

# MICHIGAN FARMER

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## Michigan Potato Growers' Convention

THE Third Annual Meeting and Show of the Michigan State Potato Association was held at Escanaba, Mich., November 1-2-3, 1916, at the Coliseum Building.

The meeting was called to order by Vice-president Dorr D. Buell, Elmira. The forenoon program was given over to E. C. Lindemann, State Leader of Boys' and Girls' Clubs, to talk to the boys of Delta county and the local high school boys of Escanaba on club work in general and potato club work in particular.

In the afternoon after the secretary's report by C. W. Waid, Secretary of State Potato Association, the program was taken up by H. B. Blandford, County Agent of Nawaygo county, in a round-table discussion, who led off by discussing "How Can the County Agent Help the Potato Industry?" followed by L. R. Walker, County Agent of Marquette county, on "Standardization." Mr. Walker gave a history of what had been accomplished in Marquette county in an effort to standardize the Green Mountain variety of potatoes. By organizing a County Potato Growers' Association and the Boys' and Girls' Clubs, the Green Mountain potato has been fairly well established; five hundred bushels of pure seed was distributed last spring. Members of the association had one-quarter acre plots inspected for variety mixture and freedom from disease. A larger premium has been given in the county fair premium book for Green Mountain and through these avenues Mr. Walker expects to secure the standardization of this potato as the principal commercial variety in Marquette county.

Mr. Hoopingarner, County Agent from Iron county, "came up" with seed selection, emphasizing the importance of pure seed from good plants and the necessity of hill selection to keep up the yield and proper type for the needs of the consumer. C. B. Ballard, County Agent from Dickinson county, went into the subject of "Disease Control from the Viewpoint of the County Agent," touching principally upon the diseases and control of late blight and black-leg of potatoes.

E. B. Hill, County Agent from Menominee county, "made a score" on the "Cultivation of Potatoes" in his section. His experience showed that clover sod well manured, made the best kind of a seed bed and that on the light soils of the county flat cultivation gave the best results, while on the heavy soils slight ridging early in the season for drainage have very good results. The keeping of an earth mulch proved to be highly beneficial in his county this year, due to the long period of excessively dry weather.

J. W. Weston spoke on the "Importance of Growing Seed for the South," special emphasis being made of this fact, that good seed of pure variety and free from disease would find a ready market in this state and often in the same community of the grower, and for the present the demand for seed would be sufficient at home to take all the supply. This is a splendid step in favor

of seed production for the future, as there will be an unlimited supply of good seed when the demand comes from this high-grade stock that is being produced at present.

A summary of the afternoon program was made by C. W. Waid. Mr. Waid emphasized the fact that the county agents have an opportunity to do a great deal of good if they have the cooperation of the farmer. "The county agent is able to do for the farmer what the farmer cannot do for himself." Cooperation of farmers and county agents over the state will revolutionize the potato industry.

Wednesday evening Mr. H. A. Zander, representative of the Packer, the national produce newspaper, gave a talk on "The Marketing Problem," bringing out these points of value, that both dealer and farmer must study the

in cars and shipped long distances. In several cases as high as fifty per cent of the cars would be discarded, thus returning to the shipper a freight bill instead of a nice profit. The prime importance in marketing is the honesty of the shipper and the integrity of the producer. Dr. Coons illustrated by maps and charts how late blight can be foretold by the weather conditions. He showed that an excessively wet July produced late blight in every case; with the present price of copper sulphate, this is an important thing to watch as it will give the farmers a chance to spray in wet seasons where they do not ordinarily spray at all, and thus save their crop as in ordinary years. Dr. Coons pointed out that the experiments in New York proved that spraying was beneficial in poor blight years, and that the increased produc-

and seed treatment with formaldehyde were recommended as measures to overcome this serious loss.

The banquet on Thursday evening brought out some good talks. G. T. Werline, the toastmaster, said: "I am heartily ashamed that Delta county has no county exhibit. We need a county agent and I hope that those from Delta county will assist me in urging the matter at the very next meeting of the county board. We are proud, however, of Cloverland's wonderful showing at the exhibit."

Miss Margaret Justin, head of the Home Economics Department, Extension Specialist for the Upper Peninsula of Michigan, spoke briefly before leaving for the Coliseum, where she spoke before the women on "Potato Cooking."

C. W. Waid spoke for the "Standardization of Potatoes," and told of the wonderful improvements made during the late years along that line. J. G. Milward, Secretary of the Wisconsin Potato Growers' Association, complimented the show on its wonderful products and said that the potatoes were some of the finest he had ever seen. He mentioned that the northern part of Minnesota, Wisconsin and the Upper Peninsula of Michigan are similarly located and have nearly the same climatic and soil conditions and he considered it one of the finest places for the growth of the potato and urged that more intensive work be done.

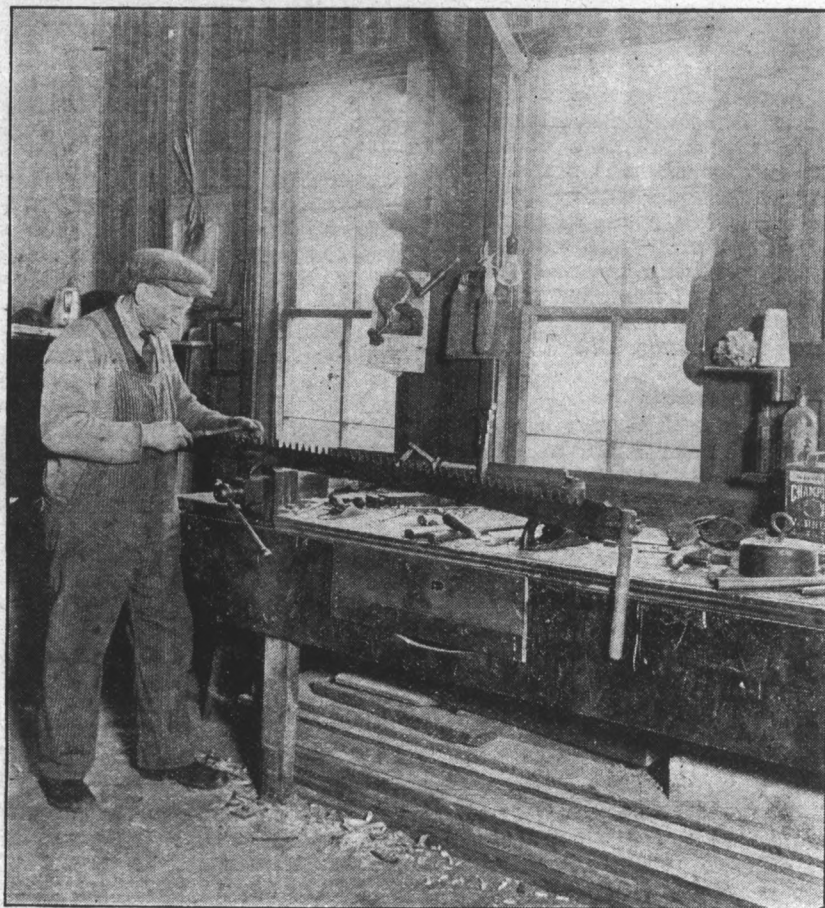
Friday morning, G. T. Werline spoke on the "Soil Problems in the Upper Peninsula," and emphasized the more intensive cultivation and seed selection responsible for the high yields, also that the quality of potatoes grown well to the north is superior to that of those grown farther south.

Prof. George A. Brown, of the Animal Husbandry Department of the Michigan Agricultural College, spoke on "The Importance of Live Stock Raising in Connection with Potato Growing." Prof. Brown said: "The greatest argument in feeding live stock is that on an average of 90 per cent of the foods fed is returned to the farmer as fertilizer if properly handled. Seventy to eighty per cent of the manure gets to the soil. Potatoes are gross feeders and require a great deal of humus and fertilizer elements to produce the maximum crop, so that the live stock farmer is in the best position to be the best potato raiser. He has the fertility of the soil returned to the land in the shape of manure. The manure is an insurance for the safety of future crops and increased yields, making the farmer a manufacturer, by developing his own natural resources. In order to maintain the farm's fertility permanently, one must keep a certain amount of live stock, enough to at least consume the products raised on the farm, not considered as cash crops.

The session was closed by a business meeting. Treasurer's report, followed by report of committee.

Report of the resolutions committee:

(Continued on page 500).



A Good Farm Workshop is a Valuable Asset During the Winter Season.

producing and marketing system in order that each may understand conditions of the potato situation as to quality and quantity of production.

Wednesday evening Dr. G. H. Coons, professor of Plant pathology at the Michigan Agricultural College, spoke of "Potato Diseases, Causes and Control," and its relation to the destiny of Michigan as a great potato state in the future." Dr. Coons spoke principally of the effects of late blight and common potato scab. He took up the subject of late blight as a serious disease in transportation and gave us some idea of the effects of this dreaded disease when the affected tubers are put

tion of sprayed plants over the production of unsprayed plants was enough to more than pay for cost of material and labor of applying the spray materials. Dr. Coons cautioned people about buying imported potatoes or potatoes from other sections, as many injurious diseases are brought in by that method, of which powdery scab is the most serious. Common scab is causing a great deal of trouble in the state, being more serious in the southern peninsula this year than it has been in the past. Reduced yields and weakened vitality of the seed potatoes are two of the important injuries of the scab organism. Better cultural methods, seed selection



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DETROIT, NOV. 18, 1916

### CURRENT COMMENT.

Notwithstanding the fact that the principal features of the rural credit law have been repeatedly discussed in our columns, many readers have failed to note the discussions of that law, and many inquiries are received each week seeking for information as to how to proceed to secure loans under that act. For this reason we are again briefly referring to the subject.

The Federal Farm Loan Board, appointed under the act, has held hearings in different parts of the country with a view of determining the proper location for the federal land banks provided for in the act and of gaining first-hand information as to the needs of the different parts of the country for better rural credit facilities. Recent information is to the effect that these banks will be located by the first of January, and that the machinery created by the law will be put in motion as soon as possible thereafter.

The only way to secure loans under this law during the first year of its operation is through the National Farm Loan Associations organized by ten or more farmers desiring to make loans aggregating \$20,000 or more. After the first year the law provides that existing banks and trust companies may be made agents for the loaning of money at the disposal of the federal farm loan banks. For early utilization of the loaning privileges extended by this act it is thus necessary for ten or more farmers to bind themselves together into a national farm loan association for this purpose. Literature relating to the organization of such associations together with full information regarding the methods of procedure in getting loans may be secured upon request from the Federal Farm Loan Board at Washington, D. C.

Under the terms of this act moneys can be secured from this source only for the purpose of building up and bettering the farm business. In this connection a careful analysis of the things which should be considered in borrowing money will be profitable. These points could perhaps be no better described than in the language of Dr. Carver of the U. S. Department of Agriculture, who lays down the following five rules which should be observed in securing a loan.

1. Make sure that the purpose for which the borrowed money is to be used will produce a return greater than needed to pay the debt. 2. The contract should provide for the repayment of the principal at the most convenient time, that is, when the borrower is most likely to have the means wherewith to repay it. 3. The length of time the debt is to run should have a close relation to the productive life

of the improvement for which the money is borrowed. 4. Provision should be made in the long-time loan for the gradual reduction of the principal. 5. As low interest rates as possible should be secured.

These desirable ends are practically provided for in the federal farm loan act, but they may be profitably considered by farmers who may contemplate the making of loans through other sources for the extension of their business operations.

### A Tribute to the Electorate.

Aside from the deep interest which always attaches to a general election in this country, certain phases of the recent election are worthy of special mention at this time. One very noticeable feature of the recent campaign was the notable absence of the old-time campaign methods in appealing to the voters. Political meetings were comparatively few and limited almost entirely to the presentation of the earnest views of leading candidates for public favor. The old-fashioned brass band and hurrah methods of inspiring mere party sentiment were entirely lacking. The principal method of appeal, used by both party organizations and leading candidates, was the use of the advertising columns of reputable publications for the presentation of arguments calculated to appeal to the reason and good sense of the reader.

This recognition of the intelligence and fairness of the great mass of the electorate is a matter for sincere congratulation, and augurs well for the future of American institutions and American ideals. That this estimate of the high intelligence of the American voter which has been so generally assumed by party organizations and candidates for high office was fundamentally sound, is proven by the face of the election returns in this state.

Perhaps at no previous election have the electors of this state been called upon to pass judgment upon conflicting propositions relating to the amendment of our fundamental law which were so well calculated to confuse the voter as were the two amendments relating to the liquor traffic submitted at the last election, yet an examination of the returns show conclusively that no such confusion occurred, that the rank and file of voters understood the proposition thoroughly and cast their votes in a manner which left no doubt as to the nature of public sentiment upon this question.

The great faith in the ultimate good judgment of the American people so well expressed by Lincoln is apparently shared by intelligent political leaders. The futility of trying to "fool the people" even "part of the time" has come to be a matter of common knowledge among wise political leaders. This is indeed a merited tribute to the rank and file of the electorate who shape and control the destinies of our great nation.

### Standardization of Farm Equipment.

A movement is being fostered by the Carriage Builders' National Association looking toward the standardization of vehicle axles and wheels and many parts that go to make up carriage bodies. It is expected that this will result in the adoption of a few standard types and sizes which will be carried in stock, and that all other types will be handled as special orders by the various manufacturers and parts makers interested in this trade. This plan is well calculated to relieve to some extent the shortage of material at the present time, since it will materially reduce stocks of goods which must be carried by manufacturers and jobbers.

It is also a move which will be appreciated by vehicle owners. In fact there is no improvement which manufacturers could adopt which would be so widely appreciated by users of farm equipment of all kinds as standardization of all parts so far as practicable.

Such a course has for some time been advocated by the National Society of Agricultural Engineers. Every effort in that direction should receive the notice and approval of farm owners, since manufacturers will be eager to accommodate them in this matter once their demand has been insistently made known.

### Co-operative selling of Co-operative farm products has developed to a considerable extent in this country.

particularly along specialized lines of production. In practically every case where co-operative undertakings of this kind have been competently handled, the result has been beneficial to the co-operating producers. In a few cases where co-operative selling has been resorted to as a means of securing a compensatory price, as in the negotiation of milk contracts, the consumers have felt the effect in an increase in retail prices, and have complained not a little as a natural consequence. It has, however, been found by milk producers in all sections of the country that the heaviest item in the journey of milk from the country to the table has been the distributor's toll. In other words, the cost of distribution has exceeded the original purchase price of the milk.

In one South Carolina town where an agent of the Department of Agriculture found this condition prevailing, he suggested that the consumers organize a distributing company in which the stockholders agreed to accept a dividend of six per cent on their investment and apply their earnings in reducing the cost of the product. This scheme worked so well that its fame spread and now the consumers in three other towns in that state are emulating the example. Where co-operation is practiced by both the producer and the consumer true economy in the matter of distribution is effected.

### The Rented Farm.

It is a matter of common observation that farms which are rented for a period of years usually deteriorate quite rapidly in their capacity for crop production. Generally the renter is wholly blamed for this condition of affairs as well as for the fact that the buildings and other improvements run down and the farm has a generally neglected appearance. In a majority of cases, however, the farm owner is quite as much at fault for this condition as is the renter. Frequently the owner moves from the farm and depending upon it as a source of income is loath to expend the needed amount for maintenance to keep up the farm improvements. Naturally the tenant from the temporary nature of his tenancy is not particularly interested in the maintenance of the improvements, nor, in fact, in the maintenance of soil fertility itself. He is usually in the business as a means of accumulating capital for the purchase of a farm of his own as well as making a mere living, with which the farm owner is often contented.

A study made by one of the agricultural colleges of the middle west showed that the average tenant not only grew more crops on his land, that is, planted a larger area of the farm to cash crops, but sold twice as much of the crops grown as did the farm owner. Where 26 per cent of the owner's receipts came from crop sales, 51 per cent of the tenant's receipts came from the sale of crops grown upon the land. As a natural consequence, 63.4 per cent of the tenants in the section got crop yields below the average for the region, while only 44.9 per cent of the owners got yields below the average. Expressed in bushels, tenants on the average got five bushels less corn than owners, and ten bushels less oats. The wheat yield on the tenant's farms averaged only one bushel less per acre than on the owners' while the hay yield was practically the same.

This is but a natural consequence

of the purely temporary character of the arrangement between land owners and farm tenants. In other countries where long-time land leases are the rule rather than the exception, tenant farmers are often the best farmers in the community. There is room for great improvement in our American practice in this regard.

### HAPPENINGS OF THE WEEK.

#### Foreign.

The European War.—Vigorous offensives have been undertaken by the Russians and Roumanians on the Roumanian frontiers. These efforts have already forced the armies of the central powers to retreat. In Dobrudja where Field-Marshal von Mackensen's army recently won remarkable victories, his soldiers have been thrown back many miles, thus lessening the peril to Roumania. A large Russian army has re-enforced the Roumanians in Transylvania and penetrated Hungary for a distance of 50 miles, which is relieving the pressure on the troops guarding the passes through the Transylvania Alps.—A number of thrusts were recently made by the Germans and Austrians at different points along the entire Russian front to the north of Galicia. In each instance these have been successfully repulsed. To the southeast of Lemberg the Austro-Germans were more successful and made headway against the Czar's troops. A portion of the gain, however, was won back early this week. It is certain that the territory gained by the big campaign of the Russians during the summer and fall will be held intact throughout the winter as the time for extensive operations on this front is about over for this year.—The Serbians have taken additional villages the past week and improved their positions to the disadvantage of the Bulgarian army.—On the western front the French were successful in capturing Saillies, which lies to the east of the Peronne-Baupenne Road in the Somme region. On the remainder of the front in France artillery duels are in progress.

The Greek government has yielded again to the demands of the entente allies and will allow full liberty to its officials and officers to join the provisional government, providing that they first resign from the royal service.

#### National.

Election Returns.—While official returns of the general election held on Tuesday, November 7, may alter the preliminary announcements of successful nominees in a few instances, including the presidency of the United States, it now appears that President Wilson is re-elected for another four years, that the United States Senate remains democratic, while the House will probably be tied between the republicans and democrats, with the possibility of the republicans having a majority of one or two in the final count. In Michigan the entire republican state ticket was elected by a substantial margin, and all her congressmen, save one and possibly two, are of that political faith. A remarkable victory was gained by the "drys" in their campaign to prohibit the manufacture and sale of intoxicating liquors in this state by giving the prohibition amendment to the state constitution a majority of over 60,000, while they defeated the proposed "home Rule" amendment of the liquor interests by an even larger majority.

The first woman to be elected to the United States Congress was Miss Jeannette Rankin, who was chosen at the November election by the electors of a Montana district.

Notwithstanding the fact that railroads are ordering new equipment in unusually large quantities, industrial development is certain to be handicapped by the car shortage which is now making itself felt throughout the country. In all the large industrial centers hundreds and thousands of cars filled with freight are standing on sidetracks to be unloaded. In seaboard cities the freight consigned abroad is held in railroad yards awaiting foreign-bound boats. How business can be relieved of this situation is a problem confronting both the railroads and the public. A general campaign urging receivers to do their utmost in unloading cars has been undertaken. It is to be hoped that all parties and concerns obtaining freight in carload lots will do their utmost toward relieving the stress that lack of cars is now placing upon American commerce.

All the principal buildings in the town of Lewiston, Montmorency county, were burned Sunday night.

The "Outlook" publishers will advance the subscription rate of that magazine to \$4.00 per year, beginning February 1, 1917. The high cost of materials, chiefly paper, has made this action necessary.



# The Farmer's Automobile

By R. G. KIRBY

AT the recent meeting of the Michigan Milk Producers' Association in East Lansing a large number of automobiles were parked around the Agricultural Building. There were more cars there than I have ever seen before at a farmer's meeting of any kind at the College. It is evidence of the fact that farmers are more rapidly than ever acquiring automobiles for pleasure and business purposes. One interested observer made the remark that a class of men owning so many automobiles certainly did not need an increase in the price received for milk. He forgot that many of the farmers at the meeting could not have been there if they had been forced to come by train or interurban. The automobile enabled them to attend the meeting after finishing their morning work and many of them living within 30 or 40 miles of Lansing were able to report at the home farm for the evening milking. The majority of these dairy farmers do not own motor cars as a joy riding proposition, but they have been purchased as a business investment after the same careful consideration that would be given to the buying of a milking machine, a new silo or a pure-bred bull. In buying an automobile for farm use it seems that pleasure is a secondary consideration. The dairy farmers who came by motor car to the meeting of the Milk Producers' Association did not prove by automobile

rewards than in the past.

An automobile need not be made into a truck to make it a useful carrier of farm products. Remove the rear cushion and spread out an old blanket and you have a suitable place for carrying two crates of poultry. Three or four crates can be carried by strapping them securely in the car. I have carried 16 bushels of wheat in a small touring car and for hauling small freight shipments, express packages and supplies for the home the machine is a time saver. Time is the farmer's most valuable asset. If it is not worth money on the farm the farmer soon finds that it has a commercial value in the city. The automobile which saves several hours each week soon accumulates an aggregate saving of time which should be worth more than the cost of oil, gasoline, general upkeep and depreciation on the car.

## Caring for the Car.

The farmer's car cannot be a "pretty thing" very long if it is used in all kinds of weather for a variety of work. Sweeping it out with the broom after hauling farm products or freight shipments does not take much time and it is as good as new for pleasure purposes. The mud on the car does not improve its looks but the farmer cannot wash and polish an automobile more than once each week if he does carry around a large amount of soil. It takes time and the roads in most sections



Farmers' Autos at the Meeting of the Milk Producers' Association.

ownership that they didn't need more money for milking cows. Possibly they did prove that "business is business" and work is work, whether performed in the city or the farm factory.

Dairying is confining work. The man who keeps cows as a business proposition must milk at certain hours. The dairy farmer is tired when he finishes his day's work and if he desires to visit friends in the country or city, a drive with a horse takes too much time. The return trip after an evening of pleasure brings the dairy farmer home late. He has been robbed of several hours of necessary sleep and the reliable alarm clock turns him out early with possibly an unfriendly feeling toward the dairy business. The automobile which saves an hour both going and coming, will enable the dairy farmer to enjoy evenings among country or city friends and still obtain a fair amount of sleep in preparation for the next day's work. The dairy farmer who can afford to own a moderate priced car will usually find it is an investment that will pay excellent dividends. The ownership of an automobile has nothing to do with the price of milk except in one way. Dairying is hard, exacting work, with a minimum of profits and a maximum of worry. The man who is willing to consistently produce a clean article of food as good as milk, deserves a price for his product high enough to enable him to ride in a moderate-priced automobile. Some day milk will be appreciated at its true worth and the dairy farmers who stick to the business will reap better

are admirably constructed to plaster automobiles after the smallest shower.

When it comes to the real things that count in automobile management, the farmer cannot afford to neglect his car. Plenty of engine oil of the right grade recommended for the engine is a good investment. Examining the car to note the amount of oil should occur frequently. The machine should never leave the farm without an ample supply of water in the radiator. Grease cups should be filled often, depending on the amount the car is used. Read the instruction book at least once every six months after purchasing an automobile and you will pick up something of value at every reading.

In the winter it is necessary to use an anti-freezing mixture in the radiator or empty out the water after each trip. Last winter I filled the radiator with hot water from the reservoir on the stove before starting on a trip. The water warmed the engine and it started easily. Returning from the trip the radiator could be emptied in about a minute by having a pail handy for that purpose. When the machine was allowed to stand for two or three hours the radiator was carefully covered with the robes and of course the heat was retained in the machine something on the principle of a fireless cooker. If left for periods of four or five hours at a stopping place it is much safer to empty the radiator.

During the winter many accidents occur from skidding and we have found that driving with four chains pays.

(Continued on page 500)

# Why Motors Grow Noisy



about the operation of your car without experimenting with so serious a matter as lubrication.

For 50 years we have specialized in lubrication. In our study of the automobile motor we have found that each make and model presents a distinct lubrication problem demanding scientific analysis.

The Lubrication Chart shown below which represents our professional advice, has for a number of years been a standard guide to correct automobile lubrication.

You may be assured that the oil specified for your motor will give you really scientific lubrication — your greatest protection against premature motor noises, which means premature wear.

If your car is not listed below, a copy of our complete Lubrication Chart will be sent you on request.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.

The new car purrs quietly along the road. But gradually the purr of the new motor gives way to a noise here and a noise there. The most common cause is friction.

Friction is relentless. Gradually it wears down the moving metal parts. Snug fits become loose fits.

The common cause of premature motor noise is incorrect lubricating oil.

Surely there is quite enough for **Mobiloils** you to learn *A grade for each type of motor*



## CORRECT AUTOMOBILE LUBRICATION

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

Gargoyle Mobiloil "A"  
Gargoyle Mobiloil "B"

Gargoyle Mobiloil "E"  
Gargoyle Mobiloil "Arctic"

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

MODEL OF	1916	1915	1914	1913	1912
CARS	Summer	Winter	Summer	Winter	Summer
Abbott Detroit.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Apperson.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Auburn (4 cyl.).....	A	A	A	A	A
" (6 cyl.).....	Arc	Arc	Arc	Arc	Arc
Autocar.....	A	A	A	A	A
Avery.....	A	A	A	A	A
" (Mod. 38 C. 1 Ton)	Arc	Arc	Arc	Arc	Arc
Briscoe.....	A	A	A	A	A
Buick.....	A	A	A	A	A
Cadillac.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Case.....	A	A	A	A	A
Chalmers.....	Arc	Arc	Arc	Arc	Arc
" (Model 4-20)	A	A	A	A	A
" (Model 6-30)	A	A	A	A	A
Chandler Six.....	Arc	Arc	Arc	Arc	Arc
Chevrolet.....	Arc	Arc	Arc	Arc	Arc
Cole.....	A	A	A	A	A
" (8 cyl.).....	A	A	A	A	A
Cunningham.....	Arc	Arc	Arc	Arc	Arc
Detroit.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Dodge.....	A	A	A	A	A
Empire.....	Arc	Arc	Arc	Arc	Arc
Federal.....	Arc	Arc	Arc	Arc	Arc
Fiat.....	A	A	A	A	A
Ford.....	E	E	E	E	E
Franklin.....	A	A	A	A	A
Grant.....	A	A	A	A	A
Haynes.....	A	A	A	A	A
" (12 cyl.).....	A	A	A	A	A
Hudson.....	Arc	Arc	Arc	Arc	Arc
" Super Six.....	A	A	A	A	A
Hupmobile.....	A	A	A	A	A
J. H. C. (air).....	A	A	A	A	A
" (water, 4 cycle)	A	A	A	A	A
Jackson.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Jeffery.....	Arc	Arc	Arc	Arc	Arc
" (Chrysler).....	A	A	A	A	A
" Com.....	Arc	Arc	Arc	Arc	Arc
Kenner.....	E	E	E	E	E
" Com.....	Arc	Arc	Arc	Arc	Arc
Kelly Springfield.....	A	A	A	A	A
King.....	A	A	A	A	A

MODEL OF	1916	1915	1914	1913	1912
CARS	Summer	Winter	Summer	Winter	Summer
King Com.....	Arc	Arc	Arc	Arc	Arc
Kissel Car.....	Arc	Arc	Arc	Arc	Arc
" Com.....	A	A	A	A	A
" (Model 48)	A	A	A	A	A
Knock.....	B	B	B	B	B
" (Model 35)	A	A	A	A	A
Locomobile.....	E	E	E	E	E
Lozier.....	A	A	A	A	A
Marmon.....	A	A	A	A	A
Maxwell.....	Arc	Arc	Arc	Arc	Arc
Mercedes.....	Arc	Arc	Arc	Arc	Arc
" (22-72)	A	A	A	A	A
" (22-72)	A	A	A	A	A
Mitchell.....	A	A	A	A	A
" (8 cyl.).....	A	A	A	A	A
Moline.....	A	A	A	A	A
" Knight.....	A	A	A	A	A
National.....	A	A	A	A	A
" (12 cyl.).....	A	A	A	A	A
Oakland.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Oldsmobile.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Overland.....	Arc	Arc	Arc	Arc	Arc
Packard.....	A	A	A	A	A
" (12 cyl.).....	A	A	A	A	A
" Com.....	A	A	A	A	A
Pais.....	A	A	A	A	A
" (6-46)	A	A	A	A	A
" (6-36 & 38)	A	A	A	A	A
Pathfinder.....	Arc	Arc	Arc	Arc	Arc
" (12 cyl.).....	A	A	A	A	A
Pearlman.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Pierce Arrow.....	A	A	A	A	A
" Com.....	Arc	Arc	Arc	Arc	Arc
Regal.....	Arc	Arc	Arc	Arc	Arc
" (8 cyl.).....	A	A	A	A	A
Reo.....	Arc	Arc	Arc	Arc	Arc
Saion.....	E	E	E	E	E
Selden.....	Arc	Arc	Arc	Arc	Arc
Stearns Knight.....	B	B	B	B	B
" (8 cyl.).....	B	B	B	B	B
Studebaker.....	A	A	A	A	A
Stutz.....	A	A	A	A	A
" Com.....	A	A	A	A	A
Valley.....	A	A	A	A	A
" (6 cyl.).....	Arc	Arc	Arc	Arc	Arc
White.....	Arc	Arc	Arc	Arc	Arc
Willis Knight.....	B	B	B	B	B
Winton.....	Arc	Arc	Arc	Arc	Arc

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## Spring Wheat

This department is receiving a great many inquiries in regard to the adaptation of spring wheats to Michigan conditions, the unfavorable conditions for the seasonable seeding of winter wheat, and the high market price of wheat, evidently interesting a large number of farmers in the spring seeded varieties. Information on this subject may be of more or less general interest to your readers.

I would say that our limited experience with spring varieties on the station plats has been very disappointing, the stand and growth being very inferior and the yields very much below those of the winter varieties.

The spring wheats are best suited to sections where the winters are too severe for the winter wheats, especially to the dryer sections of the northwest where the seeding may be done in late winter or very early in the spring. The spring varieties are of little promise, however, as compared with the winter varieties, under climatic conditions that are suited to the winter wheats.

The winter wheat, which is seeded in the fall, germinates at once, develops a root system, makes considerable growth and produces a number of stalks per plant during the fall. As soon as the weather is fairly warm in late winter or early spring, and long before the ground is dry enough to work, the wheat renews its growth, the moist cool weather of early spring being favorable for the early growth and stooling of the wheat.

The spring wheat cannot be seeded until the ground is dry enough to work, and after that it takes some time to prepare the seed bed and do the seeding, also for the seed to germinate, the plants to stool and reach the same stage of development that the winter wheat is in at the opening of spring. The most favorable conditions for the early growth which are apt to prevail in early spring, are soon over, and the harvest period is brought late in the season when a summer drouth is apt to be experienced. The spring wheat, therefore, is apt to be a disappointing crop for the southern Michigan farmer, and I would recommend in preference to it the seeding of oats, barley, and other spring planted crops.

V. M. SHOESMITH,  
Prof. of Farm Crops, M. A. C.

### LILLIE FARMSTEAD NOTES.

The potatoes are harvested, which completes the securing of the last crop for this season. No accurate tally was kept of the yield of potatoes. They were hauled to the house in a very large wagon box. It will hold as much as 70 bushels. Several times this was not full and so the yield could only be estimated. As near as I can estimate, the yield was something like 150 bushels per acre. While this is no large crop it is so much better than I expected when it was planted about the fifteenth of July. I expected that we never would harvest them. Sometimes things turn out better than we expect and better than we deserve.

The wheat is not making as good a growth as I anticipated. I can not understand why it grows so slowly. It seems to me that wheat sown the middle of September ought to practically cover the ground now, but it don't. It don't seem to be thick enough, yet two bushels per acre was sown. I can see no evidence of the work of Hessian fly and there has been sufficient moisture. But the weather has not been so very warm. It is warmer now, November 6, than at any time in October. That may explain the growth of the wheat plant. There have been falls before now when wheat made such a large growth that farmers were afraid it might be so large that it would smother in the winter. Years ago farmers pastured fields of wheat to keep it from getting too large. There was danger, they thought, of its forming the first joint in the stem and if it did

and then froze it would kill the plant. My own experience has never brought me in touch with such conditions. I have always been anxious to have the plants get larger than they were before winter. This year I was in hopes to have conditions such that the wheat would go into winter in splendid condition. The plant is large enough so it sprawls over the ground, but it don't seem to be as thick and vigorous as I would like. While we have had a nice fall, we have had no hot weather; perhaps that will account for the condition. It looks fair, but it seems to me it should look extra good.

The young cattle, colts and sheep are still in the pasture and are doing well. The feed is fairly good. The ground has not been frozen at all as yet. In fact we have had but two killing frosts. No very warm weather, and no very cold weather. Changes are liable to come without notice. They usually do this time of year. But we are prepared for that. There is barn room waiting for all the stock when severe weather comes.

COLON C. LILLIE.

### SPREADING LIME ON WHEAT.

Liming is nearly always associated with seeding time; that is, farmers nearly always make their preparations for liming in getting the seed bed ready for corn or wheat. These are in all probability the ideal times to apply lime to the soil but since liming is so important in the development of a permanent system of agriculture, profitable results can be secured from winter liming.

During the past season the shortage of cars has made it impossible for farmers to secure their lime during wheat seeding time. However, lime can be applied to the wheat now even easier than during the seeding time. Ground limestone applied at the rate of two to four tons per acre will not injure the growing crop and hydrated or burnt lime injures the crop but slightly; at least nothing in comparison to the results secured where the land needs lime. With alternate freezings and thawings the lime will work into the soil and its benefits secured on the present and succeeding crops; otherwise if not applied to the wheat bed now, the land would have to do without lime for several years possibly until the sod is turned down for corn.

Where lime has been used with heavy applications of fertilizer at the Ohio Agricultural Experiment Station, yields of 36.75 bushels of wheat per acre have been obtained; where fertilizer was used without lime on check plots only 17.17 bushels of wheat were produced, making the increase due to lime alone of 19.58 bushels per acre. Consider what this would mean with wheat at \$1.50 per bushel. These results were published by the Agricultural Experiment Station of Ohio in their September Monthly Bulletin.

In addition, there had been an average gain for a number of years on limed land of 1,342 pounds of clover hay per acre and 1,481 pounds of timothy hay when used in the rotation.

Director Thorne in making his conclusion says: "Where the land needs lime nothing but lime will satisfy that need and neither fertilizers nor manure will bring the land up to its maximum capacity without the use of lime. In no case has manure nor any combination of fertilizers been able to produce a full yield of wheat without the help of lime."—C. M. Baker.

### FORESTRY MEETING IN MICHIGAN.

The Muskegon County Horticultural Society held its annual forestry session October 28 at the home of Mr. and Mrs. W. B. Raynor, just east of the city, with E. C. Manderberg, of the M. A. C. as the principal speaker. He gave figures showing that with the swift passing of the forests the United States has but 60 years left in which to find some substitute for lumber. In

Michigan the forested area has decreased more than half in the last 30 years. He discussed the important question of controlling the blowing sand along the lake shore and advised that the windbreaks be placed on the windward rather than the leeward side of the dunes. His plan is to start as close as possible to the water's edge and hold the shore sand down in some way, then break the effect of the wind by tree belts, using the quick-growing though short-lived poplar mixed with the more permanent evergreens.

As to growing Christmas trees it was stated that the college has demonstrated that some 5,000 Norway spruce can be planted to the acre (usually four-year transplants and can be matured in five or six years at cost of \$165 for five years or \$175 for six years. At the end of the fifth year they can be sold for nearly \$800 and at the end of the sixth year for over \$1,000. Figuring all costs, including interest on investment, this shows a yearly income of \$111 per acre for the five-year crop, or \$126 in the six-year rotation.

The college is also trying to interest farmers in willow growing for baskets and commercial uses, and offers to furnish stock free of cost on condition that the willows are taken care of and a record kept of operations. Several trial plantings will probably be made in Muskegon county.

W. I. Moorman brought up a matter of special interest to the fruit and celery growers of Muskegon and Ottawa counties. This was the failure of the Goodrich boat line to furnish satisfactory service to Chicago. He stated that since the first of September the celery growers have sustained a loss of 50 cents a crate on celery shipments, amounting in the aggregate to many thousands of dollars, because of the late arrival of boats. These delays of two or three hours prevent the placing of this produce on the market before noon, or too late for sale that day.

The Muskegon society adopted a resolution asking all grangers, gleaners and farmers of the two counties to meet in Muskegon November 25 to take some action towards improved shipping facilities for next year. Mrs. Raynor furnished a fine dinner for the members and guests.

Kent Co. ALMOND GRIFFEN.

### FAVORS SPRING WHEAT.

I would like to say a few words in regard to growing spring wheat. I sowed five acres last spring as early as possible. It went 20 bushels to the acre. I can raise 30 bushels on a better drained field. I got five cents more per bushel at the mill than they were paying for winter wheat. I wish farmers who have not winter wheat enough would try same. We need the wheat. Any elevator man will get the seed for you.

G. G. STEWART.

### BOOK NOTICES.

"Farmers' Electrical Handbook," is the title of a 160-page booklet published by the Western Electric Company, Inc., of New York, and with offices in the principal cities of the country. This valuable handbook contains a large amount of general information with regard to the installation and use of electrical apparatus of all kinds. It is profusely illustrated and will prove of interest to present and prospective users of electrical equipment of any kind from the simplest unit to the most complicated assemblies. This booklet is sent free on request to farmers who are interested in electrical equipment of any kind. Mention the Michigan Farmer when writing for a copy of same.

"The Practice of Feeding Farm Animals," by Sleeter Bull, associate in animal nutrition, College of Agriculture, Agricultural Experiment Station at the University of Illinois, is an up-to-date text and reference book covering the whole range of the feeding subject from both a scientific and practical standpoint. It is a book of 397 pages, profusely illustrated and conveniently indexed for reference purposes. Published by the Macmillan Company, New York. Price \$1.75.



## Orchard Observations

### Black Rot of Grapes

**T**HERE is perhaps no plant grown for fruit which exceeds in beauty or is so intimately connected with the history of all civilized people as the grape. Our fathers found the shores of America, especially New York and southern New England, a land of vines. Nature trained them to cling to the maple and the wild cherry, producing effects which the most skillful horticulturists cannot exceed in beauty at least. No home is complete without its garden, neither have we a garden until it contains a few vines. The Europeans brought over to America many excellent varieties of grapes. European varieties have been grafted on American varieties because American varieties were very hardy. Numerous crosses have also been attempted to improve American varieties. However, the disease which caused perhaps the greatest destruction is of American origin. It is known as black rot.

This summer anyone traveling through the fruit belt would have noted, if he had been there about June 25, the great fields of vigorous grape vines loaded with fruit. Truly a wonderful sight and one not soon forgotten. Never did the vines seem healthier, and everything promised well.

#### The Effect of the Black Rot.

In the month of July things changed rather suddenly. The leaves became spotted and the berries began to turn brown and then gradually blackened and shriveled. In a few weeks what seemed to promise an enormous crop had been reduced to a mere scattering.

As a rule, fruit growers and general farmers who have but a few acres of grapes spray very little. It is in such cases that the losses occur. Growers who make grape production their chief work are seldom known to suffer great losses except in very unfavorable seasons.

The conditions most favorable for the disease are heat and moisture. The hot weather of mid-summer, combined with heavy dew and high humidity is very favorable for the disease. Under ideal conditions a crop about two-thirds grown, or more, may be destroyed in the course of three or four days.

#### Appearance of Disease.

The disease occurs both on the berries and upon the leaves and young canes. The disease appears first upon the leaves, though not necessarily always. It causes sharply defined, reddish brown spots which are often nearly circular. Later small dark spots or dots appear on the diseased areas. The berries are seldom attacked until nearly full grown. Purplish brown spots appear which may be livid and which may spread over the entire berry. The berries become darker in color and gradually shrivel up. However, the berry seldom falls, but remains in the cluster. Small dark dots also appear later upon the surface of the berry which was diseased, but only over the part the fungus has invaded. The disease is seldom known to cause extensive injuries to the canes. It does, however, impair the vitality of the leaf to such an extent in severe cases that the vine will suffer noticeably.

#### Resistant Varieties.

Varieties show quite a difference in their resistance to black rot. The Scuppernon is said to be very resistant, while some of the darker varieties are considered highly susceptible. This would, of course, include the Concord. The Niagara has slightly more resistance than the Concord, at least under the conditions under which I have observed it. Of course, the grower cannot depend upon this method of control as yet, but we hope in time that plant breeders may give us resistant varieties. We must also consider that in carrying varieties from one part of the country to another we are often changing their growing conditions very radically. We select varieties with high

productive power after paying no heed to disease resistance. We may say that a plant producing an enormous crop is unbalanced; it is not the normal condition, and perhaps this may have something to do with its resistance. It is well known that over-stimulated and over-fed animals fall heir to certain ills which their less favored relatives resist. It is said that heavy fertilization makes some crops more susceptible to certain diseases. Here are factors which scientists have been unable to explain. Man has been so far unable to analyze the "vital factors" of life.

#### Methods of Control.

It is not necessary to discuss the disease from the scientific standpoint except to say that, as there are two stages in which infection of the vine may result, it is wise to clean up the old leaves and berries and to do this early in the season before the leaves appear. Perhaps the best plan is to plow the vineyard and cover up the old berries and leaves. There should, of course, be a cover crop in the grapes and this should be worked under.

Bordeaux mixture is the best spray to destroy the organism. The Bordeaux should be applied in early spring before the buds open, in fact, just as they are swelling. All the posts should be sprayed also. The second spraying is given as the buds unfold. Every two or three weeks following, a spraying may be given until the danger is over. Usually four or five sprayings will be sufficient.

Farmers who have only a few vines may use the ordinary potato sprayer, costing about \$1.50, which gives a finely divided spray. The ordinary barrel spray is excellent where the acreage is small. Most any feasible means is gladly welcomed when it is necessary to protect fruit which is so popular and is so much sought after as a table dessert in the autumn of the year.

Wisconsin. C. N. FREY.

#### A PRODUCTIVE TREE.

Harvey James, a fruit farmer of Allegan county, is about to pick the fiftieth annual crop of Twenty-Ounce pippins from a tree that stands in his orchard.

During the lifetime of this noble exemplar of an apple orchard it has been owned by several different owners and many tenants have gathered its crops, but it is still doing business at the old and original stand, seemingly bigger and healthier than ever.

Last year this tree produced sixteen barrels of pippins and some of them weighed as much as twenty-three ounces. That is a pound and nearly a half to the apple.

Mr. James says that he believes he will pick twenty barrels from the tree, and that is about the way it looks to the average crop judge.

This tree measures nine feet in circumference of its trunk. Some of the limbs are much larger than an average apple tree, and nature seems to have caused them to reach out and up so that they would support each other in bearing time. The branches spread over a circle at least sixty feet in diameter.

The history of this tree shows that it has been well cared for, it has been sprayed with unfailing regularity ever since science has advised the doping of trees and vines.

The fame of this tree has spread far and near. Very often automobile tourists veer out of their way to catch a glimpse of this prodigious fruit bearer.

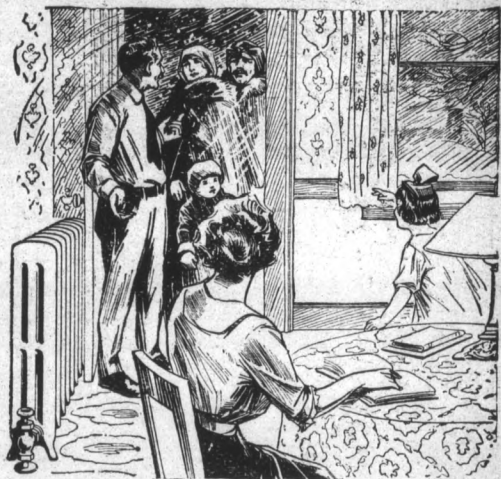
Illinois. J. L. GRAFF.

#### ATTENTION FRUIT GROWERS!

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**Reason 4.** The savings in fuel (IDEAL boilers burn any local fuel) soon pay the original cost of the outfit and the absence of labor and attention, and re-

pairs of IDEAL heating, repay many times the cost.

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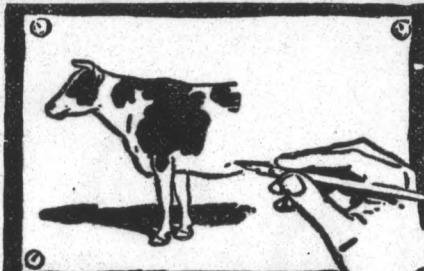
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# Breed Trade-Marks

By J. HUGH McKENNEY

OF what value are such breed scrupulous breeder to sell a cross-characteristics as color and bred calf as a pure-bred? Then there markings. Evidently they are is always a danger of accidental or important, judging from the attention unintentional cross-breeding. Against given them by breeders. Of course, these the standardized markings act is from an esthetic standpoint they a fairly effective check.

## Trade-Marks Not Always Complete Evidence.

Of course the trade-marks of a breed cannot always be accepted implicitly as a guarantee of purity, for associations between it and the other deeper qualities may be broken up. For instance, the Hereford tends to transmit its white face to its offspring, to whatever it may be bred, so that the cross-bred offspring may bear the Hereford trade-mark. In the next generation it may come into entirely new associations and here is the advantage of having a trade-mark which is complex. A Hereford crossed with a Polled Durham would give offspring with red bodies and white faces, but they would be polled. If crossed with a Polled Angus they would not only be polled, but their body color would be black instead of red, although the white face would still be one of the dominant characters.

## A Complex Problem.

Attempts are frequently made to determine the breeding of these cross-breeds as indicated by the most prominent trade-marks presented, as in the case of winners at the fat stock shows. For example, some may remember Challenger, the prize fat steer at the International several years ago. He was listed as a "Grade Hereford," his dam being a cross-bred Holstein Shorthorn cow. He himself was blue-gray in color, white-faced and polled, and greatly resembled a Hereford-Angus cross. These striking characteristics of several distinct breeds gave rise to some strong claims and considerable discussion by admirers of the breeds in question.

It must be remembered, however, that the breeder's job is no sinecure as it is. If led to give more attention to the trade-mark idea he is apt to neglect the still more important problems already in hand, as has frequently been done in the past. To dispense with the former altogether would hardly be advisable for the following reasons: It affords a convenient means of distinguishing breeds. It is a means of protection for the purchaser of stock, for unfortunately some breeders are dishonest. It is an aid to detecting mistakes or unintentional crossing of breeds. A herd of uniformly and beautifully marked animals have an esthetic value that the breeders do not care to disregard. Our method of keeping records and pedigrees are not yet sufficiently accurate and complete to stand alone. While these conditions exist there are still considerable reasons for fancy points in utility breeds.

## Utility vs. Breed Characteristics.

If one is engaged in cow improvement solely for his own personal use as a dairyman, the milk's the thing. He is not likely to ask her to present a certificate of character properly proportioned in black and white. Having an intimate knowledge of her capacity that is enough for him. In the case of a breeder, however, the situation is different. He is in the market to sell stock. A cow to find favor in his eyes must not only come officially recommended, but like a consignment of merchandise, show on her own back the trade-mark of excellence. With him it might almost be said, the trade-mark's the thing.

The main excuse for a trade-mark is to prevent fraud. In putting out his brand of goods the manufacturer warns the public to beware of spurious imitations and proffers the information that his offerings are genuine. This applies just as appropriately to the sale of stock for if an animal drops an offspring that is decidedly off color we are at once suspicious as to the purity of its breeding. Suppose, for example, that Holstein cattle had no regular color and could be registered regardless of this or the kind of markings they possessed. Would it not be comparatively easy for an un-

Since the war stopped the importation of breeding cattle of the different breeds into South American countries from England and other European countries cattlemen of Argentina have begun to take a much livelier interest in American breeding cattle, and several prominent cattle experts of South America sailed recently for this country in order to attend the International Live Stock Exposition in Chicago during the early part of December, as well as for visiting important live stock centers and studying breeding conditions in the United States. It is practically a certainty that they will take home some breeders, and these will undoubtedly be high-class ones. In this connection it is interesting to know that the bull Americus, which brought in Argentina a short time ago the highest price ever paid for a beef bull of any breed in any country, was bred on a Missouri farm. Among the visitors to the International is Pedro T. Pages, who is going to act as judge of Shorthorn cattle, and Carlos M. Duggan, of Buenos Aires, who will act as foreign judge to select the grand champions in the cattle department. The International is expected to be one well worth attending, as the exhibits are to be unusually large and attractive.



## Community Silo Filling

**A**N application of the principle of co-operation which is quite common throughout the state, is the union of a number of farmers in the community for the purpose of filling their silos. A number of such companies have been formed in this county, and it has been the privilege of the writer to belong to one of them for some time.

Our experience for ten years has been such as to induce me to tell the story to the readers of this paper, in the hope that it may be of service to someone who may chance to read it.

I would much rather tell you our experience than to write an essay on co-operation. Lengthy essays tire me, and I believe they tire the average man everywhere. The man whose life is spent in dreaming rather than in doing has time for a lot of speculation, but the man who is busy every day is interested in the practical side of things, and has not much time for any other side.

### Start of Association.

But to the story of our Ensilage Association. Its history dates back to the time when three men bought an ensilage cutter, they being the only owners of silos in our community save one. Two years later they took in the writer with another neighbor, and later others joined us until we numbered nine. We have since lost one member and now we number but eight. This is hardly enough. We ought to have two more and might do the work if there were three or four more.

We have had all the bad luck that any bunch of good people have a right to expect, and have lived through it. This is one reason why it is a pleasure to tell the story.

In the first place we simply owned a cutting-box, and depended upon hiring our power. Later it developed that we were not always able to get power when we wanted it, and as owners of threshing machines were apt to be busy until after the work of filling silos had begun, we could not get them to work for us without sufficient pay to compensate them for the loss of some of their threshing.

For these reasons and others we decided to buy power of our own. We therefore purchased an old traction engine. We bought it cheap as it was not large enough to handle the heavy machines of these days, though it was and is now, a very good engine.

### Some of the Mistakes.

Our first mistake was to buy a cutter too large for our power. If the corn was quite ripe, if the pipe was erect, and if the feeder was careful, we had no trouble. But if the corn was green and heavy and if the feeder let too large an armful into the machine at once, and sometimes when we could not tell why, the pipe filled up. Reader, did you ever work around an ensilage cutter when you had several jobs waiting for you at home, when you felt that Jack Frost was coming and you had no time to spare and that miserable pipe clogged up every half hour? We have seen just such times, and it is strange what things good people will say under this sort of provocation.

I recall one afternoon in particular when we put but six feet of ensilage in a ten-foot silo. Then it was that I feared for our company. But that night we found our trouble and the next morning everything went on in the best of order.

But our power was not sufficient to drive our machine, and so in time we decided to buy a smaller cutter.

I should have said, while speaking of the old machine, that it would not handle stones in spite of its heft, and that on one occasion we damaged it to the amount of thirty dollars in thirty seconds, and did not materially affect the stone either.

### New Equipment.

I shall not soon forget how the members of our company took heart when

we first tried our new machine. We were filling a silo forty-three feet high, with heavy corn that was very mean. The machine handled it as easy as anyone could wish. We made excellent time and we felt that a large part of the trouble of the past need no longer be feared. But it was only two or three days before we tried our machine on another rock and the damage would have been as great as before but for a local blacksmith who can mend almost anything.

This is the second season with our new machine. We could not wish for a more successful one so far as filling our silos is concerned. At noon on the day we finished our last job, we came together and assessed ourselves for the requisite amount to settle our obligations for money, and were united in our purpose to continue our association. Notwithstanding our unfortunate experience we are much better off than we should have been had we depended upon hiring a machine to fill for us each year.

Again, our losses of time and money have occurred largely from causes that are preventable. We now have a machine that is adapted to our power, and we can feed it to its capacity with no fear of clogging the pipe, no matter how heavy the corn may be. We ought to find some way of preventing the danger of damage from stones, and I think we will do so.

### Corn Cut by Hand.

We cut our corn by hand, and throw it on the ground. Under such circumstances it is not strange that we now and then pick up stones. It is not so easy to put the corn directly on the wagon for those who are cutting, but it saves the danger of stones, and also lessens the labor. As I have said, it is not so easy as it is to drop the corn upon the ground and let someone else pick it up, but the writer is sure that this is what ought to be done if the corn is to be cut by hand.

But as it is, with all our bad luck we have saved money by co-operating. We have solved the labor problem. We have engaged a sufficient number of people to nearly or quite carry on the work independent of hired labor. So you see, if congress should establish an eight-hour day for working men who fill silos, and fix the price of their labor it would not bother us a bit.

We think that it would be wise for many more communities to organize such associations. The number of people who might unite in one association would depend upon circumstances. If only three or four parties wished to form such a company, they might do so and use a smaller machine. Such a machine could be successfully operated with a five or six-horsepower gasoline engine, and an engine of this size is not hard to find in almost any neighborhood.

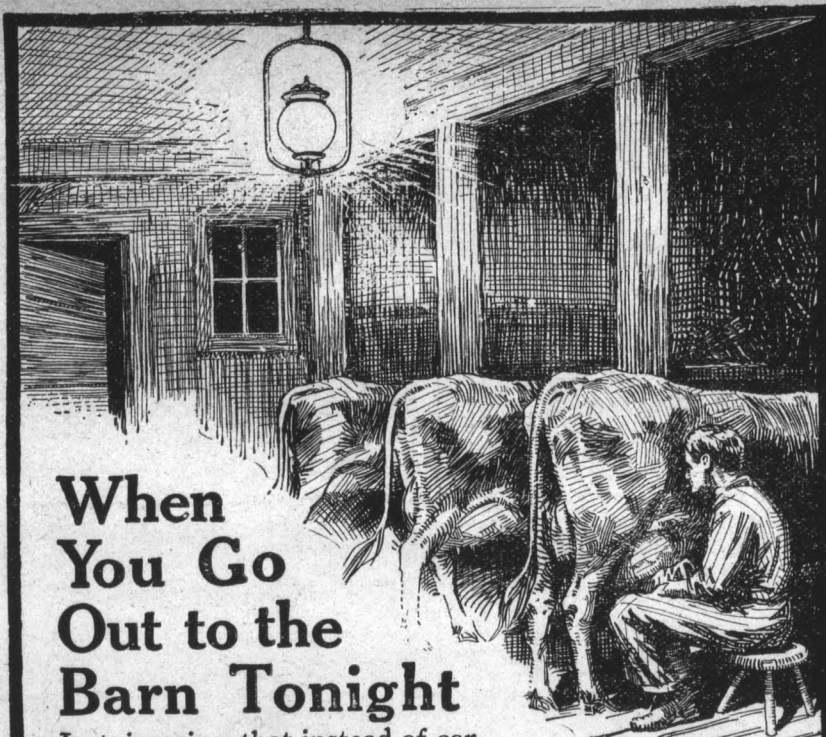
If eight or ten neighbors wish to unite, they should have a machine of sufficient capacity to take care of all the corn they wish to cut in a day. It is our practice to fill one silo each day, and this season we have stopped work at five o'clock and gone home for supper. This lightens the work in the house, and enables us to get at our chores in time to make the day a little shorter than it would be otherwise.

Oceana Co.

F. W. TAYLOR.

### GOOD COWS.

Your issue of October 14 contained an article on "How to Have Good Cows," by J. W. Ingham of Pennsylvania. To my mind he is altogether too pessimistic. Does he expect good dairymen to believe that the improvement of their herds is an impossible task? If it is as he states, I would advise him to go into some other line of business, for he must have a very scrubby herd of cows if he has been in the business for any length of time. We are advised, early and late, to im-



## When You Go Out to the Barn Tonight

Just imagine that instead of carrying a dirty smoky old lantern you simply step inside the door, turn a key and the entire place is instantly flooded with brilliant white light like sunshine.

Think how much easier it would be to work and how much more quickly you could finish up the chores.

Consider, too, the increased safety—if lanterns and matches were never again used in your barns. Then consider this fact, that you can now make these ideal conditions a reality by the installation of a

## Pilot-Carbide-Outdoor Lighting and Cooking Plants

These plants are today furnishing this up-to-date lighting service to barns and out buildings on hundreds of thousands of farms in all parts of the country. In addition they supply the best light and cooking fuel for the home.

You will find the barn lighting feature alone worth the entire investment for the Pilot. Its use in the home, as well, means added happiness, comfort, safety and convenience for your whole family.

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Largest Makers of Private Lighting and Cooking Plants in the World

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Every year hundreds more farmers buy huskers, as they find the most economical, efficient way to save all the value of a corn crop is to husk the ears and make fodder of leaves and stalks. Appleton was the first successful husker. Appletons made years ago are giving good service today. Few parts, extra strong, mean long life, few repairs and sure dependability.

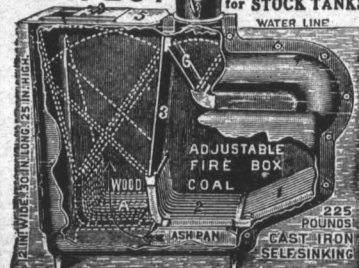
### GUARANTEED TO DO MORE WORK WITH LESS POWER

than any husker of equal size. Appleton husks cleanest, shells least; has most efficient corn saver. Cuts or shreds leaves and stalks while husking ears. Fodder value saved from small acreage pays its cost. Easiest, safest to operate. Works in all conditions of corn.

**Free Husker Book:** describes 4 sizes for engines of 4 h.p. and up. Write for it now.

Appleton Mfg. Co., 520 Fargo Street, Batavia, Ill.

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### DON'T WASTE GRAIN

SAVE IT this winter by heating the water for your stock with Coal, Wood or Cobs in a **COW BOY TANK HEATER**

Quickest to heat; strongest draft; adjustable grates; ashes removed without disturbing fire; keeps fire 24 hrs. Absolutely Safe; pays for itself in 2 months with 4 cows; Self-Sinking can be used in Wood, Steel or Concrete Tanks of any size. Most reliable, practical, efficient and durable Tank Heater manufactured.

"Purchased 3 of your Tank Heaters last Winter, worked very satisfactorily and are well worth their cost. Every Stockman should use one." (Signed) W. H. FEW, Professor of Animal Husbandry, Iowa State College, Ames, Iowa. Get a Heater early. Write at once for illustrated circulars and dealer's name. **THE WILLS MFG. CO., 56 Seventh St., Mendota, Ill.**

## Fine Grinding

The Letz is the mill that grinds all grain and forage crops—even oat hulls—fine as flour in one grinding. Ear corn, snapped corn, oats, wheat screenings, alfalfa, clover, anything. Make your own appetizing grain and forage feeds with a



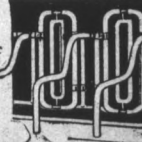
**Letz Grinder** and save the waste. One set Letz Plates grinds 1000 to 3000 bushels. Silent running, self-sharpening. Ten days free trial. Book free. **LETZ MFG. CO., 210 East St. Crown Point, Ind.**

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deserve more thought. Properly housed animals give more of better milk. This means bigger profits. Equip your barn with the fully guaranteed and patented

### Harris Stalls

and Stanchions, valued for their strength, and lasting sanitary service. Easily installed, prices reasonable. Write TO-DAY for illustrated Catalog—It's FREE. **THE HARRIS MFG. CO., 130 Main Street, Salem, Ohio**



Mention The Michigan Farmer When Writing Advertisers



pose of the unprofitable members, and prove our herds, grade them up, dis-here comes a dairyman and tells us he "never got a cow equal to her mother." Such results would soon render the best herds in the country of no value. Something must be wrong with the management of the herd if such results are attained. Good cows are the result of careful selection, careful breeding and good feeding, and where it is intelligently done, we may confidently look for improvement instead of retrogression. The milk and butter records are being broken almost every year, and this could not be unless the calf was better than her mother. There is doubtless a limit. We cannot expect to go on improving the milk and butter-fat records until the cow gives a large mess of butter ready for the table, at each milking, but the end is not yet, and the intelligent dairyman can confidently look forward to better cows, and still better cows, for years to come.

Eaton Co.

APOLLOS LONG.

#### LILLIE FARMSTEAD DAIRY NOTES.

The cows are getting into the work of the new year in pretty good shape. We now have 25 new milch cows, and will have many more soon. It takes some work and attention at this time of the year when so many cows are freshening and there are so many young calves to feed and care for. We are feeding pea vine silage and alfalfa hay for roughage, and ground oats and dried brewers' grains for the concentrates. We now have 29 cows entered in the R. of M. test. Some little job to keep the records all correct. But I am satisfied it pays just from increased production. We don't expect to make any phenomenal yields, but we expect the most of them to qualify for R. of M. Phenomenal yields can only be produced by milking three and four times a day and this we will not do. It is not practical. Twice daily is all a practical dairyman can afford to milk and a test made under any other conditions is of little value to the everyday dairyman. What I want to know is what my cows will produce in a year under conditions that any practical dairyman can provide. In other words, we keep cows for profit, not one year but every year. They must pay their way under fair conditions or out they go. If not, then I would have to go out of business.

COLON C. LILLIE.

#### SALE OF HOLSTEIN-FRIESIAN CATTLE.

West Michigan Holstein breeders held their annual consignment sale of registered cattle October 16 at the State Fair grounds, Grand Rapids, with large attendance and very satisfactory results. About 70 head were sold, including calves, and prices realized on most of the stuff were fair. Col. Perry, of Columbus, Ohio, was auctioneer and T. R. Harper, of Middleville, was business manager of the sale. Fifty-seven head of the females sold brought a total of \$8,115, or an average per head of about \$143.

One black and white calf two months old, owned by F. D. Cutler, of Allegan, Mich., was bought for \$150 by E. V. McCoy, for Ben Hanchett's Blissveldt Farm, near Grand Rapids. This calf is a daughter of a 31-pound bull and a 23-lb. cow and has extraordinary lines of breeding. Four other head were purchased, to be added to Mr. Hanchett's fine herd of Holsteins.

The highest price paid at the sale was \$300 for Creston May Girl, a four-year-old cow belonging to the herd of Buth Bros., of Kent county, the purchaser being Harry F. Rice, of Kalamazoo county. During a seven-day test a year ago this heifer produced 18.87 lbs. of butter and 400 lbs. of milk, with 3.77 as the average per cent fat.

Another one of the Buth herd, a four-year-old heifer, with seven-day butter record of 18.43 and milk 405.2, was purchased by W. Ioor, of Kent county for \$275.

A female not quite a year old, owned by W. M. Willard & Sons, of Kent county, and having fine breeding, brought \$225. Her dam has taken several firsts at the state fairs.

Kent Co.

ALMOND GRIFFEN.



To cook your meals

To light your house and barns

**UNION CARBIDE "Drums,"** painted gray with blue bands, are now familiar sights in every town and hamlet in this country.

Literally tens of thousands of these little drums of Carbide are shipped from district warehouses to country home users every day.

The country home owners (mostly farmers) who buy and store and use all these blue and gray drums of Carbide, now number over 300,000.

This great army of Carbide users have found the task of filling a Carbide plant from one of these drums to be a simple chore. They have found that the plant, once filled, supplies for many weeks without attention, brilliant light for general use, all over the place and — gas for the cooking range in the kitchen.

One and all, they are absolutely automatic. They have no delicate parts to get out of order or call for renewal.

They are strong and simple in construction and under ordinary conditions last as long as a good building.

You can easily investigate the advantages of a Country Home Carbide Plant for your

own special requirements — when you do, it will be easy for you to understand why *Carbide lighting and cooking plants* now outsell all others.

Write us today and we will mail you, gratis, illustrated booklets covering the use of Union Carbide in one of these indispensable light and fuel plants.

We *do not make any* of the numerous types of Carbide plants now on the market.

Our business is exclusively confined to the sale and distribution of the **UNION CARBIDE** which all of these plants use.

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BOOK ON  
**DOG DISEASES**  
And How to Feed

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118 West 31st Street, New York

#### NOTICE

Hastings, October 28 th., 1916

Notice is hereby given that there will be a special meeting of the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company to be held in the city of Hastings, Michigan at the city hall on December 5th., 1916 at one o'clock P. M. for the purpose of voting on the revised charter of this company as adopted by the board of directors October 3rd., 1916.

By order of the Board of Directors.  
D. W. Rogers, Sec.

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Selected Quality

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Keep Stock Healthier. Crush ear corn (with or without shucks) and grind all kinds of small grain. 10 sizes 2 to 25 H. P. Conical shaped grinders—different from all others.

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# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
INFORMATION

**MICHIGAN FARMER**  
AND **LIVE STOCK**  
PUBLISHED WEEKLY.  
**JOURNAL.**  
ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

IN the early history of medical work in industry, the regular employment of a physician in an industrial establishment was usually considered an evidence of a largely benevolent attitude on the part of the employer. Whether or not this assumption was true, the results showed that the work of the physician in industry proved beneficial to the employer as well as to the employe, by protecting both against undue expense arising out of injury and sickness and by promoting a better mutual relationship. The results also proved that medical supervision of employes increased their efficiency, and that prompt medical and surgical treatment of injured and sick

## The Physician In Industry

By MANGUS W. ALEXANDER

employes prolonged their lives and the period of their industrial usefulness. As these advantages became known among employers, medical supervision of employes was introduced into many plants.

The great value of the physician in industry became even more generally realized when workmen's compensation laws went into effect, which compelled the employer to shoulder the expense of injuries to employes regardless of the fault of either party. These

laws forced the employer, in self-defense, not only to provide adequate medical and surgical treatment for employes injured in his establishment, but also to exert all reasonable effort for the prevention of future accidental injuries and for the elimination of working condition that might prove harmful to the health of his employes. Experience, however, had shown that physique, temperament and general physical condition of employes affected to a large extent their liability to sick-

ness or injury. Some men could safely do work that constantly required considerable physical effort while the same work would cause discomfort and strain to other apparently strong men. Employes with defective vision would suffer headache while doing work that required close application of their eyesight, while others with normal vision would naturally have no such trouble when similarly engaged. Contact with certain odors or liquids used in manufacturing processes would cause skin irritation or other disturbances to one person, while hundreds of others working under the same conditions would be entirely unaffected.

These experiences naturally led the

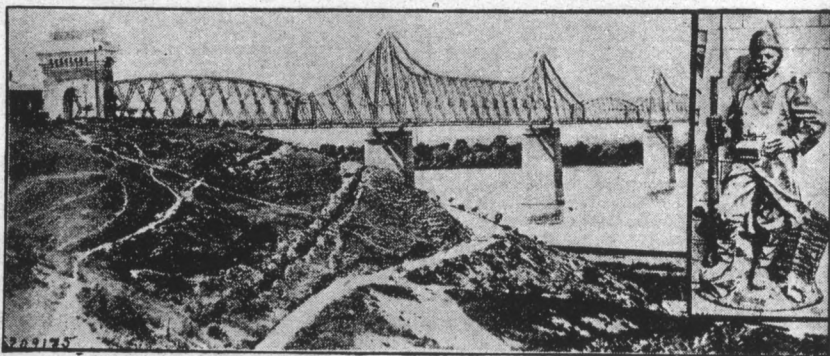
## WORLD EVENTS IN PICTURES



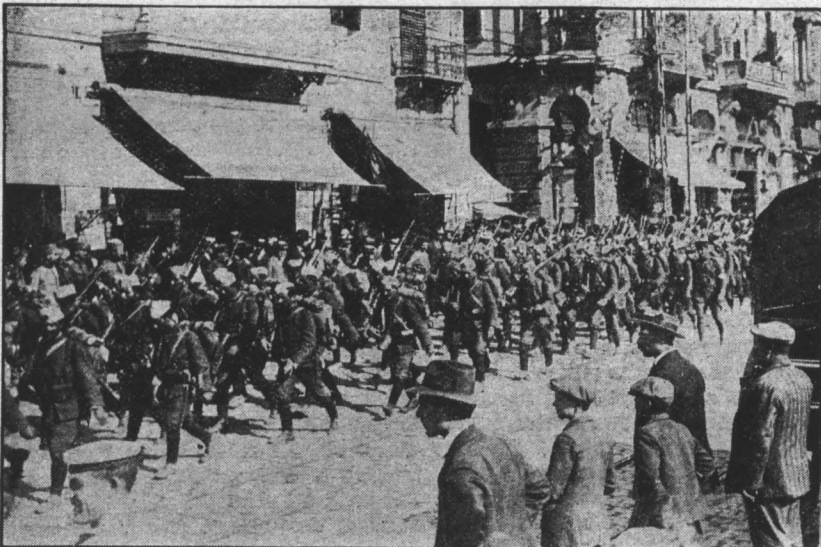
American Banker Faces Death Over German Trenches at Combles.



Mrs. Edison, Wife of the World-Renowned Electrical Wizard.



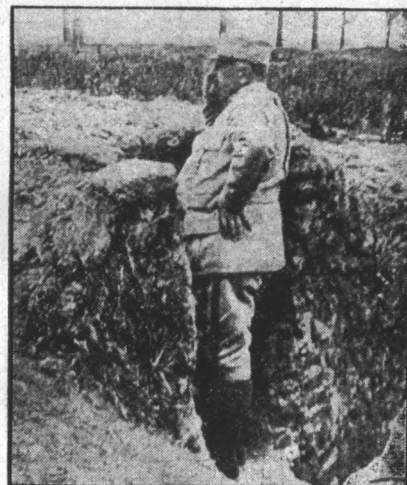
The Greatest Bridge in Europe was Recently Destroyed by Retreating Roumanians as they Left Dobrudja.



Greek Rebels in French Uniform are Marching to Attack a Military Base.



Mrs. von Mackensen, Mother of Germany's Great Military Genius.



Famous French Strategist now Leads the Roumanian Army.

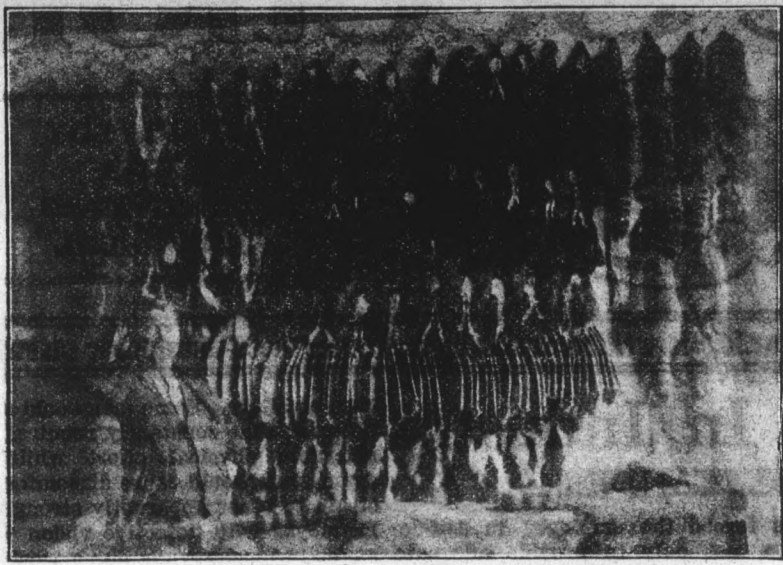


German Trenches on the Seacoast of Flanders Connected with Bomb-proof Shelters Made of Timber and Bags of Sand.



Victor Carlstrom Flies from Chicago to New York, Aver. 110 Miles Per Hour.





## One Day's Buying of Satisfied Trappers

Honest sort, will hold fur until shipper is satisfied. Also in the market for all kinds of Hides. Write for Price List.

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**For Sale** or trade on dairy farm or timber land. Woodworking plant, with all machinery and stock of lumber. Deal direct with owner only. Helena Woodworking Co. Helena, O.

**RAISE** guinea pigs for me. Most profitable side or full-time proposition you ever heard. I'll tell you how to make extra dollars. P. L. Ward, Hillsdale, Mich.

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**3000 FERRETS FOR SALE**  
Price list free. C. J. DIMICK, Rochester, Ohio.

**2000 Ferrets** They hustle rats and rabbits. Price list and booklet mailed free. N. E. KNAFF, Rochester, Ohio.

**White and Brown Ferrets For Sale.** Price list free. C. D. MURRAY, New London, Ohio.

**Trained Japanese Midget Ferrets** \$3.50 each. Rabbit hounds. Send Post office money order. Penfield Ferret Farm, Wellington, O.

### Farms and Farm Lands For Sale

**PROSPERITY IN CANADA**—\$900,000,000 in new wealth added in 1915. Enormous crops and low taxation make farmers rich. Wheat average, 36.16 bushels per acre in Alberta, 28.75 bushels per acre in Saskatchewan, 28.50 bushels per acre in Manitoba. Taxes average \$24 and will not exceed \$35 per quarter section, includes all taxes; no taxes on improvements. Free schools and full religious liberty, good climate. Get your farm home from the Canadian Pacific Railway, 20 years to pay. Good land from \$11 to \$30 per acre; irrigated lands from \$35, and the government guarantees your land and water titles. Balance, after first payment, extended over nineteen years, with interest at 6%; privileges of paying in full any time. Before final payment becomes due your farm should have paid for itself. We will lend you up to \$2,000 in improvements in certain districts, with no security other than the land itself. Particulars on request. Ready-made farms for sale. Special easy terms. Loans for livestock. In defined districts, after one year's occupation, under certain conditions, we advance cattle, sheep and hogs to farmers up to a value of \$1,000. We want you; we can afford to help you. We own the land; we want the land cultivated. Our interests are mutual. Buy direct and get your farm home from the CANADIAN PACIFIC RAILWAY. Send for free book. J. S. Dennis, Assistant to the President, Canadian Pacific Railway, 125 Ninth Ave., Calgary, Alberta, Canada.

**Wanted** renter for 140 A. farm; on inter-urban car line 1 1/2 miles from the Michigan Agricultural College; 80 A. cleared; 11 room house; basement barn; concrete silo; must be good live stock man. Possession March 1st, 1917. Write C. A. Wilson, 1710 Yale Ave., Knoxville, Tenn.

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Can be bought at from \$10.00 to \$50.00 per acre. Average yield 150 bushels. Some unimproved, cut-over hard-wood, timber land, at less. Well located, any size up to 1200 acres.  
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**90 Acres** Clay loam soil in good condition, 5 acres timber remainder plow land. Good 12 room house, 3 barns, granary, 2 tool sheds, shoeshed, corn crib and hen house. 1 mile to town and R. R. 1/4 mile to 10 grade school. Price \$115 per acre. ROY SCHOTT, Mulliken Mich.

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employer toward a study of the physical condition of his employees, in order to direct each of them into that kind of employment for which he would seem best suited by virtue of his physical fitness as well as his experience and skill; and vice versa, to divert him from an employment that might prove injurious to his health and safety. In order to pursue this course intelligently, physical examination of all prospective employees and periodical re-examination of all persons already employed became necessary. It is obvious that this is a physician's task.

Aside from looking after the health of individual employees, the physician in industry also renders a valuable service by bringing to light those general conditions of employment that may adversely affect the health and comfort of all workmen in common. Many of these conditions would otherwise remain concealed and unremedied because their ill effects are of such gradual development that the lay executive or employe might not be able to detect their presence nor locate their source. By his co-operation with the employer and foremen in securing wholesome ventilation and proper lighting conditions, and by inducing employees, by personal advice or through suitable literature, to adopt healthful habits in the shop and home, the physician brings into play simple, far-reaching measures that tend to raise the health and therefore the efficiency standard of the entire working force.

The physician also finds specific functions to perform, such as the training of an adequate number of persons in each employment, so that they can themselves as laymen effectively treat

slight wounds that do not demand a physician's service, or give temporary assistance in cases of serious injuries that need emergency attention pending a physician's arrival. The presence of such a body of trained first aid men is so much the more important when the industrial establishment is located at a considerable distance from the physician's office or dispensary, or when injuries occur when a physician is not immediately available.

With these many advantages in mind it is obvious that the physician has acquired a permanent place in industry. In a large plant he becomes part of the organization and devotes his entire time and effort to the welfare of its employees, while in smaller plants or in those where the work is practically free from hazard, he spends only a part of the day in the medical care of employees, or he combines a number of such plants under his medical supervision. Apart from the medical aspect, however, enlightened employers are beginning to see quite clearly the value of a physician as a staff member. They have learned to appreciate that his peculiar relationship to employees as a friendly medical adviser enables him to exert a wholesome influence upon their mental attitude as well as upon their physical welfare. It should therefore not be surprising to find in future physicians regularly attached to the organization of even small plants, where the medical supervision of employees alone would not be a task large enough to warrant the full time employment of a medical expert, but where his spare time may be used effectively in assisting the management in the general supervision of employees.

## "Mister 44" By E. J. RATH

(First Installment Appeared In November 4th Issue)

"And a good thing for you. You'll sleep like a dead man tonight, Larry. That's one of the things the doctor said you needed—sleep."

"He didn't happen to prescribe a comatose condition resulting from physical collapse, did he?" inquired Livingston, still trying to work the kinks out of his shoulders and legs. "I don't believe he ever meant for me to go against anything like this. He doesn't understand how it is up here."

"Ah, but he does understand!" observed Stoddard, amusement still lighting his blue eyes as he watched his unhappy friend. "He's been here himself—with me."

"And do you know what he told me, Larry? He said to give it to you good and plenty. Those were the exact terms of his prescription—'good and plenty.' He said you needed it worse than any young man he ever saw."

"He told me to take you where you wouldn't see an all-night restaurant for a month and where you couldn't hear the honk of a taxi, even with the help of a long-distance telephone."

"That's why you're here, son. 'Don't tell me I didn't go into all the details of the treatment before we started. I know it. In the first place you would not have understood if I'd tried to explain; in the second place you wouldn't have come at all. But it isn't going to hurt you; it's more likely to be the making of you."

"No wonder you're sunburnt. You've kept that precious hide of yours under roofs and awnings for so long that it's as tender as a baby's. Cheer up, Larry!"

Livingston's glance rested for a moment on the tangle of trees and underbrush a few yards from where they stood.

"But when you said coming up to the woods," he began, "I thought—"

"You thought it was like Central Park; I know," nodded Stoddard. "Central Park is your idea of the woods—a

lot of nice, respectable shade-trees scientifically trimmed, and all the holes patched with concrete, set out at artistic intervals on a beautiful green lawn.

"That's only a Noah's-ark woods, Larry—the kind you buy in the toy department. You're looking at the real thing now, son."

"And you've seen your last lawn for several weeks. Central Park is all right—for the city. But this is the sort of stuff that belongs up here."

Stoddard swept his arm in a broad gesture toward the stretch of lake that lay before them. Deepwater slept without a ripple. A dazzling, golden band of light stretched across to the opposite shore, pointing the way to a sun that would soon be slipping down behind the tree-tops. The air was still and quiet was complete.

But the quiet was not silence. A chipmunk sat on a cedar trunk and chattered at his visitors. At intervals the quavering cry of a loon echoed from some hidden cove. A fish leaped close to the rock where they stood, making a cool, tinkling splash as it fell back into the water.

"Just the way it grew," murmured Stoddard. "Look, Larry! Isn't it great?"

"Perhaps," assented Livingston in a grudging manner. "How about eating? I suppose it's be crackers and cold water."

"Better not insult the cook," laughed Stoddard. "You can eat crackers and drink water if you like. I'm going to have a feed."

"How soon?" Livingston's hunger was becoming a counter-irritant for his woes.

"After I make camp. No; don't you touch anything. You take a rest. I'll attend to things."

With swift reaches into the canoe, Stoddard began depositing duffel on the rock that served as a landing-place.

Blanket-pack, tent, grub-sacks, and all came out, after which the lightened craft was lifted bodily in a pair of



huge arms and deposited, bottom up, among the bushes close to the shore.

Stoddard knew the island as well as he knew his own room at home; in fact, in the last five years he had slept on the island almost as often as in his bed in the city. When he was not working he fled the city for Deep-water, where the solitude of the big north woods enslaved him. When he was working he was anywhere but in the city; in Peru sometimes, in Brazil, in Korea—wherever there might be a bridge to build or a stretch of railway to lay.

But, just as Stoddard was one of the army of men who carry cities and civilization into the waste places, just so sternly did he flee from all such works each time a task was done. As for the waste places, he did not regard them as such, for he saw no waste in nature, even though it might be a bare scarred mountainside or a stretch of yellow desert. These were all in the scheme of things, to him; if for nothing else, they were to be looked at.

Livingston watched him doubtfully as he swiftly set up the tent in which they were to sleep. What Stoddard would do with the arm-loads of hemlock boughs that he brought from somewhere in the depth of the tangled little wood that clothed the island the novitiate from the city had no idea. Nor, after they had been laid bough by bough on a level spot of earth, did he even so much as guess until the tent and its sod cloth had been stretched over them.

"Think I can ever sleep on that stuff?" he asked doubtfully.

"Well, if you can't I'll chloroform you," said Stoddard. "But I'm willing to make a bet now that you won't be awake an hour after dinner."

Sitting on a log and eating his meals from a service of tin plate was satisfying to the hunger of Livingston, but not to his sense of comfort and luxury. He still grumbled.

"I'm not blaming you, Stod," he explained. "But I'll be hanged if I know how you stand it. How did you ever get the habit? You weren't raised to it. What do you suppose Estelle Wallace would say if you ever tried to spring anything like this on her? Or Kitty Fitch?"

Stoddard smiled indulgently.

"I'm not asking Estelle or Kitty to try it, Larry."

"Well, some day you'll hook up, Stod, and if it isn't Estelle or Kitty, it'll be somebody in the crowd. And do you think you can find one of them who'll make a squaw out of herself to come up here, or turn herself into a globe-trotter for the fun of seeing you stick an iron girder across a canon somewhere back of beyond?"

The big man laughed softly.

"Larry," he said, "you talk like a boy looking at a ball game through a knot-hole in the fence, who thinks the center-fielder is the only man on the job because he happens to be the only player he can see. If you'll get your eye away from that knot-hole you've been looking through all your life and climb on top of the fence, or buy yourself a grand-stand seat, you'll find there are a lot of people beside the Kittys and the Estelles playing the game."

"Mind you, I'm not criticising the Kittys and the Estelles. They're nice, good girls, and they're all right. So are Central Park and Broadway. But the earth runs a bit beyond Broadway and the Park, and even beyond Fifth Avenue. And there are lots of people in the world beside the Kittys and the Estelles."

"It all depends on what you're looking for, son. Now, when I'm in Central Park I like Kitty. She fits in beautifully. Kitty and the Park harmonize. When I'm on Fifth Avenue I like Estelle. The avenue was made for Estelle to walk on and she adorns it. But—"

Stoddard paused for an instant to rescue the coffee-pot, which threatened to slide into the embers.

"Well," he added, "I guess the answer is that I don't spend much time on the avenue, or in Central Park."

"Talk all you like, Stod; but if I had the amount of experience you've had, I'd be consulting engineer, and I'd have my office in New York, and I'd not stir out of it. That's what the big men are doing."

"Maybe I'll do it, too, some day—after things are all built up everywhere else."

To Livingston there was something disgusting in the spectacle of a man washing dishes. Hot, soapy water with a skim of grease made him shudder, although Stoddard seemed to find it an effective agent for his purpose and cheerfully sloshed his big hands around in the tin bucket as if he enjoyed his task. Occasionally he added a split log to the fire, which burned redly against the now somber background of evergreens. With the dark came a fresh coolness, and the feel of the night air exhilarated him.

It was with Livingston as he predicted; sleep overtook the man who needed it. When his third cigarette had dropped half-smoked from his lips Livingston felt his shoulder shaken by a firm hand.

"Into the tent for you, Larry," Stoddard was saying. "You almost fell into the fire that time."

Drowsily he felt himself being propelled through an opening in the bobbinet front. Then Livingston stretched himself on a blanket that seemed at first to support him lightly, then to yield gently beneath his weight so that he was sinking down, down, down—

A kick applied to the sole of his foot half-awakened him with a start.

"What did you do with the matches?" demanded the voice of Stoddard. "Matches?"

"Sure. Matches?"

"Matches!" repeated the drowsy voice of Livingston. "Why, I—matches? Oh, yes. Matches—matches matches, mat—"

His words trailed off into a snore.

Stoddard laughed and walked away from the tent.

"But what the deuce did I do with those matches?" he muttered.

He thrust his hands into the pockets of his trousers and began an exploration. It yielded no matches. He picked up his coat and repeated the search. No matches! With an exclamation of annoyance he began slapping his clothing, as if matches might spring forth from any part of it. He shoved his fingers into a breast-pocket of his shirt. It was empty. Then—

"The devil!"

Stoddard's exclamation was loud and heartfelt as he watched the blood drip from a finger that had been investigating the left breast-pocket.

"Wha—what's the matter?" demanded Livingston, as his head appeared at the opening in the tent.

"Oh, you woke that time, did you?"

"You yelled loud enough to wake a corpse. What's happened?"

"Nothing. I just pricked my finger."

"On what?"

"Oh, somebody left a price-tag in the pocket of my shirt. Go to bed."

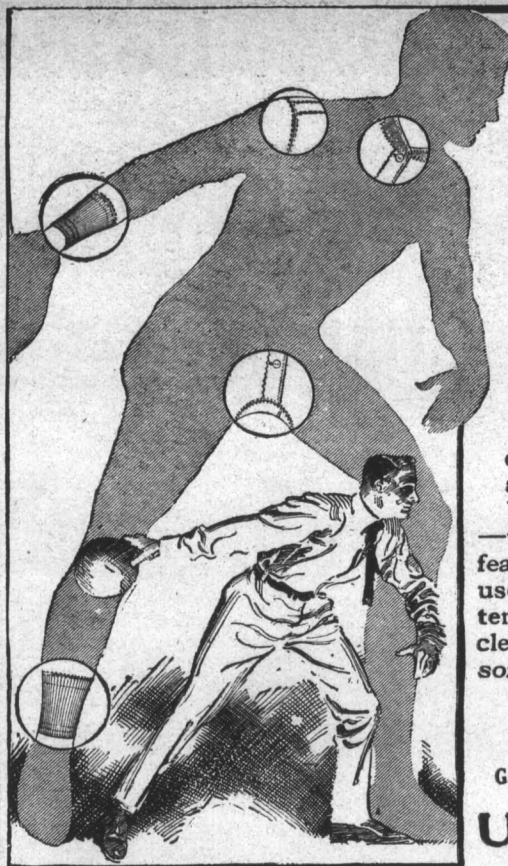
"They don't put price-tags in pockets. I don't see—"

"They put one in this pocket, any how," Stoddard interrupted. "Back in the blankets, Larry."

Livingston's curiosity, aroused for an instant, was presently overcome by a return of somnolence. Mumbling something about tags, he crawled back to his couch.

Stoddard made no move to re-examine his pocket until he was assured that his charge was slumbering again. He was fully acquainted with that person's thirst for knowledge of things which did not concern him, and he knew instinctively that this was something that was solely his own affair. Also, he knew there was no price-tag in the pocket:

There was a pin there; also a piece of paper. He felt both. The pin had



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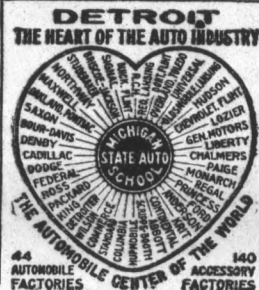
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pricked him and the paper had crumpled under his fingers. It was not a tag.

He made his way to the fire and sat down, his back to the tent. With a final glance to satisfy himself that the prying eyes of Livingston were not watching him, he began to explore the pocket with cautious fingers. The pin pricked him again, but he bore the infliction stoically. At last he located the head and drew it out. After that came the paper.

It had been folded several times; as Stoddard smoothed it he observed that its cheap texture was ruled with faint blue lines. Holding it close to the glow of the fire, this is what he read: Hello there, Mr. 44—

Do you like your job lasoing cows I would. Its in the movies all the time and I just crazy about it—I hate schrimps, to Wish I could live outdoors like you— Any job out your way for a girl who wants to lose the city Let me know if there is—Pltase If you ever worked in a factory you know what I mean No. 18, packing dept Challenge Shirt Co. Buffalo N. Y. reaches me— Well youve got my number, Forty-four—and Ive got yours. Dont forget that job—So long

P. S. You were in the movies to-night

Stoddard stared from the note into the embers; then turned his eyes to the paper again and reread it. A smile came to his lips. He lifted his head to laugh, but something checked him and his eyes became suddenly serious.

"The poor kid!" he said softly.

He studied the handwriting carefully. It was by no means bad. There was an untaught air about it of course; punctuation and spelling faltered here and there; yet there was a certain character in it that surprised him. At any rate it was not weak.

The contents puzzled him. Clearly it was never meant for his eyes.

"Who was 'Mr. 44?'" He gave it up. Evidently a cowboy, from the context. Cowboys, he knew, frequented the picture-screen; he never did.

"Schrimps." That was another puzzler. Why did she hate them, granting that she meant 'shrimps?' Sentence by sentence he pored over the note.

There were some things about it he liked. It did not cringe or fawn. She hated her job, explained why, and did not lament. It was not sentimental. He had heard of love-sick maidens writing notes on eggs, or slyly sticking a correspondence invitation in a box of strawberries; but this was different. Here was a factory-girl who wanted another kind of a job, said so, and let it go at that.

"Any job out your way?"

He wondered where she thought her message would go. Outdoors, at any rate. She made that clear.

There was one phrase that he read most of all—"a girl who wants to lose the city." Involuntarily Stoddard glanced back at the tent. He was thinking what Livingston would say to that.

To lose the city! The very thing Stoddard had been doing for nearly half his life—losing it, shunning it, returning to it under protest, fleeing it when he could.

Larry, snoring in the blankets, could not understand that—but he could. Estelle and Kitty could not understand, either. They were all of the city, captives who would not be free if their bonds were loosed. It was their life, beyond which they could conceive no other.

Himself they rather pitied. Even his mother and sister pitied him; but they were impatient with him, too. They saw no reason why the four quarters of the globe called to him; why he would sooner live under the open sky than in a mansion; why he was forever tramping off to some wilderness, to seek what they thought was privation, rather than to accept ease and comfort where men had made life a luxury. Stoddard had never attempted much explanation. They would not understand.

But here was a strange sort of a girl, he thought, as he read the letter again. Here was no Kitty nor Estelle, hiding



from the sun under a parasol, of shrinking with the glass walls of a limousine from a breeze that might set her cheeks and ears tingling.

Here was a girl who wanted air! The city was too shut up! She would "lose it." A new kind of a girl to Stoddard.

He wondered what she was like. Some pinch-cheeked creature, probably, pining for escape from the four walls of a city factory; yet the letter breathed a certain spirit of robustness that he could not associate with this picture.

Illiterate, of course. That, also, was a new type to Stoddard. Estelle and Kitty spelled and punctuated perfectly and wrote the most charming and conventional notes.

He found himself very curious concerning No. 18. What sort of a name did she have? Was she pretty, How old? What sort of a job did she want, outdoors?

"She's got the big idea as a foundation, anyhow," he said, half aloud. "I never met that kind. Wants to lose the city—and all the ones that I know are moving the other way!"

The fire burned low while Stoddard smoked and thought, the letter from the girl who wanted to live outdoors still between his fingers. For an hour he sat motionless, most of the time staring across the dying coals to where stars were faintly reflected in the dark water. Then he roused himself, reached for his coat, and began fumbling in his pockets. He found what he sought.

"I think I'll find out some more about No. 18," he muttered as he hunted for some blank pages in a notebook.

#### CHAPTER IV.

##### Stoddard Beats the Portage.

The composition of a letter addressed to a mere number, by the light of a fading camp-fire, with a knee as a desk and a stub of pencil as a substitute for a pen, was not the simplest of tasks for Stoddard. He had written field reports under conditions infinitely worse, and had even made intricate mathematical calculations in a fever-swamp, where the ticks and mosquitoes supplied constant diversion; but this was different.

It was easy enough to begin—"Dear Miss No. 18." But when he had written that he paused a long time. If it had been destined for Kitty or Estelle he would not have hesitated, for there were set rules and forms for the Kitty and Estelle type. No. 18 was not merely an unfamiliar species; she was also an unnamed one. He felt like an archer letting fly an arrow toward the sun.

Yet doubts and difficulties could not interfere now, for Stoddard had determined that a letter should be written—which settled it. It was merely a matter of material and method; the adventure itself had been fixed upon.

He found the task far more difficult than computing factors of safety, or running a mountain-line with a five-per-cent grade limit. For a while he was undecided whether to be in light or serious mood. He reread the letter that came in his olivedrab shirt and endeavored to adopt the spirit of it; he would be serious without being solemn. Also, he would try to be cheerful without being frivolous.

One thing he would not be—sentimental. Stoddard was far from being devoid of sentiment. He had a full man's share of it. But he had a horror of sentimentality. Between the two he recognized a wide gulf.

It was no trouble for him to avoid sentimentality. He merely applied to the letter destined for Miss No. 18 an unconscious yet invariable rule of his own—anybody might read anything he wrote without bringing a blush to his cheeks.

Once fairly under way, the letter ran along easily enough. It was not very long. After inspecting his work Stoddard was satisfied with it.

(Continued next week.)

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## Woman and Her Needs

### The Small Child Problem

WHAT can I do to amuse children one and a half and three and a half years old?" writes a tired out mother. "They tire of their toys so quickly after they are bought and are so noisy and boisterous in their play that my poor nerves nearly get lost."

I imagine that 99 out of every 100 mothers of young children echo her wail with varying degrees of intensity. For at that age the average child is noisy and boisterous and tires quickly of every amusement. The youngest is still a baby and is too young for books or kindergarten gifts, but he is not too young to want to try to do everything the older one does. Both are in the purely animal stage where noise and racket and pounding are the chief things that appeal, and sedate block building and cutting out of pictures are too restraining. In another six months the elder one should be old enough to be interested in the simpler books and blocks, and paper folding, but these take time to teach to the little ones, and how many busy mothers have the time to sit down and play teacher a part of each day.

Just at this age there is little mother can do except to let them romp and shout, and make up her mind to possess her soul in patience until they have passed through this stage of existence to an age where quieter games will amuse them. If they can have a room to themselves downstairs the problem becomes easier for they can be taught to keep their toys in that one room where disorder will bother no one. Here a sand table, a few plain building blocks, a soft ball and a few dolls would be all I should provide, for I have noticed that the fewer toys children have the happier they are. Indeed, the most contented family of children I ever knew had no toys at all except a few they had made for themselves out of spools, boxes, corn cobs and old clothes rolled up into dollies. When one home-made toy gave out they made another and were as happy with it as they would have been with an expensive mechanical toy. Yes, happier, for the normal child doesn't care a pin for a train that will run itself. He wants one that he has to get down with and make it run.

The present day American child has far too much done for him. He is surrounded by toys which are replaced as soon as he breaks them, and as a result becomes destructive and careless. Why take care of a thing if you know

someone will replace it for you if you lose or break it? Mother and father, anxious to do their duty and suffering from ingrowing conscience, think they must keep the little ones from fretting, and wear themselves out in an effort to keep the baby amused. The child who grows out of the baby demands the same attention, and instead of becoming self-reliant and learning to amuse himself looks to the parents to tell him what to do and what to play, and later expects the same help from teacher at school. Personally, after experimenting on two boys, I believe it would be far better to turn them loose and let them shift for themselves as soon as they can creep, providing always that we make sure they can not come to harm.

Under five years, children, both boys and girls, like to play the same games. Boys will play with dolls as happily as girls, if some unthinking adult has not teased them by calling them "little girl." They will string buttons for bracelets and necklaces, make cookies and pies when mother bakes, sweep and dust with her as a little girl would, and enjoy it far more than playing off by themselves with some toy that cost a great deal of money. Most children of this age like a plaything they can push about. A toy wheelbarrow or a fifty-cent doll cab, or even their own go-cart will keep them busy for hours. They want to be on the go, and if they can make something go with them, so much the better. This is the age, too, for drums and horns, and other noise producing and nerve racking implements of torture.

It is a hard age for the mother no matter in what spirit she goes about it. But she can make it easier by her own mental attitude. If she will look at the thing dispassionately and reason that she has all her life after the babies are grown in which to keep things spick and span, but only about five years for the baby, she can not help but see that it is better to laugh with him than to groan over him. Time has a fashion of flying away and before we know it the babies are youths and the little things that seemed mountains to us are only trifles compared to the bigger problems they bring.

Noise and disorder are inseparable from small healthy children. Of course they can be trained to habits of neatness, but toys must litter the floor at times and mothers can only comfort themselves with the reflection, "This, too, shall end."  
DEBORAH.

## Preparing Our National Dinner

By MRS. JEFF DAVIS

NEXT to Fourth of July, Thanksgiving is the greatest American holiday, and it is right that the celebrating of it, and the feast should be as national in its character as the day itself. Therefore, at this one meal nothing that is foreign should be served. This will entail no hardship on the housekeeper, for no matter how elaborate a menu has been planned, there are very few foods from abroad that can not be duplicated in our own country. So let us be truly American, for this day at least, and eat nothing but distinctively native dishes.

The dinner that is deservedly popular upon this day is the genuine old-fashioned Thanksgiving feast. This repast reminds us of those early Thanksgivings of our ancestors, when the long table fairly groaned beneath the weight of good things, all the reward of personal labor and sacrifice. To arrange such a dinner today there

are certain dishes that must appear. There must be roasted a turkey with plenty of gravy, there must be several kinds of vegetables; a dish of cranberry sauce, and for dessert there must be pie with cheese and nuts as an accompaniment. After these dishes have received attention, however, the housewife may select additional dishes as long as she confines herself to native dishes.

Below are given some menus, differing while still maintaining the national characteristics.

### Menu.

Oyster soup, with dinner rolls and crisp crackers  
Celery Salted Almonds  
Roast Turkey with Pecan stuffing  
Potatoes, Turnips, Small Buttered Beet  
Potatoes Turnips  
Small Buttered Beets  
Cranberry Sauce Sweet Pickles  
Tomato Moulds and Lettuce



Mayonnaise  
Cottage Cheese Balls Toasted Crackers  
Apple Pie Mince Pie  
American Cheese  
Fruits Nuts Coffee  
Menu  
Tomato Soup with Croutons  
Olives Celery Salted Pecans  
Roast Turkey with Oyster Stuffing  
Mashed Potatoes  
Cream of Lima Beans  
Cranberry Jelly Pickles  
Crackers  
Mince Pie Pumpkin Pie  
American Cheese  
Steamed Pudding with Sterling Sauce  
Fruits Nuts and Raisins Bonbons  
Coffee

These dinners might be made more elaborate by the addition of such items as clams or oysters on the shell, or in the form of "cocktails;" chicken pie or any other preferred; baked ham, a more elaborate dessert of ices, ice cream, cakes, etc.

In case ice cream is served it is wise to omit it at the close of the dinner and serve it later in the day with cake. After eating a hearty dinner ending with a heavy dessert the guests rarely ever feel that they can become enthusiastic over ice cream and cake, but later in the day when called to the table where these tid-bits are arranged full justice can be done to them.

In preparing a dinner of this character it is best to do as much the day before as possible. The cranberries are always better made the day previous to the time of serving, as they then have ample time to become chilled. The pies, tomato molds for salad, and dressing can also be prepared the day before the dinner. In this way the hostess, either with or without help, will not be overtired when the time comes for receiving her guests.

As the soup comes first this is the first task to be considered, but as soon as this has been done the turkey should be stuffed and put in the oven.

As most housekeepers understand how to make simple soups, or as every good cookbook contains such information, it is useless to dwell long on such details here. Oyster soup, of course, is made quite like oyster stew, consisting chiefly of oyster liquor and milk, seasoned with butter, salt and pepper. It is more tasty, however, if a little celery is cooked with it, and many people like the flavor of a little onion juice also. Strain the soup before serving.

There is nothing which adds so much to the flavor of a well-cooked turkey as the way it is prepared for roasting and the kind of stuffing used. Having been dressed and cleaned, stuff the turkey with any well-seasoned dressing that you know to be liked by your family. The two given below are universally popular. After the turkey has been stuffed and trussed, rub the surface with salt, and then spread the breast, wings, and legs with a mixture of one-third cupful of butter and one-half cupful of corn meal rubbed together. Place in a hot oven until the meal begins to brown, then reduce the temperature, basting frequently at first with a tablespoonful of butter and three-quarters of a cupful of boiling water. After the turkey has begun to cook well, baste with the drippings in the pan. To cook properly, a ten-pound turkey will take three hours. When done pour off the gravy from the bottom of the pan and skim the fat from the top. The giblets having been cut up and boiled separately, they may be added to the gravy, together with three cupfuls of the stock in which they were cooked. Put the skimmed-off fat back into the pan and add four tablespoonfuls flour; mix thoroughly and then pour the gravy on gradually, and cook about five minutes, stirring constantly.

Oyster Stuffing.—Three cups of stale bread crumbs, one-half cup melted butter, salt and pepper to taste, a few drops of onion juice, one pint of oysters. Mix ingredients in the order given, add oysters cleaned and drained from their liquor.

Nut Stuffing.—Two cups stale bread

crumbs, two-thirds cup melted butter, one-half cup raisins, seeded and cut in pieces, one-half cup pecan meats, broken in pieces, salt, pepper and sage to taste. Mix ingredients in order given.

Tomato Jelly Salad.—Press a one-quart can of tomatoes through a fine strainer, add one teaspoon each of sugar and salt and put on the fire to heat slightly. Soak two-thirds of a box of powdered gelatin in a little water for a few moments and add to the tomato juice. Pour off into individual molds to harden. When serving scrape the knife around the inside of the mold so that when the jelly is turned out, the rough surface will simulate a fresh tomato. Serve on lettuce leaves with mayonnaise dressing.

Orange Salad.—Cut thin-skinned acid oranges in very thin slices and slice in quarters. Marinate with a dressing made by mixing one-third cup of olive oil, one and one-half tablespoons each of lemon juice and vinegar, one-third teaspoon of salt, one-fourth teaspoon of paprika, and a few grains of mustard. Serve on a bed of watercress.

Buttered Toast.—Small tender beets come in cans for winter use, as they have a good fresh flavor. Heat a large-sized can of the beets in their own liquor and when hot drain and pour over them a sauce made from two tablespoonfuls of melted butter, one dessertspoonful of corn starch mixed with water, one-half cupful of heated white wine vinegar, one saltspoonful of salt, and one-quarter teaspoonful of pepper.

Cream of Lima Beans.—Soak one cup of dried beans over night, drain, and cook in salted boiling water until soft; drain, add three-fourths cup of cream and season with butter and salt. Reheat before serving.

Steamed Pudding.—Measure four cups of sifted flour and sift again with one and one-half teaspoons of soda, one teaspoon each of salt and cinnamon, one-half teaspoon each of ginger, cloves and nutmeg. To one cupful of finely chopped suet, add one cup of molasses and one cup of buttermilk. Stir into dry ingredients. Cut into small pieces one slice of candied pineapple, the same amount of citron, one-half cup each of currants, candied cherries and nuts; sprinkle well with flour and stir into mixture. Turn into well-buttered mold and steam four hours. Serve with sterling sauce.

Sterling Sauce.—Cream one-half cup of butter, gradually add one cup of sifted brown sugar, and cream, until light; add three tablespoons of thick cream. When ready to serve heat in double boiler, add vanilla to taste and beat until foamy.

Cheese Balls.—One and one-half cups of grated mild cheese, one-tablespoon flour, one-half teaspoon of salt, a few grains of cayenne, whites of three eggs, cracker dust. Mix cheese with flour and seasonings. Beat whites of eggs until stiff, and add to first mixture. Shape in small balls, roll in cracker dust, fry in deep fat and drain on brown paper. Serve with salad course.

Cranberry Sauce.—Pick over and wash three cups of cranberries. Put in a stewpan, add one and one-fourth cups of sugar and one cup of boiling water. Cover, and boil ten minutes. Care must be taken that they do not boil over. Skim and cool.

Cranberry Jelly.—Pick over and wash four cups of cranberries. Put in a stewpan with one cup of boiling water, and boil 20 minutes. Rub through a sieve, add two cups of sugar and cook five minutes. Turn into a mold or glass.

A red toy wheelbarrow filled to overflowing with small fruit and autumn leaves makes an artistic centerpiece for Thanksgiving dinner.

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Cheaply built, small bore, high speed, light weight engines do not mean cheap power. Don't let anyone tell you it will pay you to buy a cheap priced engine with price its only recommendation. I know this engine game from A to Z—I've done all the experimenting here at Waterloo, I've found that large bore, low speeded, heavy engines will outlast others two to one; that the quality must be built in to get the service out.

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My Big Free Engine Book—250 Pages will decide the engine question for you. It will tell you the INSIDE SECRETS OF THE ENGINE BUSINESS. It will show you how and why I built Galloway Masterpiece Engines in MY OWN FACTORIES of the best material right from the BLUE PRINTS of the most skilled engine designers by the highest class machinists and workmen and sell them direct to you for less money than dealers and jobbers can buy engines of equal horse power, quality, workmanship and finish. This book on engines tells you why I can afford to back every Galloway Masterpiece engine from 1 1/2-4 h. p. to 16 h. p., stationary or portable, with a

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In addition to the reputation the Galloway factories and institutions have been years in building, Galloway engines are built to stand up under the hardest tests—to give a lifetime of service at hard, tough, jobs—YET at our satisfaction at heavy work. This book fully describes and illustrates every style and size for farm and shop, tells how to line up a power house, filled from cover to cover with instructive ENGINE FACTS.

FREE POWER TEST ON YOUR FARM OR SHOP. Arranged if you desire. Our engines must prove to you in your own hands, you to be sole judge, whether or not they actually do everything we claim for them.

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Wm. Galloway, Pres., Wm. Galloway Co., Box 185, Waterloo, Iowa  
Engine Manufacturing Specialists.

### SILLO OF GLAZED TILE

Carries crop insurance, fire and frost proof, ready for hands of builder, easily erected. You get an attractive yet valuable improvement to the farm. It is coated inside and out with liquid glass burned on at an intense heat. It provides low cost feed to use or sell to your neighbors. You feed what you grow, your product walks off your farm, is not hauled. Your requirements given, we will place in your hands sample of this material, a plan that has the best elements of co-operation, direct from the kilns, our investment your profits. Ask for sample. Ask what it means today.

KALAMAZOO TANK & SILO CO.  
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Grind corn and cobs; feed, table meal and alfalfa. On the market 50 years. Hand and power. 23 styles. \$3.80 to \$40. FREE TRIAL. Write for catalog and farm machinery bargain book.

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Dept. 0-2727-3731 Fifth St., Philadelphia  
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Always mention the Michigan Farmer when writing to advertisers.

# Farm Commerce.

## Advertising Farm Products IV.

By I. J. MATTHEWS

IT goes without saying that the farmer has a right to put up and use billboards so long as they are on his own premises. In that respect, he should enjoy the same prerogative that is enjoyed by his brother in the city. If the farm advertises anything, it should certainly be the wares produced on the home acres rather than something produced in the city. An appropriate use of the billboard has a psychological significance that can scarcely be gained in any other way.

In the matter of making extravagant claims and promises that cannot be carried out, the billboard should not be burdened any more than should a newspaper advertisement. In writing any form of display matter, simplicity and modesty are commendable virtues. Extravagant claims or impossible statements make the advertisement appear cheap and ridiculous in the eyes of the prospective customer, and in so doing lose sales rather than make them.

Billboards that are placed in some conspicuous spot on the farm and contain matter that is untrue will detract rather than attract customers. A neat billboard should be put in obscure places rather than on the highest point of the farm or the one of most scenic beauty. It is not good business to cover up the beautiful landscape on the farm and if there is an ugly sandpit or some other unsightly spot, this may be partly covered up by the modest yet appealing billboard.

I can cite an illustration of the value of a barn advertisement. A Michigan railroad over which I have ridden many times, runs through a dairy section. Black and white cattle dot the meadows but there is only one advertisement of Holstein-Friesian cattle visible from a passing train. A certain barn faces away from the railroad's right-of-way and on the back of the barn is a ten by twelve-foot sign painted in black and white. It announces simply that the owner and his son are breeders of Holstein-Friesian cattle. The cattle pasturing in a field between the track and the barn are a silent testament to the fact that these breeders produce high-class cattle.

The point is this: I was sent out by a state institution to purchase Holstein-Friesian heifers. I made out my itinerary and the first stop was the one nearest the point where I had seen the barn advertisement. Despite the fact that I had seen other black and white cattle along the way for nine or ten miles, yet I had no assurance that they were anything other than grades and I was looking for pure-bred stock.

Such a use of buildings is certainly profitable and proper. Buildings are often down in a ravine overlooked by a highway running over a hill. In this case, the roofs of the buildings can be made to tell passersby that the owner of the farm has for sale some well recognized and desirable product. Except in such cases as the two mentioned, it does not seem to me to be good taste to cover buildings with even one's own advertisements. Quality rather than quantity of advertising is desirable. It is extremely doubtful if three signs on buildings have any more selling influence upon the mind of a reader than has a single sign of more beauty and finish than any one of the three.

More effective than the large notices on buildings are the smaller and more attractive billboards that may be found here and there in front of farm houses. I do not refer to the usual "For Sale" and "Wanted" Billboards that are sent out by some city firms and donated to the farmer because these billboards usually donate the farmer one dollar's

worth of service in return for five dollar's worth of advertising. The dealer giving the billboard does not allow it to escape without liberal notices of his own line for sale. Some few farmers have, however, had a billboard of their own constructed, with their trademark at the top and painted in the colors chosen to represent the farm. There are two sections, one for a "Wanted" column and the other for a "For Sale" column. With a one-inch rubber stamp alphabet outfit the words can be neatly placed upon a piece of cardboard and this tacked onto the billboard under the proper division. Much to the surprise of many who have tried this device, it is a fine salesman in itself. However, it spoils the salesman value of such a billboard to have the words scrawled upon it. The whole thing should be neat throughout; in other words, dressed like a true traveling salesman.

On account of the proximity of the farm to such a billboard sales are made easily. The appearance of the farm and the products for sale, if they are visible, is a mute testimonial to the integrity of the farmer and really, after all, any advertisement is valuable only as it is backed up by the integrity of the advertiser and the goods he offers. The billboard gets the attention of a prospective customer, the well-kept appearance of the farm interests him, the products themselves convince him that they are what he wants and the ease with which the personal touch may be effected makes it comparatively easy to get sales in this manner. Some have found after years of search for far away markets that their best customers passed the farm several times each year.

The home market is the one most to be sought and it is good policy for the farmer to sell his products in his own community if they are wanted. The effects of repeatedly selling one's surplus at home is sure, sooner or later, to make the home locality famous for the product and that has been sold and as soon as any locality becomes noted for a given product, buyers will come in from outside and the whole situation will be one of continual gain for the community and each individual in it.

### MARKET SERVICE FOR LIVE STOCK SHIPPERS.

James N. McBride, Markets Director, Michigan Agricultural College, has been advised that often times market conditions for the surplus live stock in the remote sections from markets are not entirely satisfactory. To help solve the problem the director announced that in cases where carloads can be furnished and the animals can be properly marked for identification, consignments can be made to commission houses in Detroit or Buffalo, whose names and addresses will be furnished upon application to the director. Local railway agents are generally glad to furnish information as to rates and weights.

The director reports that there is a call for stockers in the southern counties of Michigan and reliable buyers will be advised as to where stock can be had. The director suggests that community action can often locate carload lots, which will be to the advantage of all concerned.

Both farmers and buyers interested in the sale of live stock are urged to communicate with the Markets Department of the Agricultural College at East Lansing.

### 8 H.P. Portable Saw Rig



Weights only 1285 lbs. One horse will handle it. Saw frame of tilting type. Blades 28 inches. Fitted for pole saw work if desired. Tongue, neck yoke and double-trees furnished instead of shafts when preferred. Saw may be detached, leaving portable outfit; also engine removed for other uses. Engine alone weighs only 820 lbs.

### Cushman

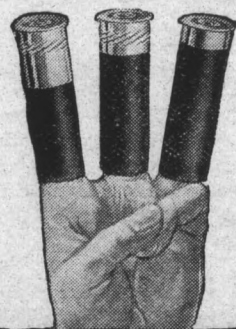
#### LIGHT WEIGHT ENGINES

Most useful engines for farm work. Run quietly and steadily because of Throttle Governor and perfect balance. No violent explosions or fast and slow speeds. Easy to move around from job to job. 4 H. P. weighs only 190 lbs. Besides doing all general farm work, it may be attached to grain and corn binders, saving a team.

In sawing, sensitive Cushman Throttle Governor responds instantly when saw strikes log, making it stand up and deliver steady, uniform speed. One man who uses the Cushman Saw Rig says it pulls more like a steam engine than any gas engine he ever handled.

Cushman Engines are not cheap, but they are cheap in the long run. 4 to 20 H. P. Engine Book mailed free on request.

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826 North 21st Street Lincoln, Nebraska  
4 H. P. Cushman. Same Engine Used on Binder.



### Test Shells Now 3 Shells Free

If your shells fail, your hunt is spoiled.

Test your shells beforehand and know that they are the best you can get. Particularly, test



Smokeless and Black Powders

We will send you an order on your ammunition dealer for three free Black Shells and also a complete booklet of test directions. All you do is to write your name and address and that of your ammunition dealer on the margin of this advertisement, tear it out and send it to us.

UNITED STATES CARTRIDGE CO.  
2609 Trinity Bldg., New York City



### "Natco On The Farm"

is the title of our new book that every farmer who takes pride in his farm buildings should have. It shows with many fine illustrations the use of Natco Hollow Tile for barns, houses, corn cribs, etc. Send for it. Study it. Also get our Silo Catalog and learn about the money-saving, worryless, repairless

### Natco Imperishable Silo

"The Silo That Lasts for Generations"

—that perfect ensilage preserver that can never blow down, decay, warp, crack, crumble or burn. So efficient that a great demand for other Natco buildings was created and they are now springing up everywhere. Send for these books. Ask for free plans and advice. Let us save you money for years to come. Write now.

National Fire Proofing Company  
1115 Fulton Building - Pittsburgh, Pa.  
23 Factories—Prompt shipments.

When writing to advertisers please mention The Michigan Farmer.



### A SUCCESSFUL LIVE STOCK ASSOCIATION.

The Menominee County, Michigan, Dairy Stock Association which was organized last April and which bought a carload of pure-bred stock at that time, has proved a success and a second carload has just been purchased.

This organization is composed of bankers, businessmen, and farmers, and was started in order to enable farmers to buy pure-bred stock who heretofore have not been financially able to do so.

Although it is called an association, it is not in reality an organization at all as it has no constitution, no articles of agreement, and no officers. It is merely an agreement entered into by about fifty men of the county to act as guarantors for the payment of certain loans that may be made by the banks of the county for the purchase of pure-bred and high-grade dairy cattle. These guarantors have appointed three of their number who act as agents for the transaction of business, with power of attorney, and the selection of cattle bought is done through the superintendent of the Menominee County Agricultural School, as is also the determination as to whether the parties who seek loans are in position to handle additional stock called for.

The agreement referred to is duly drawn up and signed by the guarantors, each guarantor specifying the limit of his obligation. Each bank in the county has on file a copy of this agreement with the autograph signatures of the guarantors.

The farmers who wish stock fill out application blanks for as many head of pure-bred cattle as they think they can handle. When enough orders have been received for a carload, the superintendent of the school finds where he can purchase the stock sought and ships the same to a central point from which the farmers get their stock.

The farmer fills out a note to the bank making the loan and a chattel mortgage on the stock which runs to the guarantors. The guarantors then endorse the note. Six per cent interest is charged on these loans, and the notes are payable in eight equal quarterly installments, thus giving the farmer two years in which to pay, and enabling him to pay for the cattle with the profits received. Outside of the regular six per cent interest, neither the organization nor any individual makes one cent of profit on the deal.

Wayne Co.

H. L. SPOONER.

### GOVERNMENT CROP REPORT.

A summary of preliminary estimates of crop production for the state of Michigan and for the United States, as compiled by the Bureau of Crop Estimates (and transmitted through the Weather Bureau), U. S. Department of Agriculture, is as follows:

Corn.—State.—Estimate this year, 46,200,000 bushels; production last year (final estimate), 56,000,000 bu.

United States.—Estimate this year, 2,640,000,000 bushels; production last year (final estimate), 3,054,535,000 bu.

Wheat.—State.—October estimate, 12,631,000 bushels; production last year (final estimate), 20,448,000 bu.

United States.—October estimate, 607,557,000 bushels; production last year (final estimate), 1,011,505,000 bu.

Oats.—State.—October estimate, 42,690,000 bushels; production last year (final estimate), 64,260,000 bushels.

United States.—October estimate, 1,229,182,000 bushels; production last year (final estimate), 1,540,362,000 bu.

Barley.—State.—October estimate, 1,984,000 bushels; production last year (final estimate), 2,508,000 bushels.

United States.—October estimate, 183,536,000 bushels; production last year (final estimate), 237,009,000 bu.

Buckwheat.—State.—Estimate this year, 715,000 bushels; production last year (final estimate), 870,000 bushels.

United States.—Estimate this year, 11,400,000 bushels; production last year (final estimate), 15,769,000 bu.

Potatoes.—Estimate this year 16,400,000 bushels; production last year (final estimate), 20,945,000 bushels.

United States.—Estimate this year, 289,000,000 bushels; production last year (final estimate), 359,103,000 bu.

Hay.—State.—September estimate,

4,398,000 tons; production last year (final estimate), 3,458,000 tons.

United States.—September estimate, 86,155,000 tons; production last year (final estimate), 85,225,000 tons.

Apples.—State.—Estimate this year, 4,160,000 barrels; production last year (final estimate), 3,150,000 barrels.

United States.—Estimate this year, 67,700,000 barrels; production last year (final estimate), 76,670,000 barrels.

Cabbages.—State.—October estimate 23,875 tons; production last year (final estimate), 41,382,000 tons.

United States (eight states).—October estimate 226,086 tons; production last year (final estimate), 657,716 tons.

Beans.—State.—October estimate 3,730,000 bushels; production last year (final estimate), 4,250,000 bushels.

United States (five states).—October estimate, 9,924,000 bushels; production last year (final estimate), 10,278,000 bushels.

Prices.

The first price given below is the average on November 1 this year, and the second the average on November 1 last year.

State.—Wheat 163 and 100 cents per bushel; corn 92 and 69; oats 49 and 34; potatoes 143 and 52; hay \$9.60 and \$11.70 per ton; eggs 32 and 26c per dozen.

United States.—Wheat 158.0 and 93.1 cents per bushel; corn 85.0 and 51.5c; oats 49.0 and 34.9c; potatoes 136. and 60.8c; hay \$10.68 and \$10.83 per ton; cotton 18.0 and 11.6c per lb; eggs 32.0 and 26.3c per dozen.

### Crop and Market Notes

#### Michigan.

Hillsdale Co., Nov. 6.—Good weather for farm work has prevailed during most of the fall, and corn husking is pretty well advanced. About the usual acreage of wheat and rye was sown, much of the sowing being unusually late. Plenty of hay and straw are on hand for winter feeding. The amount of corn in the hands of local farmers is less than normal. The bean crop and buckwheat crop are light. Corn 40c per bushel, delivered from the field; potatoes \$1.50 per bu; beans \$4.50; sprayed and picked apples, delivered, \$1 per bu; cabbage, delivered in small lots for home consumption, two cents per pound; eggs 35c; good dairy butter 28c; butter-fat 41c; wheat \$1.68; rye \$1.25; oats 50c; hogs 9c; beef cattle \$5@8; veal \$9.50.

Branch Co., Nov. 8.—Wheat and rye are looking fair but are small and rather light, owing to dry seeding time. A few good pieces of corn, but much poor, soft corn. Potatoes and beans a light crop. Beans three to five bushels. Shortage of grain makes feeders light. Considerable corn yet to husk. Potatoes \$1.50@2; wheat \$1.70; corn 85c; oats 50c; barley 85c; butter 25c; butter-fat 36c; eggs 35c.

Genesee Co., Nov. 9.—Nice rain falling today. Farm work nearly all finished. Considerable fall plowing being done. Wheat looking well considering the lateness of the seeding. All pastures good, encouraged by the mild weather and abundant rainfall. Many farmers who have no silos are shredding and putting it in mows, or stacks. Some cholera among swine has been reported in one part of the county; otherwise farm stock is doing well. Many are being forced out of the dairy business owing to the difficulty of securing help. This county has just voted one million dollars for good roads, trunk lines leading out of Flint to be cement or brick a certain number of miles in each direction. This latter means rebuilding macadam which was put in a few years ago, now in very bad condition.

Isabella Co., Nov. 11.—Farmers are busy fall plowing and threshing beans, which is a very poor crop. Average about six bushels and they pay \$5.75 for hand-picked. Large acreage of wheat sown. Ground quite wet for plowing. Hay very dull, selling at \$8 @9 per ton. Not much land changing hands. Eggs 32c; butter 28c; beans \$5.75.

Van Buren Co., Nov. 7.—Wheat and rye look good with acreage about normal. Potatoes yielded around 60 bushels per acre; 25 per cent of output is already sold. Buckwheat fields produced from six to 10 bushels per acre, and bean fields from three to six bushels. There is an abundance of hay on hand. Wheat \$1.60@1.70; new corn 70c; oats 50c; beans \$5@6; potatoes \$1.50; dairy butter 30c; eggs 30c.

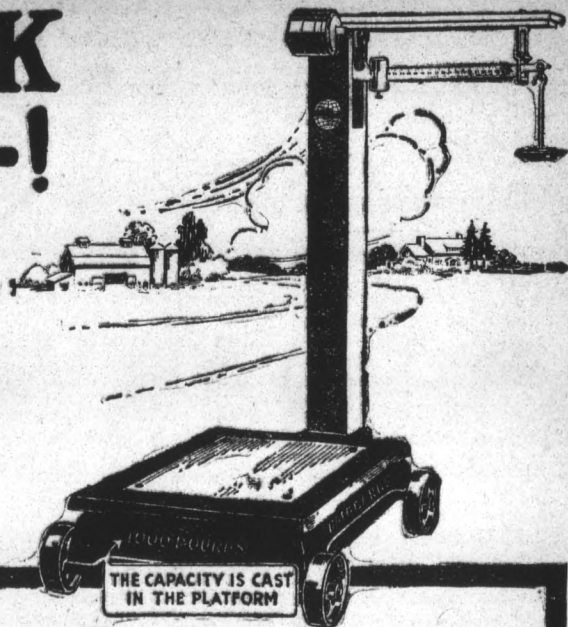
The Markets Department is advised of names and places in Northern Michigan where stockers and feeders can be bought. This is the opportunity for farmers and feeders to utilize their roughage and winter stock through with every reasonable assurance of profit. Write for advices as to sellers with whom you can correspond.

JAS. N. McBRIDE,

State Market Director, East Lansing.

# THINK OF IT!

YOUR grandfather knew the name "FAIRBANKS" stood for all that was best in scales. No farm should be without this "watch dog of weights."



## The Genuine FAIRBANKS Scale-1000 lb. Size

"If it's weighed on a FAIRBANKS there's no argument"—

# \$14.85

because it has Steel to Steel Bearings, Arrow-tip Beam. Large Platform, Wide Wheels.

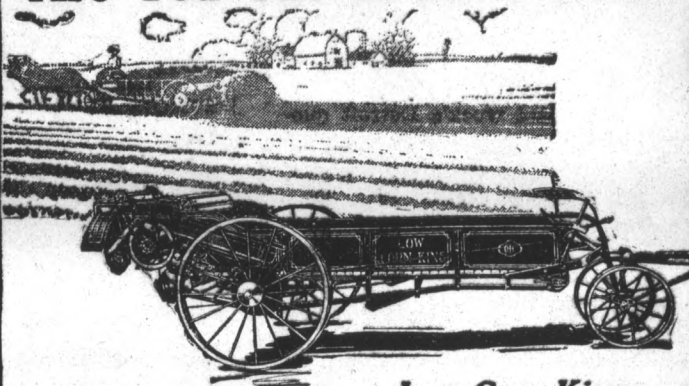
500 lb. size \$12.50  
Both Prices f. o. b. Chicago

Go to Your Local Dealer—see the scale and you'll buy it. A reputable dealer selling a reputable scale certainly is a strong combination.

If you don't know the local Fairbanks-Morse dealer, write us.

Fairbanks, Morse & Co., Chicago

## Are You One of the Losers?



Low Corn King  
Low Cloverleaf

SOMETIMES Americans wonder why they get only about half the crop yields from an acre that are produced in other countries. Well, here's one reason—a large majority of the farmers in this country own no manure spreader. One corn belt state lost \$20,000,000 last year by the wasting and poor handling of manure. Are you one of the farmers who shared in this loss? If you are, you need an IHC manure spreader.

International Harvester spreaders, Low Corn King and Low Cloverleaf—besides being low, strong, durable, simple in beater and apron mechanism, with good traction, light draft, and plenty of clearance—have a really successful wide-spreading device.

Low Corn King and Low Cloverleaf spreaders are low for easy loading and narrow for easy handling in yard, stable or field. From a box 45 inches wide either of these spreaders covers an even strip of ground 8 feet wide, or better. It saves time and labor, and keeps wheels and horses well away from the slippery manure already spread.

See the IHC dealer about a Low Corn King or Low Cloverleaf made to stand by you for years. Write us for catalogue.

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When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.



# Markets.

## GRAINS AND SEEDS.

November 14, 1916.

**Wheat.**—Despite the unprecedented high level of wheat prices, further advances were made during the past week. The supply and demand position is the dominant factor in the market, and while conditions abroad remain unaltered, there is likely to be little opposition to the advancing tendency. The European demand is far from satisfied, and because of the rapidly dwindling surplus from Argentina's 1916 crop, western Europe is becoming more and more dependent upon the United States and Canada for this cereal. Last week foreigners bought on an average of a million bushels a day. One year ago No. 2 red wheat was quoted at \$1.13½ per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	
	Red.	White.	Dec.
Wednesday	1.85½	1.80½	1.87½
Thursday	1.88	1.83	1.90
Friday	1.88	1.83	1.90
Saturday	1.89½	1.84½	1.91½
Monday	1.89½	1.84½	1.91½
Tuesday	1.87	1.82	1.89

Chicago.—December wheat \$1.89½; May \$1.94¼.

**Corn.**—There is a growing belief among traders that corn at present prices is a cheaper grain to buy than wheat. One day last week May corn and May wheat were just \$1 apart in price at Chicago. This margin certainly overmeasures the difference in the food value of the two grains. In European countries, advantage is now being taken of this, and corn is being substituted in part or in whole for wheat. As a result, the demand is growing apace, and corn prices will undoubtedly approach more closely to those of the major grain than present quotations show. One year ago No. 3 corn was quoted at 68½¢ per bushel. Detroit's last week's quotations for new corn were:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	1.03	1.05	
Thursday	1.03	1.05	
Friday	1.05	1.06	
Saturday	1.05	1.07	
Monday	1.08	1.10	
Tuesday	1.08	1.10	

Chicago.—December corn 98½¢ per bushel; May 98½¢.

**Oats.**—This cereal has also benefited by the advance in wheat and corn, and by the wider appreciation of the value of oats as a feed in comparison to the food units in wheat. On Monday the local market advanced 1½¢. One year ago standard oats were quoted at 40¢ per bushel. Last week's Detroit quotations were:

	No. 3	No. 3	
	Standard.	White.	
Wednesday	56	55	
Thursday	57½	56½	
Friday	58	57	
Saturday	58½	57½	
Monday	60	59	
Tuesday	60½	59½	

Chicago.—December oats 58½¢ per bushel; May 62½¢.

**Rye.**—Following last week's remarkable price advance for this cereal, 7¢ more has been added, making the present quotation for cash No. 2, \$1.50 per bushel.

**Beans.**—There is not much trading in this product because there is nothing showing up on the market. Quotations have been advanced 25¢ more by the Detroit Board of Trade. Cash beans are nominally quoted here at \$6.25 per bushel. The Chicago trade have few offerings and an active demand. Michigan hand-picked pea beans are quoted on that market at \$5.50@7 per bushel.

**Seeds.**—Prime red \$10.65; alsike at \$10.40; alfalfa \$9@10; timothy \$2.50.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$9.80; seconds \$9.40; straight \$9.20; spring wheat \$10.50; rye flour \$8.30.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$30; standard middlings \$31.50; fine middlings \$35; cracked corn \$45; coarse corn meal \$42; corn and oat chop \$39 per ton.

**Hay.**—In carlots at Detroit: No. 1 timothy \$14@15; standard timothy \$13.50@14; No. 2 timothy \$12@13; light mixed \$13.50@14; No. 1 mixed \$11@13; No. 1 clover \$10@12.

**Straw.**—Rye straw \$8.50@9; wheat and oat straw \$7.50@8 per ton in carlots.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—The market continues firm and active. Prices for extras 1c higher. Creamery extra 36c; do. firsts 34c; dairy 30c; packing stock 27c.

**Eggs.**—The receipts are decreasing and foreign demand active. Prices ½c higher. The price, based on sales is 36½c.

**Chicago.**—Favorable conditions continue to exist. Trade is good and the market is kept cleaned up at an advance of ½c. Creamery extras are quoted at 36½c; extra firsts 35½@36c; firsts 34@35c.

**Eggs.**—The market is active; prices 3c higher than last week. Receipts are moderate. Firsts 38c; current receipts 36c.

**Chicago.**—Prices jumped 2c but still the demand is good. Real fine eggs are scarce. Firsts 34@35c; ordinary firsts 32@33½c; at mark, cases included, 28@34c; firsts, storage paid, 32½@33c.

**Poultry.**—Receipts are not so plentiful and the market has gained firmness. Prices are slightly higher. Live, spring chickens 15½@16c; No. 1 hens 15@16c; others 13@14½c; ducks 15@16c; geese 15@16c; turkeys 24@25c.

**Chicago.**—The receipts are not as large as last week and the market is firmer and higher. Good turkeys 20c; others 10@12c; fowls, general run 13c; others 12@14½c; spring chickens 17c; ducks 14@16c; geese 12@15c.

## FRUITS AND VEGETABLES.

**Apples.**—Market is steady, with the prices slightly higher. Barreled stock \$3.50@4 for fancy; choice \$2.50@3.50; No. 2 75¢@1 per bushel. At Chicago the feeling is steady. No. 1 stock is in limited offering and good demand. The prices are slightly higher. Fancy stock stock sells for \$2.50@6 per bbl; No. 2 stock \$1.75@2.50.

**Potatoes.**—At Detroit potatoes are steady with prices unchanged. Quoted, carlots, in bulk at \$1.60@1.65; sacks \$1.65@1.75. At Chicago Michigan white are quoted at \$1.50@1.70; others \$1.40@1.70. Market is firmer and the tendency is toward higher prices.

## GRAND RAPIDS.

Michigan white pea beans are being quoted now at \$6, while red kidneys, which are usually much higher than the white pea, are quoted 50¢ lower. Potatoes have rather wide range, from \$1.30@1.50, with the market showing weakness during the past week. They are moving less freely, with many growers inclined to hold their stock and with many buyers also in a waiting mood. Fresh eggs are firm at 36¢. Grain prices at the mills are as follows: No. 2 red wheat \$1.80; corn \$1 @1.05; rye \$1.20; oats 57c; buckwheat 90c. The hay market remains steady at \$10@12.

## DETROIT EASTERN MARKET.

Trading at the eastern market was active Tuesday morning at firm prices. Apples were moving fairly well at 50¢ @ \$1.50 per bu; potatoes \$1.50@2 per bu; cabbage \$1.40@1.50; lettuce 50¢ @75c; celery 30¢@40¢ per large bunch; loose hay is coming in slowly and is quoted at \$17@19 per ton.

## WOOL.

**Boston.**—Sales of wool to manufacturers have increased greatly in volume and prices are advanced. The fleece market is very strong. Manufacturers are competing to secure a liberal share of the available supplies. On the Boston market Michigan unwashed delaines are quoted at 38@39c; do. combing 39@42½c; do. clothing 30@36c.

## LIVE STOCK MARKETS.

### Buffalo.

November 13, 1916.

(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today as follows: Cattle 210 cars; hogs 100 d. d.; sheep 30 d. d.; calves 800 head.

With 210 cars of cattle here today, the demand was strong and the bulk of the shipping and best butcher cattle sold 15@25c higher. The medium cattle and cows sold a little stronger, and there was a strong demand for the canners and they sold strong, 10@15c higher, bulk at \$3.75@3.85. There was a good strong demand for bulls and stock cattle and bulk of them sold 10@15c higher. We look for a liberal run of cattle next Monday and a good trade on the best kinds, but no more than a steady trade on the mediums.

Receipts of hogs today were somewhat lighter than expected, and with good demand from all sources the market was generally 10@15c higher on the best grades and fully 50¢ per hundred higher on pigs and lights. A

few selected hogs sold from \$10.30@10.40, with the bulk around \$10.25; pigs and lights, as to weight and quality \$9.25@9.50; roughs \$9@9.25; stags \$7.50@8.50. We look for quite a good market on the decent weight hogs, but it does not look to us like the advance will be held on the pig stuff, our market today looked rather high compared with other points on this kind.

With a light run of lambs today our market opened active and 35c higher than the close of last week, and we look for steady prices the balance of the week.

We quote: Best lambs \$11.75@12; cull to common \$9@11; yearlings \$8@10; bucks \$5.50@6.50; ewes \$7.25@7.50; cull sheep \$4.50@6; wethers \$8@8.50; top veals \$13.25@13.50; heavy \$7@9; common and light \$8@11; grassers \$5@5.75.

### Chicago.

November 13, 1916.

Cattle. Hogs. Sheep.  
Receipts today...38,000 57,000 36,000  
Same day 1915...23,079 47,446 35,441  
Last week...66,812 293,188 100,012  
Same wk 1915...51,589 169,178 82,237

The cattle receipts today include about 4,000 northern rangers. Fat cattle are selling at steady prices, but the other kinds are expected to sell off anywhere from 10@25c, common kinds comprising a large part of the supply. Hogs opened 5c higher on an average, with sales at \$8.95@10.25. Hogs received last week averaged 197 lbs. Sheep and lambs are selling at generally steady prices, with some prime lambs bringing \$11.95, an advance of five cents.

Cattle made a great record last week when fancy heavy steers sold at further sharp advances, bringing decidedly the highest figures ever paid except for beefs fattened for the International Live Stock Exposition. So extremely few strictly prime heavy corn-fed cattle are now marketed that it is not unlikely that later on there will be \$13 cattle, and stockmen owning well-bred feeders should remember this. So far as mere numbers go, there are plenty of cattle moving to western markets, and combined receipts of all kinds of cattle in the seven leading western markets for the year show a gain in round numbers of a million head over last year. The surprise came on Wednesday, when out of receipts in the Chicago stock yards of 28,112 head, scarcely any first-class steers were shown. There were a few sales at \$11.50@11.75, and these were the highest sellers, with the exceptions of 16 fancy 1601-lb. Illinois fed steers at \$12, and 51 prime Illinois-fed 1438-lb. cattle at \$12.05. Previous to last week the top price stood at \$11.75. The bulk of the steers sold last week went for \$8@11, with choice beefs taken at \$11 and upward, while good lots brought \$10 and over, medium grade steers \$9 and over, and fair killers \$7.50 and upward, and sales down to \$5@6 for inferior little grass-fed steers. The best yearlings went at \$11@11.65, and sales of these cattle took place all the way down to \$8@9 for the cheaper class. Butcher cattle had a good demand, as usual, with cows taken at \$5.30@8.25 and heifers at \$5@9.50, while cutters went at \$4.70@5.25, canners at \$3.50@4.65 and bulls at \$4.50@8. Calves were in good demand so far as light weight vealers were concerned, with a \$12 top and sales ranging down to \$4.50@7.50 for the cheaper heavy weights. Stockers and feeders were fairly active at \$4.75@7.85, and western range cattle were good sellers at \$6.50@10.35 for steers and \$4.25@7.75 for cows and heifers, top for steers being a record-breaker. Cattle prices advanced 25 @50c last week.

Hogs have shown unexpected firmness in prices at various times in recent weeks, with good rallies following declines, decreasing receipts placing sellers in a stronger position. Eastern shippers bought only moderate numbers of hogs, taking usually the better class of hogs carrying plenty of weight and most of the active buying was done by the local packers and smaller city butchers. Pigs sold at a liberal discount from prices paid for matured hogs of good quality, and light hogs sold very unsatisfactorily, with the choicest light shipping barrows going about 20c below the highest priced hogs. Prospects are that hogs will sell unusually high this winter, and owners should act accordingly. Hogs sold Saturday at \$8.85@10.15, comparing with \$8.60@9.80 a week earlier, pigs going at \$6.25@8.75.

Lambs, yearlings, wethers and ewes that were well fattened sold extremely well last week, decreasing receipts causing large advances in prices, with not enough to go around. With much the best demand centering on the fat lambs, these naturally showed the greatest advance, the top price paid being higher than the previous high record made last May. The offerings consisted mainly of fed western lambs and native lambs, with several late trains of Montana and Wyoming feeding lambs; and yearlings, wethers and

ewes were very scarce. Fat lambs advanced 75¢@1, sheep 25c and yearlings 50c. Lambs closed at \$8.75@11.90, yearlings at \$8@9.75, wethers at \$7.60@8.90, ewes at \$4@7.75, breeding ewes at \$6@9.50, and bucks at \$4@6. Feeders bought lambs at \$9@10.30, yearlings at \$7.25@8.75, wethers at \$6 @7.50 and ewes at \$5@6.25.

Horses were marketed moderately last week, country shippers anticipating a small demand, and consequently the restricted requirements did not cause any general decline in values. Army horses of the "gunner" class sold at \$150@175, while commercial chunks brought \$160@230, expressers \$190@215, drafters \$240@275 and southern chunks \$45@125, mares for the southern trade going at \$100 and over, if at all desirable.

## LIVE STOCK NEWS.

More extensive use of silage is being made than ever before by Indiana cattlemen, it having been demonstrated that silage and a little hay will carry stock cattle through the winter at a cheaper cost than any other feed. Stockers weighing 500 lbs. at this season of the year double in weight in the course of a year, corn for full feeding being used either in the ear or shelled. The silage makes a rich feed, being as good as the best pasturage.

The last shipments of lambs for the year have been coming to market, and feeders comprise a large share of the receipts in western markets. These have met with a strong demand at an extreme range of from \$8.75@10.30 per 100 lbs. Meanwhile the offerings of prime killing lambs have become so small that the best ones have sold for \$11.20 per 100 lbs., the highest price ever paid at this season of the year, top a year ago having been \$9.65. Many lambs of a feeder class have been slaughtered of late, and at different times the shipment of feeders was checked by the inability of shippers to obtain double-deck cars, these being largely used by eastern railroads for moving hogs to market. Numerous consignments of warmed-up lambs and yearlings from the territory tributary to Chicago have arrived and sold at low prices.

To most observers it looks as though hog prices have seen their lowest for the year, the best having declined from \$11.60 per 100 lbs. Prices are still extraordinarily high, and provisions have shared in the rise, with late sales of pork up to \$28 per barrel, while lard has been selling \$5.70 per 100 pounds higher than a year ago, the boom in cottonseed oil being an important factor in putting lard up. The high prices for provisions have failed to check their consumption apparently, and stocks in warehouses are unusually low, with enormous exports. Recent Chicago receipts of hogs have averaged in weight only 213 lbs., comparing with 226 lbs. one month ago, 231 lbs. two months ago, 204 lbs. one year ago and 230 lbs. two years ago. At this time in 1910 the Chicago hog receipts were averaging in weight 249 lbs. Fluctuations in prices are apt to be extremely wide, and quotable changes in a single day are as much at times as 25c per 100 lbs.

A stockman of Illinois who marketed some cattle in Chicago recently, says: "If there is anything that is nearer gambling than corn-feeding cattle, I don't know what it is. As for competition in the steer end of it, it is a thing of the past. All we have to do is to ask the four buyers what they are worth, and they will come within five cents of each other. Funny, is it not, how expert they get? Take these men out in the country, and they would not come within 50 cents of each other." This statement does not hold good when choice beef cattle are on sale, for there is lively outside competition for them, with eastern shippers bidding against local killers.

Several times recently prime Montana range cattle have sold on the Chicago market at higher prices than were ever paid in the past. A short time ago a consignment of fancy heavy range steers from that state brought \$10.35 per cwt., the top-notch in the history of the range cattle trade.

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working spare time or steady in your own locality for largest concern of its kind in the world. Not necessary to be away from home nights. No previous experience necessary. Work consists in leaving in homes on free trial a wonderful new household necessity needed in every rural home. Awarded Gold Medal, Greatest invention of the age. Tested by the U. S. Bureau of Standards and thirty leading universities in comparison with article now in general use, and found to be four times as efficient. Benefits every member of the family; brings cheer and happiness to the home. No investment or bond necessary. Christensen, Wisconsin, says: "Have never seen an article that sells so easily." Norring, Iowa, says: "92 per cent of homes visited bought." Phillips, Ohio, says: "Every customer becomes a friend and booster. Remembering, Minn., says: "No flowery talk necessary. Sell it." Send your name and address, stating your regular occupation, age, married or single; whether you have rig or auto; whether you wish to work spare time or steady; how much time you have to devote; when you can start; townships most convenient for you to work in. Sample sent for free trial. A. R. SHEPPY, Sales Mgr., 168 No. Halsted St. CHICAGO



## THIS IS THE LAST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

## DETROIT LIVE STOCK MARKET.

Thursday's Market.  
November 16, 1916.  
Cattle.

Receipts 3041. The largest run of live stock of the season came to hand this week. They started coming Monday and it has been a steady stream of cars ever since, and will be until the week ends. Snow storms and lack of feed are making them come and if such runs continue for another two weeks, Michigan will be pretty well cleaned up. Arrivals were all very late, the roads and terminals in Detroit being badly congested, making it difficult work getting stock to yards.

In the cattle division the market opened up active and continued so until Thursday morning, when it was slow and draggy on account of dealers that bought on Wednesday being unable to get their purchases to their various plants, the demand was more active for stockers and feeders and common canner cows were a trifle higher, all other grades steady with last week. Good milk cows continue steady, and common bull. Prices averaged as follows: Best heavy steers \$8@8.25; best handy weight butcher steers \$7@7.75; mixed steers and heifers \$6@6.75; handy light butchers \$5.25@5.75; light butchers \$5@5.25; best cows \$5.50@6; butcher cows \$5@5.25; common cows \$4.25@4.75; canners \$3.50@4.15; best heavy bulls \$5.50@6;ologna bulls \$5@5.50; stock bulls \$4.50@5; feeders \$6@6.50; stockers \$5@6; milkers and springers \$4@90.

Bishop, B. & H. sold Gray & B. 7 cows av 336 at \$4; to Breitenbeck 35 butchers av 774 at \$5.50; to Garber 31 do av 637 at \$4.65; to Resnick 5 steers av 856 at \$6.40, 2 do av 1255 at \$7.50, 1 cow wgh 1360 at \$7, 4 butchers av 722 at \$5.25; to Sutton 13 feeders av 718 at \$6.10, 2 do av 735 at \$6; to Bray & B. 3 cows av 940 at \$4; to Goodgold 7 butchers av 857 at \$5.10; to Fineman 6 do av 640 at \$5.10, 33 do av 672 at \$5; to Applebaum 5 do av 692 at \$5; to Belfort 5 do av 868 at \$5.25.

Haley & M. sold to The Bliss Farm 6 feeders av 812 at \$6.50, 25 do av 933 at \$6.65; to Bray & B. 8 cows av 908 at \$4, 14 do av 1040 at \$4.75; to Belfort 2 steers av 775 at \$5.40, 3 do av 713 at \$5.05; to Knappen 3 butchers av 610 at \$5.35; to Goose 13 do av 600 at \$5.10, 3 do av 770 at \$4.50; to Golden 11 do av 606 at \$4.60, 4 do av 782 at \$5.25; to Rolstone 19 stockers av 661 at \$6.10, 3 feeders av 812 at \$6.60; to Sullivan P. Co. 1 bull wgh 1560 at \$5.50, 6 cows av 853 at \$5.25, 2 do av 870 at \$4.50, 2 do av 1040 at \$4.65, 18 do av 980 at \$5.50; to Hammond, S. & Co. 20 butchers av 659 at \$5.40, 4 do av 850 at \$4.25; to Chapman 28 stockers av 623 at \$5; to Hammond, S. & Co. 6 cows av 900 at \$4.25, 2 do av 920 at \$4; to Sullivan P. Co. 24 butchers av 880 at \$5.35.

## Veal Calves.

Receipts 1145. The veal calf trade was strong and good grades a quarter higher than last week, up to Thursday morning, when they eased off a trifle and sold as follows: Best grades \$10@11.75; mediums \$8.50@10.50; heavy \$4.50@6.50.

Erwin, S. & J. sold Nagle P. Co 3 av 115 at \$11; to Mich. B. Co. 2 av 135 at \$11.50, 2 av 300 at \$6.50; to Rattkowsky 1 wgh 130 at \$11; to Parker, W. & Co. 9 av 150 at \$11.50; to Rattkowsky 2 av 295 at \$6.50.

Sandel, S. B. & G. sold Babcock 2 av 125 at \$12; to Mich. B. Co. 3 av 145 at \$11.50, 2 av 110 at \$8; to Nagle P. Co. 2 av 155 at \$12; to Thompson 22 av 150 at \$12.25; to Sullivan P. Co. 1 wgh 310 at \$6.

## Sheep and Lambs.

Receipts 8493. The sheep and lamb trade was active and 25c higher than at the same period a week ago, top lambs bringing \$11.50. This is the high point for Detroit and prospects look higher; the quality was good. The Nagle Packing Company took the bulk of the receipts. We quote: Best lambs \$11.50; fair lambs \$10.50@10.75; light to common lambs \$9@9.75; fair to good sheep \$6.25@7; culls and common \$4.50@5.50.

Sandel, S. B. & G. sold Thompson 9 lambs av 55 at \$9.50; to Mich. B. Co. 20 do av 75 at \$10.50; to Wallace 32 sheep av 105 at \$7.25; to Nagle P. Co. 12 do av 100 at \$6.75, 43 lambs av 70 at \$11.35.

## Hogs.

Receipts 17,116. In the hog department the run was very large and the prices were 15@25c lower than at the opening this week. Pigs selling at \$8@8.50; light Yorkers \$9.25; good mixed \$9.40@9.50.

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**Mr. W. O. Gandy,**  
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I know I am safe in making this guarantee. I know what Hog-Tone has done and is doing for the herds of other hog-raisers. I also know that the market price of hogs is going higher every day—and is bound to go higher from now on. There is a serious hog-shortage. Especially a shortage of high-grade porkers—hogs absolutely free from worms—big hogs with sound, clean flesh! Worms are killing off the hogs! "Nearly

every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Throat Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms weaken the hogs—affect every sow's litter—make millions of hogs easy victims of cholera, scours, thumps, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Grasp this opportunity to try

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That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all that treatment—and that treatment is guaranteed by me to give you a 400 percent profit over and above the cost of the Hog-Tone treatment, at marketing time. "This is the same opportunity that these men grasped—and made money by doing so."

M. S. McFadden, Poland China Editor of Swine World (who feeds about 3000 hogs annually near

Flossmoor, Illinois) advises: "I received Hog-Tone and gave it a test on five pigs. Our farm manager says that it is the best worm-expeller he ever used. The pigs fed on Hog-Tone have made 25 percent larger gains than those not fed on Hog-Tone."

John Heinman, R.F.D. No. 5, Decatur, Ind., states: "I fed the Hog-Tone to a lot of hogs that had the scours. Some

of my pigs had their backs turned up like a rainbow. In less than two weeks I could not get to the trough to feed them. I do not know exactly what the gain on this lot of hogs was, but I could see a great change in them."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only, not a stock food—not a condition powder. Its most valuable medicinal ingredients are liquids and cannot be put in dry powders of any kind.

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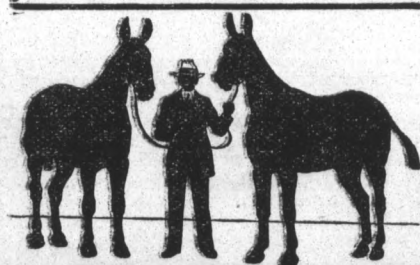
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## Practical Science.

### SOME POPULAR FOOD DRINKS.

BY FLOYD W. ROBISON.

#### Coffee.

Among the delightful accessories to our diet it would be perhaps fitting that we give first place to coffee. This product, brewed by appropriate methods from the roasted coffee bean, is one of the most delightful beverages which have come into familiar use among people generally. Almost from its inception, coffee as a beverage found favor among the people, and its use has today assumed such proportions that the growing of coffee on the Brazilian plantations is one of the important agricultural industries of that country. Probably the bulk of our coffee is the Brazilian product, and when carefully blended and properly brewed little is left to be said as to its delightful properties.

#### Coffee is a Food Product.

The beverage coffee is not a concentrated nor a strong food drink. Its purpose in the dietary is not to furnish dynamic food properties. Indeed it fits into the dietary in an entirely subsidiary way, for it is the psychological sense which is most appealed to in the cup of coffee. It has so few food properties that judging from its food value alone, it would be difficult to find sufficient warrant for its extensive use. In just the same way it is difficult to find sufficient excuse for the use of beef extract, or consommé, or bouillon, products which dieticians declare emphatically to have appropriate places in the menu, but which cannot be judged solely from the dynamic force of the food products which they may contribute. Coffee fits into this class. There is an indescribable something which it contributes to the meal which we all recognize and yet find difficulty in exactly tabulating. Most of the studies which have been made of the beverage coffee have been confined to studies of the green and roasted coffee bean. These studies have meant very little to consumers for we are not primarily interested in the composition of the coffee bean itself except insofar as its composition may throw some light upon the amount of material which will be yielded up to the watery extract. The bean itself does not differ materially in its essential, ultimate food constituents from many other vegetable seed products. It contains a considerable quantity of protein, considerable sugar, fats and convertible carbohydrates, but as stated before, the coffee berry itself is not used for food. It is the watery extract which is used and this contains far less of these different ingredients than does the coffee itself. Probably 20 to 30 per cent of the roasted coffee can be extracted with boiling water and it is therefore this 20 to 30 per cent that we are primarily interested in in studying coffee as a beverage.

We find an analysis of the carefully made extract to contain about 1.00 per cent of total solid matter. In this respect it compares favorably with beef tea, or bouillon. The soluble matter of a cup of coffee, however, differs essentially from beef extract or bouillon in that it is more balanced, that is—the true proteid material in the cup of coffee is about 0.08 per cent. With this there is perhaps 0.33 per cent fat, about 0.08 per cent caffeine, 0.20 per cent ash or mineral matter, and the balance caffetannic acid. Coffee is a very delicious and, if properly made, a wholesome beverage. Much has been said of late years regarding the fact that it contains caffeine and tannin, caffeine being an alkaloid and supposedly an objectionable constituent. Tannin, likewise, or caffetannic acid as it is called by some, is considered objectionable because of its astringent prop-

erties. In all probability these statements regarding coffee are very far from the truth. Most of the data regarding caffeine, if not all of it, has been established by a study of caffeine as a drug, that is, free caffeine. Most of our appreciation of the properties of tannic acid has likewise been determined by a study of tannic acid in the free state. Now it is very probable that there is a more or less definite combination existing between the caffeine in the cup of coffee and the tannin in the cup of coffee, and perhaps a relationship between these two with other constituents which we do not know of, which makes it probable that the properties of this combined product in the water-made coffee extract are entirely different from the properties of these different ingredients when taken by themselves.

#### Caffeine and Tannin Combined with Each Other.

We know that caffeine and tannin have an affinity for each other and that when we take a watery solution of caffeine and bring it in contact with a watery solution of tannin the two combine to form in a concentrated solution an insoluble combination. This combination, however, dissolves on dilution with water but it is significant that they do have an affinity for each other and we may reasonably expect that due to this affinity their combined action when taken into the system will be of an entirely different order than that which occurs when either one is taken separately into the body.

One thing is clear about the brewing of coffee and that is that the brewed product should in no case be boiled. Those percolating devices which depend for their efficiency upon the boiling of the extract cannot be considered desirable for the production of a perfect cup. It has been generally conceded that it is not desirable to put the coffee grounds into the coffee pot, pour water on them and then boil the product, as some have been in the habit of doing. It has not been sufficiently realized, however, that just as much damage may be done by allowing boiling water to percolate through the ground coffee, and then boil the extract. For it is just as unsatisfactory and attended with just as serious consequences to boil the coffee extract as it is to boil the coffee grounds. Just exactly what the effect of boiling is on the coffee is not known but there is a chemical rearrangement of the constituent parts of the coffee, for surely the flavor is very materially changed. A coffee which has an agreeable aromatic flavor, and agreeable taste, when boiled for some time, develops a very acrid, bitter, astringent taste. We suspect that what has happened has been a separating of the combination which exists between the caffeine and the tannin and perhaps a disintegration at the same time of the caffeol, the body which is responsible for the flavor of the aroma. Whether this is due to the development of quinnic acid, or whether it is due simply to the more complete liberation or freeing of the tannic acid in the present state of our knowledge, we are unable to say. We do, however, know sufficient about the product, sufficient about the process which causes it to deteriorate, to know that great care must be exercised in the brewing of the product to insure desirable results.

Fine grinding of coffee is another thing with which the public must become acquainted before they will secure perfectly satisfactory results in the brewing of coffee. Present indications point to the fact that a coffee must be very finely ground, almost, in fact, pulverized, then treated by filtration with actively-boiling water, and when this watery extract has percolated through the ground coffee it should be kept hot, either by setting it in a double boiler or in a pan in which water is boiling, thus keeping the extract piping hot just short of the boiling temperature.

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Cattle or Horse hide, Calf, Dog, Deer or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered. Your fur goods will cost you less than to buy them, and be worth more. Our illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

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## Grange.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

### AMONG THE LIVE GRANGES.

**Mecosta County Pomona Grange** was entertained by Aetna Grange at Borland, November 2. There was a fine attendance. Grange was called to order at 10:30, with the new master, John Kotke, in the chair. After the usual order of business, some very interesting reports were read from the subordinate Granges of the county, which showed that some fine work was being done. A communication from the secretary of Fork Grange stated that they could not entertain Pomona December 1 as planned in the year-book, as they would not have a hall, but would plan on a date in the spring or early summer. A discussion on special or general farming brought out some fine thoughts. Some questions were asked by our state lecturer, on what Mecosta county farmers did to get their potato crop, where some of the other counties had so few? In the replies the consensus of opinion was that the secret of success this year was to keep the weeds out that the potato might get all of the moisture, and to brush the bugs off into the hot sand where they were properly baked. The fact was brought out more clearly this year than ever before, that the farmer who was constantly on the job, was the one to enjoy the big prices for their products. Recess was then taken for dinner, where about 70 were served to a bountiful repast such as the Borland ladies are noted for preparing. Grange was called to order again at 2:00 p. m. and the following program was given: Instrumental music by Miss Gruber; recitation, "Fun," by little Miss Dorothy Garbou, which was declared the best ever. A solo, "The Little Gray House in the West," by Mrs. Johnson, followed by a very instructive talk by the State Lecturer, Mrs. Dora Stockman on "What Does the Grange Mean to You?" The lecture hour closed with a beautiful solo by Miss Thurston. After a short session in the fifth degree work, all went home feeling that the Aetna Grange were royal entertainers, and looking forward to a time when we may have the pleasure of visiting there again.

**Vergennes Grange Dedicates Hall.**—A little more than a year ago it was my privilege to go with Bro. McNaughton and assist in organizing a Grange in Vergennes Township, Kent county. It was not difficult to see even at the time this Grange was founded, that it was to grow into a very helpful force in the community. This prediction is being fulfilled already. The Grange has grown to something like a hundred in membership. The young people under the leadership of Worthy Lecturer Sister Bennett, have organized and put on Sister Stockman's temperance play, and have rendered it at several points, delighting the audience on each occasion. But the thing that has called for the largest outlay of time and labor is the erection of the new hall. This hall is built with a dining-room in the basement and the room above is convenient and large enough to answer the needs of the community. This hall was dedicated October 26 by State Master Ketcham. The writer was present by invitation and has seldom attended a more enthusiastic meeting.

The dedication of a Grange hall is something that happens but seldom, and when it does happen no one is ready to take his part without some hesitation. The service in the ritual is very impressive if rightly performed, and I doubt if there have been many halls dedicated when those who took part did not wish for another chance to do the work, and promise themselves that next time they would be better prepared. However, the officers of Vergennes Grange did themselves credit under the circumstances, and the ceremony passed off very well indeed. But who is going to describe the banquet which followed? Around the tables were several very pleasant people from the city of Grand Rapids who were pleased to mingle with the farmer folk just at this time, as they were out for office. Members of the Y. M. C. A. Glee Club rendered a number of songs full of fun, directed to a definite end—the success of the dry campaign. State Master Ketcham and the writer gave addresses in the evening program and several others gave short talks each full of enthusiasm for the dry side. We parted from the people of Vergennes with the hope and belief that in their new range they will find through their efforts an ever-widening field of useful service.

W. F. TAYLOR.

## Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

### Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

### Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

### CLUB DISCUSSIONS.

**The Lime Requirement of Soils.**—The Clover Leaf Farmers' Club met with Mr. and Mrs. Eugene Springer at their home November 24. Mr. Bentall, the county agent, was present and addressed the Club, the subject discussed being "The Use of Lime." Assistance was given by Mr. Stars and Mr. LaSelle, agricultural teachers at Allegan and Otsego high schools, who worked out the lime requirements of several soil samples to illustrate the address. There were 100 present and a very enjoyable and profitable evening was spent. The next meeting will be held at the home of Mr. and Mrs. Frank Barker, of Otsego, the fourth Tuesday in November.—Cor. Sec.

**"Home Rule" Discussed.**—The Wise Farmers' Club met with Mr. and Mrs. E. F. Will, October 26. It being a busy time, the members were rather late getting together. After a sumptuous dinner had been enjoyed by these present, the Club was called to order by President W. J. Jennings. After opening exercises the following officers were elected: President, James H. Seeley; vice-president, Frank Wahl; secretary E. F. Will; treasurer, Frank Lamphere; chaplain, Rev. S. W. Lange. The topic for discussion was then taken up, "Home Rule." W. N. Younglove opened the discussion. He thinks that there should be no need to discuss this question, as it is one of the lowest and most degrading things on earth. J. F. Taiman followed in the discussion and gave some splendid thoughts on this subject. J. A. Allen, of Clare, and N. D. Gover also took part in the discussion and gave us some very good thoughts and urged that we get busy and do all we can honorably to bring prohibition to Michigan. A straw vote was taken by the members present for or against the Home Rule amendment. There were 49 votes cast against the amendment and not one in favor of it. The next Club meeting will be held with Mr. and Mrs. James Batch some time in November. Moved and carried that we extend our retiring president, W. J. Jennings, a vote of thanks for his efficient services for the past three years. Resolved, that the Wise Farmers' Club have this day, by a standing vote, gone on record as favoring statewide prohibition of the liquor traffic in Michigan by a vote of 50 to 1. A vote of thanks was then given Mr. and Mrs. Will, after which the Club joined in song and the meeting closed in due form.—Secretary.

**Elect New Officers.**—The Burton Farmers' Club met at the pleasant home of Mrs. Clara Aulier, Thursday, November 2. The meeting was called to order by the president, Mrs. E. B. Putnam. Mrs. Hammond then conducted devotional exercises and in the absence of the secretary, Mrs. Schultz, Mrs. W. J. Brookins read the report of the last meeting. We then adjourned for dinner. After a fine dinner and social hour, a business meeting was held and the following officers elected for the coming year: President, Jerome Sehnman; vice-president, O. J. Snyder; secretary and treasurer, Mrs. Albert Schultz; reporter, Mrs. Jerome Sherman; director, M. L. Peterson; delegate to state convention of Farmers' Clubs, Mrs. E. B. Putnam; alternate, Mrs. W. J. Brookins. A fine program was carried out and we adjourned to meet with Mr. and Mrs. Edmund Vincent in December.—Felicie Sherman, Reporter.

**Will Debate Farm Topics.**—The November meeting of the Wells-Dayton Farmers' Club was held at the spacious home of Mr. and Mrs. Albert Hunter in Dayton, all enjoying the fine chicken dinner served by Mrs. Dailey. After the usual social hour the meeting was called to order by President S. S. Stokes. Several songs were sung and the usual business disposed of. The debate, "Does it Pay to Husk Corn Before Putting it in a Silo?" was very well handled and proved very interesting, many members taking part in the discussion that followed the debate, and it was decided to have a debate on some farm topic at each meeting during the winter months.

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"for the man who works"

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That is an indication of the painstaking care used in making Rouge Rex Shoes. All the other materials are just as good as the leather.

No. 469 shown here is a Rouge Rex Shoe built for the man who works. It is a 12-in. Chocolate Veal Blucher, tip, 4-in. cuff, half double Oakatan sole, nailed, welt shank, nickel hooks and eyelets, and bellows tongue.

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### NOW IS THE TIME TO BUY

Twenty-five tried Big-Type Poland-China brood sows to be bred for March and April farrow. Ten splendid Spring hogs at \$25.00 each for quick sale. Worth \$50.00.

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Genuine big type Poland China Hogs, Brood Sows, Spring Pigs, Boars ready for service. Special, the best big type fall yearling boar in Michigan. Also registered Percheron Stallions and Mares.

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### Poland Chinas

We have some nice LARGE TYPE spring hogs for sale at FARMERS' PRICES.

Allen Bros., Paw Paw, Mich.

FOR SALE: Poland China hogs ready for service. A few high scoring Black Minorca cockerels, will make large birds. Satisfaction Guaranteed. R. W. Mills, Saline, Mich.

**Large Type P. C.** Largest in Mich. Young hogs ready for service. Of Mar. and April farrow, from large litters, weighing up to 225 lbs. Come and see, expenses paid if not as represented. W. E. Livingston, Parma, Mich.

**Large Strain P. C.** Boars extra good cracker jacks by Oakland Equal Jr. and a fine bunch sired by Big Defender the hog that everybody goes wild over, sold at farmers prices. H. C. Swartz, Schoolcraft, Mich.

**BIG TYPE POLAND CHINA** Spring hogs that will please you, priced right. G. W. HOLTON, Route 11, Kalamazoo, Mich.

**For Big Type P. C.** Spring Boars and Gilts bred for Armstrong Bros., R. 3, Fowlerville, Mich.

**WALNUT ALLEY HERD.** Big type Poland Chinas headed by Hadley Desmoins No. 21925 and Smothe Jumbo Jr. No. 24987. Sows represent blood of two A wonders. Pigs of either sex ready. A. D. Gregory, Ionia, Mich.

**Big Bred** Poland China hogs shipped C. O. D. call or write for photo, weights, pedigree and price. E. R. Leonard, St. Louis, Michigan.

**Large Sired Poland** China spring and fall pigs right to quick buyers. Robert Neve, Henson, Mich.

**Poland Chinas.** Big and medium type from growthy stock and large litters. They have good bone and length, well quartered. L. W. Barnes and Son, Byron, Mich.

**BIG Type Poland Chinas.** The smooth, easy feeding kind that will grow big and get fat. Apr. pigs weighing up to 225 lbs. E. R. Moore, Ransom, Michigan.

**Poland Chinas.** As big and good as grow either sex. You win if you buy from Robert Martin, R. 7, Hastings, Mich.

**BIG Type P. C.** Three extra good yearling hogs, good B 1000 lb. prospect. Sired by Big Type King our 1000 lb. boar. Spring pigs either sex. Special three brown bred hams. W. Brewbaker & Son, Elsie, Mich.

Large type P. C. Sows and gilts all retained for my Feb. farrow. A few choice Spring hogs ready to ship. W. J. HAGELSHAW, Augusta, Michigan.

**Big Type.** P. C. Boars. Big boned husky fellows. Special extra good yearling herd boar Iowa bred. E. J. Mathewson, Burr Oak, Mich.

**Hampshire Swine.** Bred Sows and gilts for August and September farrow. Spring pigs, sex both. FLOYD MYERS, R. No. 9, Decatur, Ind.

**HAMPSHIRE** Boars, sows, gilts and pigs. Choice stock A. E. BAUGH & SON, Sheridan, Michigan.

**GROWTHY THE DISEASE PROLIFIC "MULEFOOT" RESIST- PROFITABLE HOG ING**

FOUNDATION STOCK FROM BEST BLOOD OF BREED

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**HAMPSHIRE HOGS** Only a few spring hogs left. Taking orders for bred gilts. John W. Snyder, R. 4, St. Johns, Mich.

**Halladays' Hampshire Swine** Both sexes, all ages. Prices reasonable. O. H. Halladay & Son, Clinton, Mich.

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### Kope Kon Farms

Offers, One yearling Hampshire ram at \$50.00. One yearling Southdown ram at \$25.00. A few growthy well bred Oxford and Shropshire ram lambs at \$25.00. Kinderhook, Michigan.

### SHROPSHIRE

A few choice Rams. Dan Bocher, R. 4, Evart, Mich.

**100 Head Grade Shropshire** Even for sale at \$12.00 per head. Address Frank H. Herrick, R. 1, Scottville, Mich.

**Oxford Down Sheep** No more for sale. M. F. GANSSLEY, Lendon, Michigan.

**Registered Oxford Down Rams** For Sale. Direct all mail to Olinsted and J. Spasna, Muir, Michigan.

**The Great Ohio flock of Merinos and Delaines,** good size, oily fleeces, heavy shearers, priced to sell. Write wants. S. E. Sanders, Ashtabula, Ohio.

**Purebred Hampshire Ram** Lambs. Will register if desired. A. B. RUNYAN, Rochester, Michigan.

**Leicester**—Yearling and ram lambs from Champion flock of Th umb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

(Additional Stock Ads on Page 482).



## November Poultry Hints

**T**HE price of eggs should not result in crowded flocks as overcrowding of the pullets is apt to lead to disease and low egg production. It is best to sell pullets for which there are no accommodations and then take the best possible care of the remaining members of the flock.

In a recent visit with a practical breeder he stated that he was feeding salvage wheat with excellent results. The wheat cost him 90 cents per bushel, which is somewhat better than the price for first-class wheat, and he claims that the birds clean it all up eagerly and that there is no waste. Bags of the salvaged wheat in his feed room were free from odor and while some of the wheat had been nearly turned to charcoal it was still an excellent poultry feed and worth trying, especially during this time of high-priced wheat.

If you prefer killing chickens by the axe method, drive two spikes in the handy stump or chopping block, placing them about an inch apart. The fowl's head can then be placed between the two spikes and drawn taut and it will be easy to sever the neck at just the right place when the axe falls.

### Feed Sour Milk.

Sour milk in the ration will encourage the pullets to lay sooner and on many farms sour milk, buttermilk or skim-milk is a by-product of the dairy business which can very profitably be turned into eggs.

If all of the windows in the farm poultry house are made of glass, take out at least half of them and substitute wire netting and cloth curtains on a hinged frame. Old bags can be patched up and used for curtains. They allow plenty of air to enter the house and do not as easily become clogged with dirt as muslin or canvas. They do not show the dirt and dust like a white curtain and they will wear for a long time.

Experiments have proven that silage will benefit laying hens, and doubtless the silo will soon become as important a feature of poultry farming as it now is in the dairy business. A bushel or more of silage occasionally fed to the hens will prove profitable when other green food is scarce. All waste vegetables should be stored in pits where they can be easily carried to the laying houses.

In finishing birds for exhibition it pays to feed plenty of sunflower seed in the grain ration. This is said to put a gloss on the plumage which will remain without dulling for several weeks. Train the show room birds for several weeks, until they become accustomed to being handled and placed in the small exhibition coops. Birds that know how to pose and show no fear of spectators are constantly making friends for the poultry industry at our winter shows.

### Get Rid of Surplus Males.

Surplus males eat up poultry profits and unless they are of unusual value as breeders it is best to dispose of them at market prices before the feed bills begin climbing.

Cooked pumpkin fed in the wet mash has seemed to increase the egg yield on some farms. Pumpkins can usually be produced at a very small cost per pound and frequently they bring scarcely enough on local markets to pay for hauling them to town. In that case they can be used to advantage in the poultry ration.

A shingle roof is not satisfactory on a poultry house as it cannot be made tight. Substantial building paper sealed with tar will make the house warmer and it will last about as long as shingles. The prepared roofing is very quickly applied and is giving the best of satisfaction on our commercial egg farms.

One poultryman recently visited has developed a practical water system for

his laying houses. All of the rain water is piped into a supply tank in the top of the house and this is used in watering the flock. It saves considerable time in watering the birds on this farm.

### Fix the Poultry Fence.

When the hens constantly fly over the fence supposed to confine them, they may be discouraged by adding a foot of wire tacked to wooden strips nailed to the original posts. Allow the additional wire to slant inward by nailing the strips at an angle of 45 degrees. When the hen attempts to fly over the fence she will leave the ground at a point close to the fence and will find it impossible to fly straight up and clear the added projection. After a few attempts the average hen will decide to remain at home.

Spring is a busy time on the poultry farm and for that reason there is often more time to plant fruit in the fall. Fruit trees can be grown to advantage in poultry yards. They furnish shade for the birds and the birds clean up many insects that injure the fruit. Even if only a few trees are planted, enough fruit for home use will reduce the cost of living and make the entire farming business more enjoyable. The pests which trouble a few trees can be controlled with a barrel sprayer and the same apparatus can be used for spraying and disinfecting the laying houses.

### Getting Rid of Rats.

During the fall a campaign against rats will reduce the undesirable boarders on the farm. No instruction on "how to do it" is necessary, as rat trapping and poisoning is just one of the farm jobs that everyone knows should be done, but no one has time to do. It doesn't pay to allow the rats to become too firmly entrenched before winter.

About one nest for every four pullets will give the birds plenty of laying room. Remove the nesting material every few weeks to assist in keeping down vermin. Clean eggs are necessary, but washing eggs injures their appearance and should be avoided.

It is sometimes difficult to keep the wheat straw in the nests if the hens happen to find a few kernels of grain in the straw. They will then scratch out the material and leave the nests bare. Clover hay wadded up and packed firmly in the nests will scarcely ever be scratched out. The corners should be rounded and the nest made shallow in the manner that a hen constructs her own nest when she steals it in the hay mow or in a weedy fence corner.

Ingham Co. R. G. KIRBY.

### POULTRY NOTES.

I always give my poultry houses a thorough cleaning in the fall before the pullets are placed in them. Everything movable in the house is carried outside. The walls are swept down and given a good coating of whitewash. Whitewash is not the best disinfectant, but it keeps the air of the house pure and makes the house lighted during the short, dark days of fall and winter.

I like to have the pullets in their winter quarters before they begin to lay. Moving them after they start to lay invariably stops laying.

In selling old hens, I always try to save my best layers for breeders. In choosing these, I am governed largely by the color of the hen's legs and beak, and the time she begins to moult. I know that hens that start to moult early are indifferent layers and these are disposed of. The best layers are those that have pale legs and beak, denoting that they have used the coloring matter in their flesh to color egg shells. The hen that still retains a bright yellow color in legs, beak and earlobes, plainly shows that she has been put to not great effort in egg production.

Indiana. T. Z. RICHEY.



**The Extra Eggs**  
will soon pay for one of these  
**Automatic Self-Heating Poultry Fountains and Heaters**  
Keeps water at the right temperature day and night in the coldest weather and  
requires less than a quart of oil a week. Made of Galvanized Steel. A long felt want supplied. Every Hen-Home needs one. Price of 1 Heater and 2 gallon Automatic Fountain complete \$1.25. Write for Circular 1 and testimonials. Agents wanted.  
**C. A. S. FORGE WORKS, SARANAC, MICHIGAN**

### POULTRY.

**Barred Rocks** Parks 200 egg strain. Circular Free. Fred Astling, Constantine, Mich.

**Barred Rock** Cockerels, Cocks and Hens. Four pullets laid 950 eggs in one year. W. C. Coffman, R. 3, Benton Harbor, Michigan.

**Barred Plymouth Rock** Cockerels, full blood \$3.00 each two for \$5.00. J. A. Barnum, Union City, Michigan.

**Barred Rock Cockerels** from E. B. Thompson's Imperial Ringlets for sale, price \$2 and \$3. Write H. J. Skinner, McMillan, Mich.

### Beautiful Single Comb

White Leghorn Cockerels. Standard line bred. D. W. Young strain, sent on approval. Two dollars up. White Line Poultry Farm, Hillsdale, Mich.

### Breeding Cockerels

White, Buff, Leghorns, R. I. Reds. Prices reasonable. Sunnybrook Poultry Farms, Hillsdale, Michigan.

### Cockerels! Cockerels! Cockerels!

The short cut to profit and heavy egg production is the Michigan Poultry Farm way. Our S. C. White Leghorn and Barred Plymouth Rock cockerels, with pedigrees of 200 eggs or more, will start you on the right road. Vigorous, healthy birds, February and March hatched, \$2.00 each while they last. Supply limited.

**Michigan Poultry Farm, Lansing, Michigan.**  
"Michigan's Largest Poultry Farm"

**Cockerels** S. C. W. Leghorns, Vigorous stock, weight 3 to 5 lbs. each. Price one \$1.50, 3 or more \$1.00 each. THOMAS MAYER, Merrill, Michigan.

### GET YOUR ORDER IN EARLY FOR

Cockerels from Cousins Northern King Strain Barred Rocks. Write David W. Jousins, North Port, Mich.

**Buff Leghorns** Exclusively. Now is the time to buy pure bred stock at a big reduction in price. Dr. William A. Smith, Petersburg, Michigan

### FERRIS WHITE LEGHORNS

Best winter layers. 5000 pullets, hens and breeding males at low prices. Trapped to lay 200 eggs or more. Shipped C. O. D. and on approval. Chicks and Eggs. Catalog explains all. Send postal.  
**Geo. B. Ferris, 934 Union, Grand Rapids, Mich.**

**JOHN'S Big Beautiful Barred Rocks** are all hatched, developed quick, good layers, each \$3; pair \$5; sold on approval. Circulars, photos. John Northon, Clare, Mich.

**FOR SALE** Pure bred S. C. Buff Leghorns and white Plymouth Rock cockerels. Kietzlen & Webster, Bath, Mich.

**Fowler's Buff Rocks:** Cockerels from \$2 to \$5; hens \$1.50 to \$5. White Holland Turkeys, young toms \$5; hens \$3. R. B. FOWLER, Hartford, Mich. R. 3.

### HARRISON WHITE LEGHORNS

Fine Ferris and Morse birds. Feb. hatched cockerels \$1.50; Apr. \$1.25; June 75c. Pullets \$1.50, yearling hens \$1.25. G. L. HARRISON, Shelby, Michigan.

**Pine Crest, S. C.** White Orpingtons. Winners again at the State Fair. Young and old stock for sale. Buy the best. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

**RHODE ISLAND REDS and PLYMOUTH ROCKS.** Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6. Mammoth Bronze Tom Turkeys, 8 to 10 lbs. according to age \$6 to \$25, 10 eggs \$3. A. E. Cramton, Vassar, Mich.

**RED COCKERELS, Both Combs.** Dark red birds that will improve the color of your flock. Write for price list. Interlakes Farm, Box 39, Lawrence, Michigan.

**Rose and Single Comb** R. I. Red cockerels for sale. Fine stock, prices reasonable. O. E. Hawley, Ludington, Mich.

**ROSE Comb Brown Leghorn** cockerels \$1.00 each also Registered Holstein bull calves of good breeding 1/4 white, priced to sell. A. R. Levey, Elsie, Mich., Union Phone 106-3

**Single Comb Rhode Island** Red Cockerels. Rich. JENNIE BUELL, Ann Arbor, R. 8, Michigan.

**SILVER,** Golden and White Wyandottes. Choice young cockerels. Reasonable quality considered. Ionia and Lansing winners. C. W. Browning, R. 2, Portland, Mich.

**White Wyandotte** Cockerels from fine stock and A 1 layers. \$2 and \$3 each. Farm raised. A. FRANKLIN SMITH, Ann Arbor, Michigan.

**White** Wyandottes cocks and cockerels snow white from fine stock and A 1 layers. \$2, \$3, and \$5 each. DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.

### White China Geese & M. Pekin Ducks

CLAUDIA BETTS, Hillsdale, Mich.

### BREEDERS' DIRECTORY.

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

### We Offer a Few Special Bargains

In S. C. White Leghorn cockerels, Rambouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding.

**Flanders Farm, Orchard Lake, Mich.**

### CATTLE.

## Aberdeen Angus Bulls For Sale

12 head of choice young bulls old enough for service. All sons of Black Monarch 3rd. Grand Champion Bull Michigan State Fair 1914, 1915 and 1916. Black Monarch 3rd has been sold to W. E. Scripps, Wildwood Farms. For the record price of the breed in Michigan, \$1200, U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

## ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. Also breeders of Percheron, Hackney and Saddle Horses. **WOODCOTE STOCK FARM, Ionia, Mich.**

**AYRSHIRES**—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels; Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

Reg. Guernsey Bulls, serviceable age, great grand sons of Gov. Chene, also grade Guernsey and Jersey heifers 6 wks old \$20 each. Avondale Stock Farm, Wayne, Mich

**Guernsey Bulls** of service age and calves from choice. Adv. reg. breeding. T. V. HICKS, Route 1, Battle Creek, Mich.

**For Sale** Registered Guernsey Cattle. And Berkshire swine the best ret. John Ebels, Holland, R. 10, Michigan.

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

**GUERNSEYS**—Bred heifers, mature cows, bull calves From a long line of Adv. Reg. ancestors with large record. G. A. WIGENT, Watervliet, Michigan.

MILO D. CAMPBELL CHAS. J. ANGEVINE

## BEACH FARM GUERNSEYS

Average yearly production 422.3 lbs. of fat, three fourths of them making their records as two year olds. By the use of a pure bred sire, a big improvement can soon be attained if the right selection is made. The breeding of the Beach Farm Herd is as good as can be found, and we guarantee them to be free from contagious diseases and to be satisfactory in every way or money refunded. Write and let us tell you about them.

### CAMPBELL & ANGEVINE,

Coldwater, Michigan.

**For Sale:** Registered Guernsey Bulls old enough for service, and bull calves from advanced registered cows. L. J. Byers, Coldwater, Mich.

**Reg. Guernsey Bulls** two gr. sons of May Rose King of Leona Vista (the \$4600 bull) one 12 mo. old dam May Rose breeding one 6 mo. old, others of serviceable age. Satisfaction guaranteed. Alfred Anderson, Holton, Michigan.

**BULL FOR SALE** Thoroughbred Guernsey "Jim" of Thornhill, weight 1600 pounds, age three years. A good sure breeder. price \$175 f. o. b. Royal Oak. Apply **CHARLES STAFF, R. F. D. No. 2, Royal Oak, Mich. Phone 152.**

**Guernseys**—2 fine yearling heifers for sale, bred to May Rose Bull—they are beauties—you can buy them right. J. M. WILLIAMS, North Adams, Mich.

## Cluny Stock Farm

### Offers Two Young Holstein Bulls

**No. 1.** Sires three nearest dams average 30.618 lb. butter from 658.1 lb. milk in 7 days. Dam's record: 19.204 lb. butter from 360.1 lb. milk; her dam a 26.5 lb. Jr. 4 yr. old daughter from a 27 lb. cow. Born January 19, 1916.

**No. 2.** Born September 19, 1915. Sire's 3 nearest dams average 30.11 lb. butter from 570.6 lb. milk in 7 days. Dam a 16.9 lb. Sr. 3 yr. old granddaughter of King of the Hengervelds. Pedigrees and prices furnished on request.

**R. B. McPherson, Howell, Michigan**

## Do You Want A Bull?

### Ready For Service.

From a grand daughter of **The King of the Pontiacs**. Sired by a bull that is more than a half brother to the **Champion Holstein Cow of the World**, and whose dam is a 30 lb. 6 3/4 % fat daughter of **Pontiac Aggie Korndyke** who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

**EDWIN S. LEWIS, Marshall, Mich.**

## "TOPNOTCH" Holsteins

By careful retention, for many years, of largest producing females, and use of superior sires, a breeding herd of wonderful quality has been established. We are selling young bulls of this "TOP NOTCH" quality, of serviceable age, at moderate prices. Information, pedigrees, etc., on application. **McPHERSON FARMS CO., Howell, Michigan.**

**30 lb.** bull for sale, 2 years old, by a son of King of the Pontiacs. Dam sold for \$1000 in Detroit sale. **Ferd. J. Lange, Sebawaing, Mich.**

## HOLSTIENS

Herd No. 1. Five cows, one two year old bull. Herd No. 2. Five yearling heifers, one yearling bull. Herd No. 3. Five Heifer calves and one bull. Bulls ready for service and 6 to 8 months old bulls. Prices will please you. If interested, write as soon as you read this. **L. E. CONNELL, Fayette, Ohio.**

## Holstein Friesian Cattle

A. R. O. herd tuberculin tested, headed by grandson of King Segis Pontiac. **PEACELAND STOCK FARM, Three Rivers, Mich.** Chas. Peters, Herdsman, C. L. Brody, Owner, Port Huron

## MICHIGAN HOLSTEINS

4 to 12 Mo. World record sire. High testing dams—from \$9 up to \$299. Let us send you one on trial. You should not buy until you get our book.

**Long Beach Farm, AUGUSTA, (Kalamazoo Co.) MICH.**



# DON'T FORGET THE DATES!

## Of the Important Sale of Thoroughbred and High-Class Grade HOLSTEIN CATTLE—45 Head

On The Rougemont Farms, Redford, Wayne Co., Michigan  
Wednesday and Thursday Nov. 22nd and 23rd, 1916

There will also be sold a large assortment of important items needed on the up-to-date Dairy farm, like B. L. K. milking machine, 2 Janesville double gang plows, 2 gasoline engines, shafting and belts, power pump, 2 manure spreaders, and a long list of implements, wagons, etc., all overhauled and in good order. No old, worn-out materials.

Also 3 Teams of Handsome Horses, Heavy and Well Matched

Sale begins 10 A. M. sharp each day. The Grade Cows will be sold the first day, and the registered stock the second. All registration papers and transfers free of charge. Amounts to \$20 cash; above that 1 year's time at 6% on approved notes. Free Lunch Served at Noon. Send for Illustrated Catalogue, to 418 W. Canfield, Detroit.

Farm, Corner Beech and Center Roads, Redford Township.  
Conveyances from Redford on D. U. R.

H. M. FERRY, Proprietor.

### Bull Calves

From A. R. O. Dams that average four per cent fat, Sired by "Maplecrest Korndyke Hengerveld," whose Sire and Dam's Sire, are the two

#### Greatest Bulls in the World

Having more high testing yearly record Daughters than any three other Bulls, and his Dam's Sire has more thirty pound Daughters than any other Bull. We also have a few Calves Sired by G & B Segis Uirica Pledge 108790 a promising young Sire, backed by a strong combination of blood lines, and also a Calf Sired by a Son of

#### The Fifty Thousand Dollar Bull

and from one of our best Cows, write us for particulars in regard to these Calves, and our

#### BERKSHIRES

that won more premiums at the Fairs this season than any other herd in the State. Our prices are right, so is the stock, which will be sold to good responsible parties on six months credit.

SWIGARTDALE FARM,  
Petersburg, Mich.

#### Having Disposed of My Farm

I offer for sale several cows, some of which have lost a quarter; also 9 heifer calves from 5 to 7 months old; 6 heifer calves from 1 to 3 months old, all registered Holsteins, best possible breeding of good foundation stock. Will also sell herd sire "Ypsilander Sir Pontiac DeKol," dam 35 1/2 lb. record, as I have no further use for him. J. E. BURROUGHS, Flint, Michigan

REGISTERED Holstein cows, heifers and heifer calves priced to sell, also bulls ready for service. B. B. KEAVY, ARKON, MICHIGAN.

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure, 5 weeks old, beautifully marked, \$20.00 each, crated for shipment anywhere. Edgewood Farm, Whitewater, Wis.

Registered Holsteins. Young bull ready for service, 30 lb. breeding. Satisfaction guaranteed. W. B. Jones and J. F. Lutz, Cohasset, Mich.

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 93124. Dam's record at 6 yrs. butter 28.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 1862 lbs. W. B. READER, Howell, Mich.

Reg. Holstein Bulls ready for service from 20 lb. four yr. old dams. \$75 each. Dewey C. Pierson, Hadley, Michigan.

#### HOBART W. FAY MASON, MICH.

Been breeding better Holstein-Friesian cattle since 1904.

#### Get Rid of the "Boarders"

Do you keep cows or do they keep you? Do you know which are earning a profit and which are merely paying their board? One community increased the average net profit per cow 129% in a few years by testing. Cows from regularly tested herds sell for more money and so do their offspring. Knowing beats guessing in dairy work. Get our free booklet, "What is Accomplished by Testing Cows" and learn how to build up your herd from animals of known production. Every farmer should read this booklet. It's free. Send a postal today.

The American Jersey Cattle Club  
346 West 23d St. New York City

Lillie Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also better calves and several bred heifers for sale. Colon O. Lillie, Coopersville, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test. C. B. Wehner, B. C. Allegan, Mich.

Maple Lane R. of M. JERSEY HERD offers for sale, tuberculin tested bulls, bull calves and heifer calves carrying the blood of the greatest producers of the breed. IRVIN FOX, Allegan, Mich.

Maple Hill Farm Registered Jersey Cattle for Sale Both sexes. The kind that pay at the pail. J. R. Worthington, R. No. 7, Lansing, Michigan

#### The Wildwood Farm

Jersey Cattle, Majesty Blood. We have Bulls for sale from Register of Merit cows of good type. Write your wants. Alvin Balden, Capac, Michigan.

JERSEYS FOR SALE Young bulls ready for service from R. of M. ancestors. Meadowland Farm, Waterman & Waterman, Packard Road, Ann Arbor, Mich.

### FEMALES---FOR SALE---FEMALES

#### 25 Head Registered Holsteins

Many with A. R. O. records, some up to 23 lbs. Mostly 2 to 5 years old—a few yearlings. No better breeding anywhere. From Granddams of: King of the Pontiacs, DeKol 2nd., Butter Boy 3rd., and King Segis. Will be sold at auction prices. Send for list.

#### Bigelow's Holstein Farms

Breedsville, - - - Michigan.

### Duroc Jersey Herd Boars

Special Offering of High Class Fall Boar Pigs. Breeding and Individuality good enough for breeders who appreciate the best.

Also some good farmer's boars. This is the best lot of fall pigs we have ever had to offer. A cordial invitation is extended to visit the farm and inspect the stock. If you wish one of the best young Jersey bulls in Michigan we have him for sale. For further particulars, address,

Brookwater Farm, Swine Dept., Ann Arbor, Mich.

Long Vein Farm Reg. Jersey Cattle Herd sire Oxford's Flying Fox. R. of M. record of dam 288 lbs. butter in one year. Moderate prices. C. S. Bassett, Kalamazoo, Mich.

#### FOR SALE REGISTERED JERSEY BULLS

Ready for service. Write your wants. SMITH & PARKER, R. D. No. 4, Howell, Michigan

#### BIDWELL SHORTHORNS

For "Beef and Milk" Registered bulls, Scotch-topped roans, reds and whites for sale. Farm at N.Y.C. Depot; also D. T. & L. B'y. Address O. N. Schrader Mgr. BIDWELL STOCK FARM Box R. Tecumseh, Mich.

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

DAIRY BRED Shorthorns of best Bates strains, young bull 8 months old for sale, price \$150. J. B. HUMMELL, MASON, MICHIGAN.

Shorthorn — Dairy or beef bred. Breeding stock all ages for sale at farmers' prices. C. W. Crum Secy. Cent. Mich. Shorthorn Breeders' Assn. McBride, Mich.

MILKING Shorthorns, roan 3 year old, Bates bred herd bull \$250. Young bulls and heifers. DAVIDSON & HALL, TE CUMSEH, MICHIGAN.

50 Herefords BOTH SEXES ALL AGES EARL C. McCARTY, Bad Axe, Michigan

SHORTHORNS FOR SALE 8 Bulls, also females. W. B. McQuillan, Howell, Mich

FOR Sale—Reg. Short Horn Bulls by Maxwellton Monarch 2nd, son of Avondale, from 11 to 13 mos. old John Schmidt, Reed City, R. No. 5., Michigan.

Shorthorns For Sale. Young bulls \$100. Bred cows and heifers \$150 for quick sale. Write W. J. BELL, ROSE CITY, MICHIGAN.

#### Cattle For Sale

2 Loads feeders and two loads yearling steers. Also can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. Isaac Shanstun, Fairfield, Iowa. R-8.

SONS of Grand Champion male Mich. State Fair 1916, his 5 dams are 20 50 lb. Butter 7 days. A. R. O. Dams. Price right. John A. Hink, Warren, Mich.

#### HOGS.

#### Durocs and Victorias

Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best Sons of the Grand Defender & other noted strains. M. T. STORY, Lowell, Mich.

The Very Finest Berkshire Pigs Cheap C. S. BARTLETT, Propr. Pontiac, Michigan

Berkshire Boars and gilts. May farrowed, large growthy fellows. Also a litter just ready to wean. A. A. FATTULLO, R. 4, Deckerville, Mich.

Berkshires: Pigs six weeks old \$6 apiece buys both sex. Holstein Bull Calves from 30 pound bull, \$25 to \$40. RIVERVIEW FARM, R. 2, Vassar, Mich.

BERKSHIRE boars 12 & 14 lbs. Gilts 14 for a short time. One herd boar at market price. Toulouse Geese and Mammoth Bronze Turkeys. Chase Stock Farm, Mariette, Mich. R. 1.

#### DUROC JERSEYS

A choice lot of spring pigs, both sex, pairs and trios, not akin. Prices reasonable. Send for pedigrees. THE JENNING'S FARMS, R. F. D. 1, Bailey, Mich.

#### Heavy Boned Duroc Jersey Boars

March and Apr. farrow, weighing 200 to 250 pounds will be sold as cheap as any man can sell first class stock. M. A. BRAY, Okemos, (Ingham Co.) Mich.

J. W. KEENEY, Erie, Mich. Males, good ones for Dec. service. Breeder of Duroc Swine. D. M. & T. local from Monroe or Toledo, Keeney Stop.

DUROC JERSEYS Choice pigs sired by Brookwater Cherry King 4588 ready to wean. Priced right. J. Robert Micks, St. Johns, Mich.

Duroc Jersey Boars Two June 1915; 12 April 1916. Write for description. I guarantee satisfaction. J. H. Banghart, East Lansing, Mich.

For Sale, Duroc Jerseys, choice breeding spring pigs either sex. Prices right. John McNicoll, Station A, R. 4, Bay City, Mich

DUROC JERSEYS: A nice bunch of Spring Gilts, also a good Spring Boar old enough for service. Wm. W. Kennedy, R. 3, Grass Lake, Mich.

Duroc Jersey Boars of the large, smooth big boned type. E. D. Heydenberk, Wayland, Michigan.

Duroc Jerseys Big Type Boars with breeding and individuality that is hard to beat, bred from prize winning stock, prices reasonable, satisfaction guaranteed. F. J. DRODT, R. 1, Monroe, Michigan

DUROC Jerseys. Spring boars from the most noted sires of the breed. Jo Orion II, Perfect Top Col., Oakland Ohio Chief, Principle IV & Model Pal. Newton Barnhart, St. Johns, Mich.

Durocs Fall yearlings, boars and gilts, weight 200 lb. \$30 to \$50. Some good spring stuff at \$25, weight 175 lb. H. G. KEESLER, Cassopolis, Michigan.

Duroc Jerseys If you want fall pigs don't forget to write to Shepherd, Michigan. S. C. STAHLMAN,

Choice Duroc Boar Cheap if taken at once. F. E. Eager & Son, Howell, Mich.

Duroc Boars and Delaine Rams of choice breeding at reasonable prices. Carey E. Edmonds, Hastings, Mich.

MARSHALL Herd of Durocs offers ten stretchy 200 lb. March boars and gilts at \$25 each for next 10 days. C. Burlingame, Marshall, Michigan, R. 4.

Duroc Boars: Defender; Cherry King; King The Col; Hoosier families. All ages, all weights; Plenty of bone. Orlo. Dobson, Quincy, Mich.

Duroc Stock hogs, Spring gilts, tried Sows, August Pig, Peckerson Stud Colls. E. J. ALDRICH, Tekonsha, Mich. R. 1, Bell Phone.

Duroc Boars, A fine lot of spring boars bred right and priced right. W. G. TAYLOR, Milan, Michigan.

#### Big Type Boars!

O. I. C's ready for service Bred Gilts—Fall Pigs. Registered in buyers name, shipped C. O. D. Prices very reasonable. J. Carl Jewett, Mason, Mich.

O. I. C. Serviceable Boars shipped C. O. D. Registered in purchaser's name. Danville, Mich. H. W. MANN,

**Raise Chester Whites**  
Like This  
the original big producers



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

CHESTER WHITE March pigs either sex. Booking orders for Sept. 1 pigs, 2 year old sow farrowed 9 pigs Sept. 5. Herd boar is 2 yr. old. Ship C. O. D. W. A. Sneyer, Mt. Pleasant, Mich. R. 4.

CHESTER WHITES Some splendid March boars for sale, also fall pigs. F. W. ALEXANDER, Vassar, Mich.

Registered O. I. C. Swine  
Stock For Sale—All Ages  
Correspondence Solicited, Visitors Always Welcome



Brightside Farm  
Grand Lodge, Mich

O. I. C. and Chester White Swine, all ages. A few either sex, service Boars and open gilts, 400 fall pigs either sex, sired by Granddame Wonder, Grand Champion at Ohio State Fair, Schoolmaster the champion of champions and highest price boar of the breed and others. Get a sow bred to Gallaway Edd Grand Champion Mo. State fair, we are booking orders. We had the undefeated breeders age herd at six state fairs. Get our catalogue, buy the best it pays, we have them. We ship on approval. Rolling View Stock Farm, Cass City, Mich. R. 2.

O. I. C. Stock all Sold JULIAN P. CLAXTON, Swartz Creek, Mich.

O. I. C. SWINE: If you are interested in you with a choice pair or trio, O. I. C's, let me start to farrow about September first. A. J. GORDEN, R. No. 2, Dorr, Mich.

O. I. C. Choice Spring gilts not bred and spring boars. Out of Prize winning stock. Write for low prices. A. V. HATT, Grass Lake, Mich.

O. I. C. Swine and Reg. Holsteins, few boar pigs of considered. ELMER E. SMITH, Redford, Michigan.

O. I. C. HOGS Fine April Gilts and Males. Pairs no relation. At a bargain if taken at once. J. R. Way, Three Rivers, Mich.

O. I. C's. 4 last fall boars big growthy ones, also last spring pigs either sex, not akin. Farm 1/2 mile West of depot. Otto B. Schultze, Nashville, Michigan

#### O. I. C. & Chester White

Strictly Big Type. April boars large enough for service, also have May boars, that are good ones. Can furnish in pairs not akin. Have been breeding the big type for 15 years. The kind that fill the pork barrel. Newman's Stock Farm, Mariette, Mich. R. 1.

O. I. C's. 14 choice young boars ready for service. 2 sows to farrow in Oct. and open gilts. Cloverleaf Stock Farm, Monroe, Mich. R. No. 1.

O. I. C. Serviceable boars of the big type at reduced prices for the next thirty days. G. P. ANDREWS, Danville, Michigan

O. I. C. Year old boar 2nd prize winner at Grand Rapids fair also spring gilts and boars ready for service. A. J. Barker, Belmont, Mich. R. 1.

FOR SALE Thoroughbred O. I. C. Swine, sows bred, gilts and boars. O. D. Somerville, Grass Lake, Mich. R. 2.

O. I. C's Service boars and gilts. Price reasonable. Satisfaction guaranteed. Ship any day. A. R. GRAHAM, Flint, Michigan

O. I. C. or Chester White Swine, both sex, not of kin. Write for catalog and prices. E. B. MILETT, Fowlerville, Michigan

O. I. C's. Have only a few boars of May, June and Sep. farrow. C. J. THOMPSON, ROCKFORD, MICH.

Big Type Poland Chinas Spring boars, at reasonable prices. Order soon to save express. A. A. WOOD & SON, Saline, Michigan.

Francisco Farm Poland Chinas Big Types With Quality

Ten 200 lb. Spring Boars from prize winning stock. They're long, strong, big-boned, rugged fellows. Pictures, circular and price list on request. P. P. POPE, MOUNT PLEASANT, MICH.

Breeders' Directory—Continued on page 497



### MICHIGAN POTATO GROWERS' CONVENTION.

(Continued from first page).

"We, the Michigan Potato Growers' Association in regular meeting assembled at Escanaba, November 3, 1916, recognizing the importance of standardizing and grading of potatoes to the potato industry, recommend that standard grades be established for potatoes bought or sold in the state of Michigan."

R. G. Hoopingarner, H. B. Blandford, R. G. Carr, Committee.

The following officers were elected: President, Dorr D. Buell, Elmira; vice-president, W. B. Thomas, Manistique; treasurer, Ernest A. Bessey, East Lansing; secretary, C. W. Waid, East Lansing; assistant secretary, J. W. Weston, Marquette.

Plans were made for continuing the potato show next year but the location for the meeting place has not been decided.

#### The Potato Show.

The show was fully up to expectations as to size and quality. In fact, the quality was better than most of those present expected it to be this season. There were in all, over 500 entries of one peck each, including about 75 boys' and girls' club exhibits. Prof. J. G. Milward, Secretary of the Wisconsin Potato Growers' Association, acted as judge. He made the statement at the banquet held Thursday evening, that the 65 entries in the Rural class were the best he had ever seen. The 15 prize winners in this class were very uniform and of very high quality. In fact, there were exhibits which were awarded no prize which would have won first place in most potato shows, which are made in this section of the country. There were seven county exhibits of not less than 15 pecks each. The four prize winners in this competition were Schoolcraft, Newaygo, Marquette and Iron counties, in the order named.

The sweepstakes awards were as follows: Early Variety, Ray Davis, Newaygo county; Late Variety, Harry Stroven, Newaygo county.

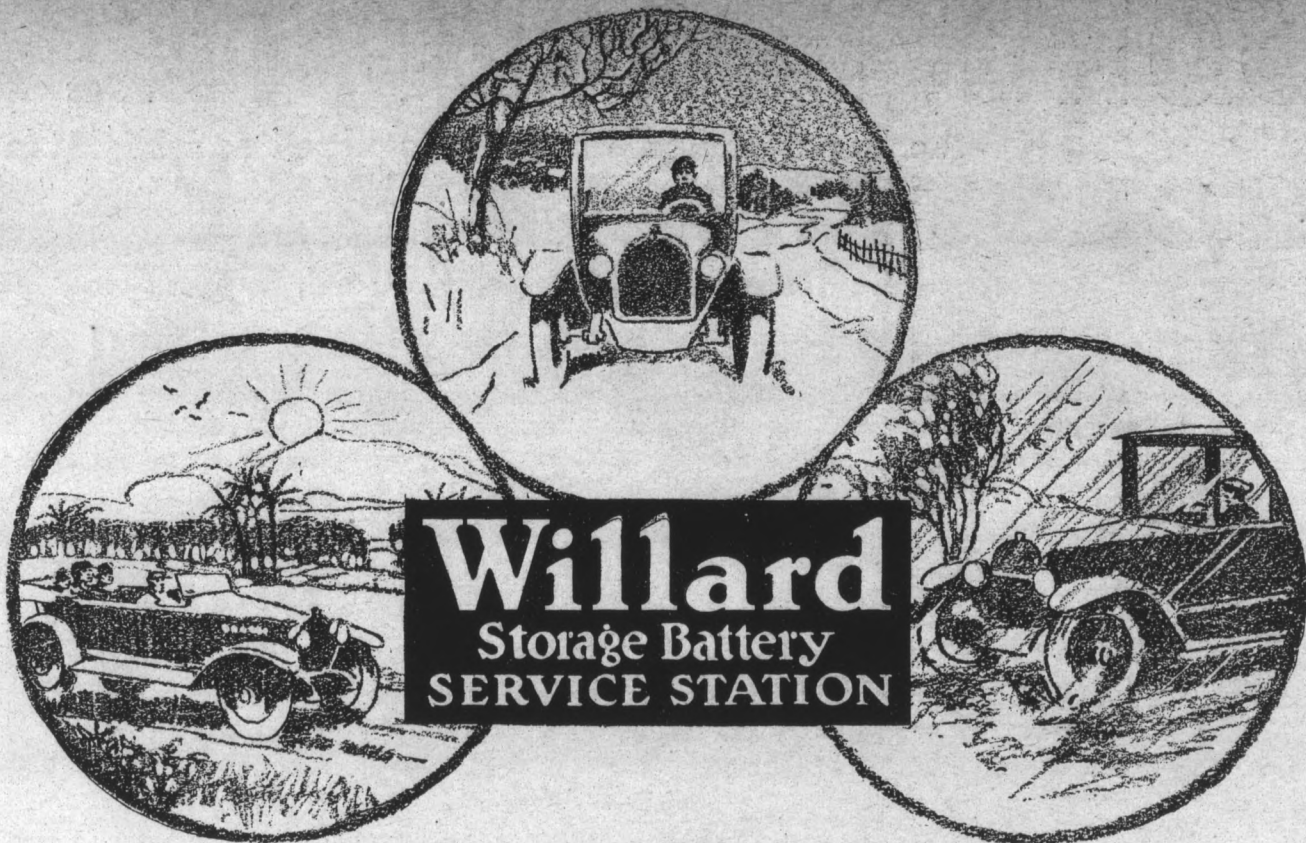
### THE FARMER'S AUTOMOBILE.

(Continued from page 479).

The rear chains assist in furnishing propelling power and, of course, are absolutely necessary after snow has covered the roads. Front chains are often neglected although the front wheel skid is very difficult to control. I have found that steering a car through the snow with chains on the front wheels is very easy and the car can be controlled the same as when driving in the summer with the bare tires. The chains in front enable the car to climb over the snow and icy ruts just like walking up a step ladder.

It seems that the automobile is now a practical machine for the farmer at nearly all times of the year. Buying a car is an investment in farm implements as much as buying litter carriers, tractors, or cream separators. It is one of the purchases which are not absolutely necessary and yet good enough to be a paying investment.

The car the farmer buys should be selected for its practical value. A fine looking roadster may appeal at first to the farmer and his wife, but the rear seat is necessary for hauling purposes and carrying friends to and from the city. A fine looking roadster is not a farmer's car. Sometimes the purchase of a car which can later be turned into a truck will be a good investment, especially if the farming business develops sufficiently to support two machines. Buying second-hand cars is a safe investment if the farmer is a fair judge of machinery, but there is a danger in purchasing old cars without some knowledge of values. A new car means few repair bills for at least one year, and this should be taken into consideration by the farmer expecting to buy an automobile as a business investment.



## Willard Storage Battery SERVICE STATION

## What Does Winter Mean to Your Battery?

Maybe you live where you can drive your car all winter long.

Or maybe in your locality the roads are hub-deep in snow, ice, and mud until spring.

It doesn't matter whether you live in Florida or Alaska—you need Willard Service for your battery's sake.

If you drive, your battery must be in working order—your starter must not fail no matter what the weather may be.

If you store your car, your battery must not be neglected—you want it to be in good condition when spring and good roads come.

If your winters are cold, your battery ought to have regular inspection, for if it is not properly charged it will freeze.

The Willard Service Station is there to help you. There you can have your battery well cared for, filled and charged. Or for a small sum, you can leave it there all winter where it will receive regular, expert attention. Or you can learn how to take care of it yourself, whether you run or store your car.

It doesn't pay to run any risks. Write for list of Willard Service Stations and let us do the worrying. Ask for booklet F-65 "Will She Start" on winter care for your battery.

### WILLARD STORAGE BATTERY COMPANY Cleveland, Ohio

New York: 228-230 W. 58th St. Atlanta, Ga.: 8-10 East Cain St. San Francisco: 1433 Bush Street  
Chicago: 2524-30 S. Wabash Ave. Detroit: 736-38-40 Woodward Ave. Minneapolis: 36-38-40 So. 10th St.  
Indianapolis: 316-318 North Illinois St.

#### SOUTHWESTERN DISTRIBUTORS

Willard Storage Battery Company of Texas, Dallas, Texas

Direct Factory Representatives in Philadelphia, Boston, Kansas City, Omaha, Seattle. Service Stations in All Principal Cities in the United States and Canada.

Willard Storage Batteries are for sale by car dealers, garages and all Willard Service Stations and Factory Branches.

# Willard STORAGE BATTERY



### Settle one point about your HOME ELECTRIC LIGHT PLANT

What kind of storage batteries has it? On this point depends the satisfaction it will give. Other batteries deteriorate rapidly when compared with the Edison. Edison Batteries are admitted by everyone to be the most satisfactory in existence. Charge them when you use your engine. They are not injured by being completely discharged. Mr. Edison's Book tells you all about them—how with

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