSUM. Ask him about it. Write us TODAY for free book.

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Chicago, Illinois



You Can Make \$500 to \$1000 a Month Milling "Flavo" Flour

in your community on this New Wonderful Mill — no previous milling experience necessary

Be a Miller

and have a dignified, permanent business that will earn you steady profits the entire year.

Grind your home-grown wheat, supply your community with flour and feed. You save the freight on the wheat going out, and the flour and feed coming in.

Besides earning the regular milling profits you get the extra profit of making "A BETTER BARREL OF FLOUR CHEAPER" on the famous "MIDGET MARVEL." The new process, self-contained, one-man, roller flour mill that is revolutionizing the milling industry. It requires less than half the power and labor of the usual roller mill and makes a creamy white, better flavored flour that retains the health building vitamins and the natural sweet flavor of the wheat.

Our customers are given the privilege of using our Nationally advertised Brand.

"Flavo" Flour "Famous for its Flavor"

We furnish the sacks with your name printed on them. OUR SERVICE DEPARTMENT examines samples of your flour every thirty days and keeps your products up to our high "Flavo" standard. We start you in business with our "Confidential Selling Plans" and teach you the business of milling and selling flour. You can start in this most delightfully profitable business, with our 15 barrels per day, mill with as little as \$3,500 capital. Other sizes up to 100 barrels.

Over 2000 communities already have Midget Marvel Mills. Start now milling "Flavo" Flour in your own community before some one else takes advantage of this wonderful opportunity.

Write today for our Free Book, "The Story of a Wonderful Flour Mill."

The Anglo-American Mill Co. 814-820 Trust Bldg., Owensboro, Ky.

Better Silage With Less Labor



Appleton Auxiliary Web-Feed

The large open throat with extra feeding web over it, and heavy duty Appleton knives, give the Appleton Silo Filler a marvelous capacity seldom equalled by other silo fillers.

APPLETON Silo Filler

A few reasons why you should see the Appleton before buying: Adjustable cutter-bar, roller-bearing feed table, knives and fan belted separately, pipe raised from the ground. A score of other advantages. Write for free catalog No. K.

APPLETON MFG. CO.

Batavia, Ill. Minneapolis, Minn.
Omaha, Neb. Columbus, Ohio.



GET FREE BOOK

HORSES

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

Percheron Stud three years old to exchange for any other stock. Short-horn cow and calf \$125.00. Pure-bred gilts. Spanish Jack. E. J. Aldrich, Tekonsha, Mich.

HOGS IN TRANSIT.

THE season of the year has arrived when hot weather is likely to appear at any time, and this is a reminder to farmers engaged in the hog industry that in making shipments more than ordinary care must be used if losses of hogs in transit are to be avoided. In past years large numbers of dead hogs have been taken from cars arriving at the stock yards, and they meant serious losses to country owners. This season so far extremely hot weather has been very little experienced, and it is evident that most shippers of hogs are using extra care in getting them to market.

An object lesson was taught recently when the Iowa Experiment Station sent to Chicago two carloads of heavy packing hogs which averaged three hundred and forty pounds, when the weather was the hottest yet experienced, without losing a single animal. But this does not seem quite so strange when it is known that every known precaution was used in their shipment from the thick bedding of sand in both cars to the liberal quantities of ice used in the cars. Three hundred pounds of ice was hung in six sacks in each car, and some of the ice was left when the hogs were unloaded. That experiment station hardly ever loses a hog in transit, as it takes every possible pains to prevent losses. When the weather is very hot it hangs as much as one thousand pounds of ice in each car. Not long ago the National Live Stock Exchange held a specially called meeting in Chicago to decide on what would best conserve hot weather shipments, and a number of suggestions were prepared for the information of country shippers, including bedding cars with sand, avoiding prodding the hogs, furnishing ice and frequent sprinkling on long trips to market. Shippers were also cautioned against too liberal feeding just before starting on the trip, as this causes the hogs to become over-heated.—F.

THE WATER SUPPLY FOR THE FARM.

(Continued from page 902). be of no avail, lacking the necessary air pressure, which situation might be most serious in case of fire. The gravity system of supply for general farm use will be found very satisfactory.

The hydraulic ram for raising water will be found most useful; its cost of operation is very low, but it can only be employed where the quantity to be raised is small in comparison to that needed for operation—under ordinary conditions it has been found that one-tenth of the water passing through the ram can be raised to a height ten times that of the fall to the ram from the source of supply.

The water supply system for the farm and its pumping equipment must be designed with the greatest care and forethought. Its efficiency must be of the highest standard; its cost of installation and maintenance low.

FARMERS NEGLECTED.

(Continued from page 900). made to have the government continue its price guarantee another year. Quite a number of representative grain growers from Oklahoma and other western states, coming to Washington to attend hearings and conferences, said they favored an extension of price control, providing some other agency of enforcement were established to take the place of the Federal Grain Corporation. There was a general feeling, however, that under the management of Mr. Barnes the producers had not been fairly treated by the corporation at all times, and many large growers were emphatically opposed to any legislation which included in its provisions the extension of the grain corporation's existence.—E. E. R.

Feed Every 3rd Hog FREE

Save feed and get your hogs ready for market in less time. Prove at our risk that you can save fully one third your feed, making it possible to feed every third hog free by feeding

Milkoline At 2c a Gallon

Milkoline has a base of pasteurized and sterilized, modified Buttermilk. It is guaranteed not to contain any sulphuric acid or anything of an injurious nature to hogs or poultry

Aids Digestion: Thousands of the most successful hog raisers from New York to California during the past seven years have proved that Milkoline helps and assists digestion, tending to insure perfect assimilation of feed. It helps tone up the system so that hogs are less subject to disease, and practically insures gains of 2½ pounds per head per day.

University Tested Professor W. B. Combs while Asst. Prof. of Dairy Husbandry at Missouri University conducted a scientific test on Milkoline and found that Milkoline fed hogs put on more weight and showed 82.5% more profit than hogs not fed Milkoline. W. H. Graham a successful feeder of Middletown, Mo., said \$30 worth of Milkoline made him an extra profit of \$420. Lee Jackson of Wappingers Falls, N. Y., says Milkoline fixed up a bunch of shoats in fine style and is great for brood sows.

Can't Spoil: Milkoline is guaranteed not to rot, sour or mould. It will keep indefinitely in any climate. Flies do not come near it. It is always uniform, and is guaranteed to make you money or it doesn't cost you anything.

—Distributed by—

SCHWARTZ BROS.,



2c a Gallon Milkoline comes in condensed form, and you do the diluting on your own farm. When fed as directed Milkoline mixture (one part Milkoline to 50 parts water or swirl) costs only 2c a gallon. Full feeding directions free. It is shipped in convenient kegs and barrels which we supply free. The prices are as follows: 5 gal. \$7.50; 10 gal. \$12.50; 15 gal. \$16.50; 25 gal. \$22.00; 55 gal. \$49.50. It pays to buy in barrel lots because you save 60c a gal. over the 5 gal. quantities.

30 - Day Guaranteed Trial.

You are safe in ordering any quantity of Milkoline today. Feed one half the shipment to your hogs and poultry in a thirty day test, then if you aren't entirely satisfied return the unused part to us at our expense and we'll immediately refund every cent you paid us. We are so confident that you will find Milkoline the best money maker on the farm that the S. W. Boulevard Bank of Kansas City substantiates this offer. You are the sole judge. Send money order, or check, to us or our nearest dealer and we will ship immediately. Our booklet, "How to Hustle Heavy Hogs to Market" will be sent free on request—your name on a card will do.

Saginaw, Mich.

HILLPOT QUALITY CHICKS Order Now at Low June Prices

100	50	25	Barned Rocks	18.00	9.25	5.00		
Postpaid. Safe Delivery guaranteed.	White Leghorns	\$18.00	\$9.25	\$5.00	R. I. Red	20.00	10.25	5.25
Terms cash with order. Can not	Black Leghorns	18.00	9.25	5.00	White Rocks	25.00	12.50	7.00
send C. O. D.	Brown Leghorns	20.00	10.25	5.25	W. Wyandottes	25.00	12.50	7.00
					W. F. HILLPOT, Box 69, Frenchtown, N. J.			

Use Swift-HAY Service AT CHICAGO

You can BUY all types of FEEDING HAY from and SHIP your surplus to Swift-HAYnes Co., BOARD OF TRADE, CHICAGO

Mr. POULTRY FARMER:

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

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"Enough Said!"

Holmes, Stuve Co., 445 Riopelle St.

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

HAY Ship to The Old Reliable House Daniel McCaffey's Sons, 623-625 Wabash Bldg., Pittsburg, Pa.

FOR SALE Ten head of registered Holstein heifers under one year old, eight head of yearlings, your pick of ten head of cows 4 to 6 yr old out of a herd of twenty-four. All due to freshen before Oct. 1st one two old bull sired to the Flanders' bull who is sired by King of the The Pontiac's and out of one of King Segie's best daughter with an A. R. O. record of 33 lbs. The dam of this bull has A. R. O. record of 29 3/4-100. Here is a perfect bull, on acct of labor condition with me must sell this stock come and see these cattle instead of writing if possible.

J. B. CLARK, Northville, Mich. 25 miles from Detroit, electric car every hour.

HOGS

BOARS! Oh Boys!

Sons and grandsons of the Mighty Giant Buster. The big boned useful kind. Priced for a quick sale. JNO. C. BUTLER, Bell Phone, Portland, Mich.

Big Bob Mastodon pigs takes the cake, book your order now. Fall boars and gilts sired by a grandson of Dishier Giant, open or bred to Big Bob for Sept. 23 yearling sons. C. E. GARNANT, Eaton Rapids, Mich.

Big Type Poland Chinas with quality, at reasonable prices. Pigs of both sex, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Big Type Poland Chinas all sold out. Watch this ad for further announcements. Breeding stock for sale in season. L. L. CHAMBERLAIN, Marcellus, Mich.

LEONARD'S B. T. P. C. bred sows all sold. Order looked for by ar pigs at weaning time from Mich. Champion Herd. E. R. Leonard, R. 3, St. Louis, Mich.

I am offering Large Type Poland China Sows, bred to F's Orange, at reasonable prices; also fall pigs. Write or call Clyde Fisher, St. Louis, Mich. R.R. 3.

"Lindhurst" Poland Chinas

Mammoth Ben's Chief No. 352187 heads our herd. Sows by Mammoth Ben, Upsome Lad, Joe Mastodon, Gertsdale Jones, and Capt. Price. Pigs by Mammoth Ben's Chief, Mountain Jack, and Orange Model. For sale fall boars and gilts sired by a son of Bower's Mammoth Joe. A few hard sows priced to sell. Get in line for spring boars. WM. H. LIND, Otis Phone, Alto, Mich.

6th ANNUAL P. C. Bred Sow Sale March 13, 1920. For particulars write W. J. HAGELSHAW, Augusta, Mich.

LARGE TYPE P.C. SWINE. One yearling boar, one fall yearling boar, fall pigs, a few more bred sows. R. W. Mills, Saline, Mich.

Poland China Brood Sows Bred for May and June farrow, \$50.00 Maplewood Stock Farm, Allegan, Mich.

FOR SALE A few L. T. P. C. gilts being bred for August and September farrow. A. A. Feldkamp, Manchester, Mich., R. F. D. 2

FOR SALE Registered Big type Poland China gilts bred for Sept. farrow, weighing 25 lbs. for \$50, spring pigs all sold, guarantee satisfaction. DORUS HOVER, Akron, Mich.

HAMPSHIRE

Spring boar pigs, sired by Steuben's Perfection and Cherokee Jim, 1st prize Ind. State Fair. Other winners at other fairs. Tried sows bred. Satisfaction guaranteed. Will ship C. O. D. Address, STEUBEN'S HAMPSHIRE FARM

R. R. 3, Angola, Ind.

Edgewood Hampshires

All bred gilts sold. Now booking orders for gilts bred for fall farrow, and pigs for pig club work only. Depew Head, Edgewood Farm, Marion, Ohio.

Hampshire bred gilts now ready to ship and spring and fall pigs from new blood lines. JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP.

KIDS

I cannot sell you any more ewes until next fall. To some grown up, I can offer 10 very good young Shropshire ewes that will lamb in April for \$400.00. Their lambs contracted to me should not more than purchase price next fall. Also 10 mighty nice ewe lambs for \$350.00. Come and see them. S. L. WING, KOPE-KON FARMS, Coldwater, Mich.

Idle Wild Stock Farms Shropshire yearling rams from prize winning stock. Make your selection early. Cliff Middleton, Proprietor, Clayton, Mich. R. 3.

250 Reg. Shropshires offered past season all sold. After Aug. 1st can supply any thing needed. Registered Shropshire ewes and rams of same high quality. C. LEMEN, Dexter, Mich.

Want a Sheep? Let American Hampshire Sheep Association send you dandy booklet with list of breeders. Write COMFORT A. TYLER, 22 Woodland Ave., Detroit, Mich.

POULTRY

B-A-B-Y C-H-I-C-K-S

Incubator will run until Aug. 15th, if you are in want of White Leghorns, Barned Rocks or Brown Leghorns at \$20 per 100. Place your order now. FENTON CHICKEN HATCHERY, Box 244, Fenton, Mich.

CHICKS: \$13.00 per 100 Standard Bred White and Brown Leghorns. Bred to lay, large white eggs. Parcel post will bring them up to your door. Safe arrival guaranteed. Write for catalogue or order direct. Wolverine Hatchery, R. 2, Zeeland, Mich.

R. C. Brown Leghorn eggs \$1.50 for 15, \$3 per 100. Kulp and Gale strains. M. Pekin duck eggs \$1.50 for 8. MRS. CLAUDIA BETTS, Hillsdale, Mich.

S. C. Brown Leghorns Excellent layers. Farm range. Eggs postpaid, 15, \$1.50; 30, \$3; 45, \$4; 100 \$8. Floyd Robertson R. 1, Lexington, Indiana.

Snowy White Rocks, dandy layers. Fishel strain. Eggs prepaid, \$1.50-15; \$2.75-30; \$4.50-45; \$7-100. MRS. EARL DEHNH OFF, Vanburen, Ohio.

Cilver Laced Golden and White Wyandotte eggs from best quality only \$1.75 per 15, \$3.25 per 30 by prepaid parcels post. C. W. Browning, R. 2, Portland, Mich.

WHITE WYANDOTTES, free range farm flock improved by 16 years careful selection. 15 eggs 2.50, 30 4.50; 50 or more 10 each by mail prepaid. Cockro's 3.50, 2 for \$5. Vern Moore R. 1, Hartford, Mich.

White Plymouth Rocks Choice breed ding, Eggs 15, \$2.00; 100, \$10.00, prepaid. RICHARD M. GRETTON, Mason, Mich.

Forty million tires for 1920

What kind of tires are they



Here is a car that has run too close to the curb. Rubbing up against curbs will grind the rubber off the side of a tire, finally exposing the fabric to the action of sand and water.

A great many tires would last longer if their owners were only a little more careful not to scrape against curbs in stopping and starting.

IF the average motorist could spend an hour or two in a vulcanizing shop—watch the tires coming in for repair with all their weaknesses showing—talk to the shop manager away from the cheers of the tire salesmen—

He would see what comes of thinking too much in terms of “concessions” and “allowances.”

* * *

Concessions and allowances are what the irresponsible tire dealer lives on.

He finds it easier to convince a man that he will make good on a tire if it goes bad than to convince him that it won't go bad.

What practical motorists are

looking for today is good tires—not tires that may have to be made good.

And they are going more and more to the dealer whose business is based on *quality* instead of on chance.

* * *

The United States Rubber Company stands back of that kind of a dealer with all the tremendous resources at its command.

It has staked a larger investment on quality than any other rubber organization. Its first thought has always been of the

tire user—putting his problem before the problem of markets.

Every important advance in tire manufacture has come from the United States Rubber Company—the *first straight-side* automobile tire, the *first pneumatic* truck tire, the *grainless rubber* solid truck tire, for instance.

The U. S. guarantee is for the *life of the tire*, and not for a limited mileage.

* * *

Nearly every man pays for U. S. Tire quality, but he doesn't always get it.

If he did the country wouldn't need forty million tires this year.

United States Tires

United States Rubber Company



Fifty-three
Factories

The oldest and largest
Rubber Organization in the World

Two hundred and
thirty-five Branches