

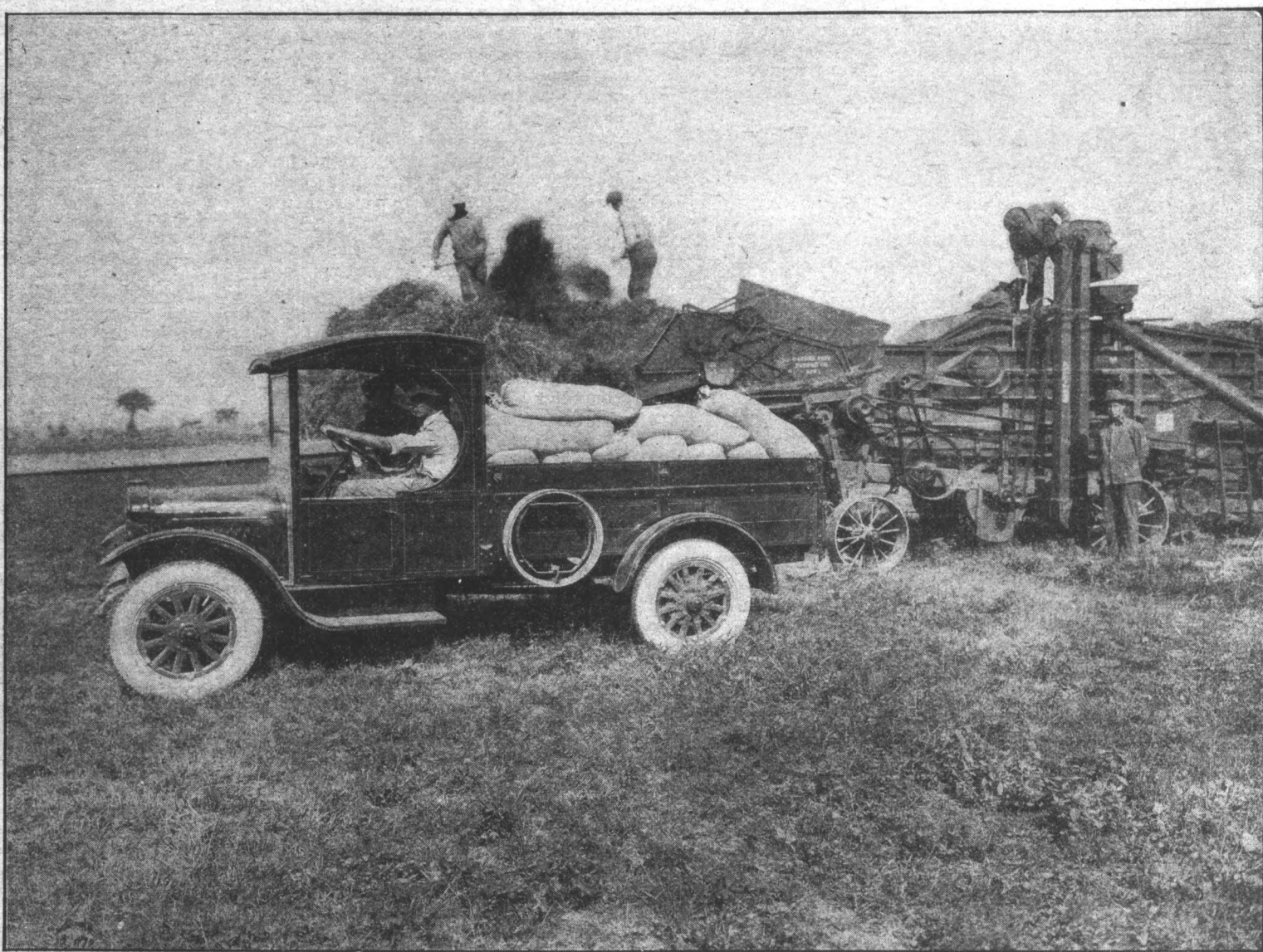
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One Farmer's Marketing Plan

A PROGRESSIVE farmer of Montcalm county, Mr. H. Brown, has 375 bushels of wheat, 2,347 baskets of corn, 582 bushels of oats, about forty-three tons of clover and mixed hay, seven dairy cows, six young cattle, twenty-three shoats, and will probably have 2,000 bushels of potatoes. Just how Mr. Brown intends to market his surplus products is interesting and suggestive.

First of all, the products of the dairy will be sold regularly as they are produced. This is necessary, of course. Through the dairy he will sell a considerable portion of the hay, all the surplus oats over what will be required for the horses and for seed, and some of the corn. The shoats and the four head of young cattle, which have been selected to go to the shambles, will be disposed of

when ready for market. The exact time for marketing them can be varied over a few weeks at the most, giving him a limited choice of time to catch the market when conditions seem to be most favorable. These animals will perhaps consume the remainder of the hay, all the barley, and most of the corn.

Mr. Brown will have left the potatoes, wheat and perhaps some corn to dispose of according to his best judgment. He has decided how this will be done. His general policy is to spread his sales over the marketing season as evenly as convenience and conditions permit. Some of the potatoes will be sold this fall. Additional consignments will go to the station during the colder months, and perhaps a quarter of the

2,000 bushels will find its way to the market next spring. He proposes to make three loads of the wheat. One of these will be delivered about the first of December, the second just before tax time, and the third some time in May. The balance of the corn crop he thinks can be sold to neighbors, since the amount is certain to be small and there is always a local demand from farmers who are feeding stock.

If all farmers would follow the general policy of distributing their sales over the year, Mr. Brown believes that many of the marketing problems would disappear. There would be far less opportunity for speculation. This opinion, which seems to be economically sound, is held by a gradually increasing number of successful farmers.



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VOLUME CLVII. NUMBER FIFTEEN

DETROIT, OCTOBER 8, 1921

CURRENT COMMENT

Factors of Farm Profits

If the average farmer were asked at the present time for his opinion as to the relative importance of the factors which determine farm profits his composite reply would more than likely dismiss the subject in the slang vernacular of the day by the declaration that "There ain't no such animal." Yet the history of the industry in this country and many examples in every agricultural community will serve to show the possibility of profitable farming where the factors which contribute to farm profits are properly evaluated and made effective through good management.

In recent years the importance of better marketing methods has been stressed to such an extent that many farmers have come to look upon this as the most important factor in determining farm profits. But while there is no doubt that the economic distribution of farm products is an important factor in the determination of farm profits in the aggregate, there is just as little doubt that from the standpoint of the individual farmer this is a minor factor in determining the profits from his farm as compared with the factor of good farm management.

Good farm management is a comprehensive and somewhat indefinite term. Its best conception means economic production sustained over a period of years. This, in turn, means the maintenance of soil fertility at its optimum point, and the planning of each seasonal farm campaign so as to produce a maximum of marketable product at a minimum of labor cost, since labor is the largest item of cost entering into crop production.

The fact that no possible saving in marketing methods can make up for the wastes of uneconomic production cannot be successfully questioned. In fact, much of the benefit which is derived from better marketing methods, attained through the cooperation of producers, lies in the production of a better and more standardized product which can attain a reputation for quality in the open market and thus command a premium over the common run of production in its line. To this extent, better marketing methods become an important factor in better farming methods. Cooperative commodity marketing methods also tend toward community specialization along certain lines of production which in itself is an influence toward economic production.

Sustained, economic production is

undoubtedly the most important factor in determining farm profits. And this factor is in turn the composite result of many minor but important contributing factors, all of which are worthy of the thoughtful attention and study of every farmer. As this attention and study can best be given during the period between the closing of this season's farm activities and the beginning of next season's farm campaign, it is our purpose to make this prime factor in the determination of farm profits, and as many as possible of the subordinate contributing factors, the subject of discussion in the columns of the Michigan Farmer during coming months. And to the end that these discussions may be as practical and as helpful as possible to Michigan Farmer readers they will be confined to experience articles describing the different methods used in practical field operations and the degree of success or failure with which they were attended. We hope that hundreds of farmers among our readers will contribute their experiences, as will the Editor from a fund of information gained in the operation of his own farm during the past thirty years.

Scores of Michigan Farmer readers should be able to contribute helpful thoughts to these discussions. We trust they will take the initiative in doing so without a special invitation. Every idea which will contribute to the desired end of economic production, even to the least of its contributing factors, is worthy of expression in this discussion. The reader who has such an idea should not "Hide it under a bushel," but should pass it on for the consideration and aid of his brother farmers. Do it through the columns of the Michigan Farmer during the next few months and you will contribute to the desirable end of making Michigan agriculture more profitable and Michigan farmers more prosperous.

The Successful Breeder

MANY men who have but recently gone into the live stock breeding business are being importuned by a few fieldmen to spend large sums for publicity on coming public sales. One young breeder who is about to hold his first sale has signed a contract to spend \$1,500 for advertising to sell fifty sows. To this amount he will need to add many other unavoidable expenses. It is safe to state that this heavy overhead expense is far greater than the number of animals to be sold warrants and unless the breeder has a reserve, or better luck than the ninety and nine others who have thoughtlessly plunged into the breeding enterprise, he will be following a different line of business in the near future.

While it is comparatively easy for the average person to possess himself quickly with the principles of breeding, it requires a long time to secure a good degree of information about the breeds and sufficient experience to carry on consistent selection and mating of animals. Outstanding breeders are probably the most painstaking men in the agricultural class. Their business requires that they follow a single line of effort for a long term of years, until the ideals they have are bred into their stock sufficiently to be transmitted from one generation to another. If, then, on the other hand, it is possible for a man to bring together a few animals, buy a few pages of advertising and thereby put his name on the map as a breeder, the business would have no attractions for the persistent, careful, painstaking person. In other words, those who have spent scores of years in building up valuable lines of breeding had, under such circumstances, better quit.

Publicity is necessary. The old, as well as the young breeder must let

people know when he desires to hold a sale and what he proposes to sell. But there is reason in all things and the breeder should use "horse sense" when considering the amount he will expend in telling prospective buyers what he has for sale. There should be some relation between this amount and the value of the animals to be sold. Fieldmen, or anyone else, who seek to persuade the breeder to go beyond this reasonable line are not working for the best interests of the breeding business.

A Tax That is Too High

REGARDLESS of the extent of damage done to life and property in this country by burning, comparatively few persons take extreme care to prevent fires. Only occasionally is one such found. This occasional person keeps his premises and buildings tidy and free from refuse which would feed a fire or start spontaneous combustion; he carefully houses such fuels as kerosene and gasoline, watches chimneys, keeps matches in protected boxes, burns rubbish at a safe distance from buildings, provides all structures with well-grounded lightning rods, posts signs warning smokers, introduces safer methods of heating and lighting, has ladders and pails as well as an adequate water supply ready for emergencies and within easy reach he is quite certain to place some good fire extinguishers.

Lack of interest in these matters is responsible for the tremendous loss which the American public suffers each year on account of fire. It has been estimated by people who are in a position to judge that fully one-half of our fire loss is due to carelessness and could be avoided by reasonable precautions. This is particularly true in rural places where the opportunity for fires is greater and the means of protection are less than in cities.

During the past week impressive lessons on the dangers of fire have been taught the children in our public schools. These lessons have been told through plays, in addresses or by parades. This deviation from the routine of school work is very commendable since the maximum of protection against this destructive agent can only be attained by inculcating in the minds of those who will make up the next generation the necessity for and the methods whereby this protection may be secured. However, these lessons ought also to be supplemented with the active cooperation of parents in working out the many plans designed to prevent fire loss. Such cooperation is not only well worth while in itself but will go far toward impressing the lessons learned in school upon the minds of the boys and girls.

Emergency Credit for Farmers

AS we go to press more definite information with regard to detailed plans for carrying out the War Finance Corporation plan for the financing of emergency loans to farmers in this state is not yet available. The Corporation has announced a number of advances made through farmers' organizations in the west and south during the past week. Formal application for an advance covering the purpose contemplated has been made by a Michigan financial institution, which has been referred to the War Finance Corporation for instructions by the Detroit Branch of the Federal Reserve Bank of Chicago. This should bring about early action in perfecting the machinery for this purpose in Michigan.

In the meantime we would renew the suggestion that Michigan farmers in need of temporary credit to finance stock feeding enterprises or for other

needed agricultural purposes take the matter up with their bankers, who should be in a position to secure advances of money on loans of this character through the War Finance Corporation at an early date.

News of the Week

Wednesday, September 28.

FOUR children are electrocuted and nine others injured when a trolley wire breaks in Boston.—Community dances in Highland Park, Chicago, bar gum chewing and bobbed hair, but permit the shimmy.—Investigation by the Detroit Board of Education shows that the Polish, Russian and German children are the best fed and that the American, Canadian and English children are often undernourished.—A judge in Windsor, Canada, sentences two prisoners to ten years imprisonment and forty lashes with the whip for assaulting an aged farmer.—Judge Gary, of the United States Steel Corporation, has been in Mexico to negotiate for the largest steel plant in that country.

Thursday, September 29.

SENATOR ROBINSON, of Arkansas, says there is an organized movement in Europe to create sentiment for cancelling the war debts owed to the United States by France, Belgium and Italy.—According to Washington advices, most of the American troops on the Rhine will be brought home before the German peace treaty is ratified.—One hundred and twenty thousand soldiers will get Michigan bonuses during the month.—A Denver, Colorado, judge sentences two gamblers to attend church every Sunday for six months.—Lieut. J. A. McCready made a new world's altitude record of 40,800 feet in his bi-plane, at Dayton, Ohio.

Friday, September 30.

PRESIDENT HARDING has issued a proclamation designating October 9 as the anniversary of the Chicago fire, as fire prevention day.—The Argentine government borrows \$50,000,000 from New York bankers.—Michigan Millers' Association, in session at Lansing, asked Michigan to use its own flour instead of outside products.—Foodstuffs in Canada have dropped forty per cent in price in the last twelve months.—The log jobbers in Northern Michigan have formed an association to fight freight rates.—Because of a fifty per cent increase in enrollment, the four normal schools of the state are in dire need of funds.

Saturday, October 1.

THE unemployment conference at Washington disbands without any specific action except that local authorities are to take care of the situation as well as they can.—A heavy rain and wind storm at Muskegon, Michigan, causes over \$75,000 damage.—Over 450 persons were killed in Japan recently by a typhoon.—Great Britain rejected the plea of Mexico to recognize the Obregon government.—Bandits stop express train at Reading, Illinois, and take off twenty cases of liquor.—The largest department store in Paris is destroyed by fire, the loss being \$1,500,000.—On his eightieth birthday, George Clemenceau, former French premier, announces he will re-enter politics.

Sunday, October 2.

SARO, of Constantinople, 146, and the oldest man on earth, has married for the fourth time, his bride being twenty-five years of age.—Vandals in Sturgis, Michigan, tore down the partly erected walls of the Elks Temple because they were built on the "open shop" principle.—The Sein Feiners accept Lloyd George's most recent invitation to a conference. All are hopeful for a settlement of the Irish difficulty.—The originals of the Declaration of Independence and the Constitution have been transferred from the state department to the library of congress.—Two hundred alien members of the crew of the U. S. liner, George Washington, have been replaced by Americans.

Monday, October 3.

A MILLION dollar loss by fire was incurred at Beaumont, Tex., when lightning struck an oil tank.—A parrot from Pana, Illinois, pulls the fire alarm and gives the firemen the Ha-Ha when they arrive.—Fred A. Nims, aged 80 years, the last of General Custer's staff, dies at Monroe.—University of Pennsylvania announces the largest enrollment in its 180 years' existence. The student list will exceed 12,500.—President Harding has issued a proclamation calling upon the nation to pay silent tribute to America's war dead on Armistice Day, November 11.

Increase the Crop of Dairy Dollars

This is Done by Keeping Better Cows—How to Get the Cows.

OUR 23,000,000 dairy cows in the United States produce on the average about 4,000 pounds of milk and 160 pounds of butter-fat a year. According to 40,000 yearly records just tabulated by the United States Department of Agriculture, the average cow-testing association cow produces 5,980 pounds of milk and 246 pounds of butter-fat a year. The highest milk producer in the world yielded 37,381.0 pounds of milk, and the highest producer of butter-fat yielded 1,252 pounds of butter-fat in one year. These production marks indicate how the ordinary cow compares with the best.

So you see there is plenty of room for improving the average dairy cow. She can be improved and at a profit where her owner will affiliate himself with an efficient cow-testing association so that an accurate measurement may be made of her food consumption and production.

Expensive Feeds Unwarranted.

Supplying expensive feeds to a low-producing cow is analogous to shoveling costly coal into the firebox of a leaky boiler—the farmer who keeps such cows is seldom burdened with an income tax. Like a factory, the dairy cow transforms raw material, silage, hay and concentrates into the finished product—milk. In that way she furnishes a market for home-grown feed. Whether that market will be good or bad depends in part upon the way the cow is fed and in part upon the cow.

There is no better way to market the feeds grown on the farm than to feed them to a high-producing herd of dairy cows. It is much easier to send the butter-fat manufactured from the surplus crops to the creamery, than to haul the hay to town. Furthermore, it is more profitable, because it keeps the soil fertility at home. In selling to dairy cows the farmer has a wide choice of markets—good, bad and very good. If a wheat buyer offers a cent or two a bushel more than other buyers he gets our wheat; if a wool buyer offers a half cent a pound more for our wool, we sell to him; but if one cow returns \$3.00 for a dollar's worth of feed and her stable mate only \$2.00 we scarcely notice it. Here is the difference of a dollar every time the poor cow eats two dollar's worth of feed, and within a year this amounts to a considerable sum.

The keeping of individual cow records is easy. To test six samples of milk for butter-fat requires about one-half hour, while weighing the milk, estimating the weight of the roughage and weighing the concentrates require but little time. Testing the composite sample of each cow's milk for two consecutive milkings once a month fur-

nishes the figures from which the yearly production records can be computed, if the weight of the milk is kept. Anyone competent to care for a dairy herd can easily learn to make the butter-fat test and to keep feed and production records.

Smaller Herd Paid Better.

A dairyman in Virginia reports that when he began testing for production his herd consisted of thirty-one cows. After weighing and testing the milk for a few weeks he reduced the number of cows to twenty-six. These he fed according to known production and obtained a higher total yield than had formerly resulted from a larger herd. Before the end of the year he reduced the number of cows to twenty and they produced more than the original thirty-one. Through rigid culling and feeding according to production the herd was finally reduced to ten well-fed, well-bred cows which produced almost as much milk and butter-fat as the twenty. Since then the herd has gradually been increased until today it consists of twenty cows, which produce annually more than twice as much milk and butter-fat, and many times as much net profit, as the foundation herd of thirty-one cows.

In one cow-testing association the cows whose ages were not known av-

eraged 552 pounds of milk less than those whose ages were known. In butter-fat production they were twenty-seven pounds below, and in income above cost of feed they were \$10.78 below the average of those whose ages were on record.

In a Lenawee County Cow-testing Association the records of the thirty-three cows whose owners did not know the day of freshening were relatively low all along the line. In milk production their average for the year was 2,536 pounds below the average of the others. In butter-fat production they were seventy-nine pounds less, and short by \$37.06 in equaling the income above the cost of feed obtained from the average of those cows whose owners knew the dates of freshening. This shows irrefutably that in dairying the men who have a fairly complete knowledge of their cows have weeded out the poorer producing cows.

Old Cripple Proves Best.

Before a Missouri farmer joined the cow-testing association he owned a good herd in which was an old crippled cow named "Goldie." At that time he was trying to sell her for \$75. To his great surprise his analysis by the Babcock test not only placed poor old crippled Goldie at the head of the herd, but at the head of the associa-

tion. Her yearly production, as shown by the records, was 9,300 pounds of milk and 526 pounds of butter-fat, and her yearly earnings above cost of feed were \$267. Goldie belonged to a herd whose average yearly butter-fat production was 360 pounds, yet in production of butter-fat she was almost fifty per cent above the average of the herd. Among the cows on test in the 468 cow-testing associations there are many like Goldie. The true production records furnished by the cow-testing associations have prevented the sale of a large number of unassuming but fairly high-producing cows.

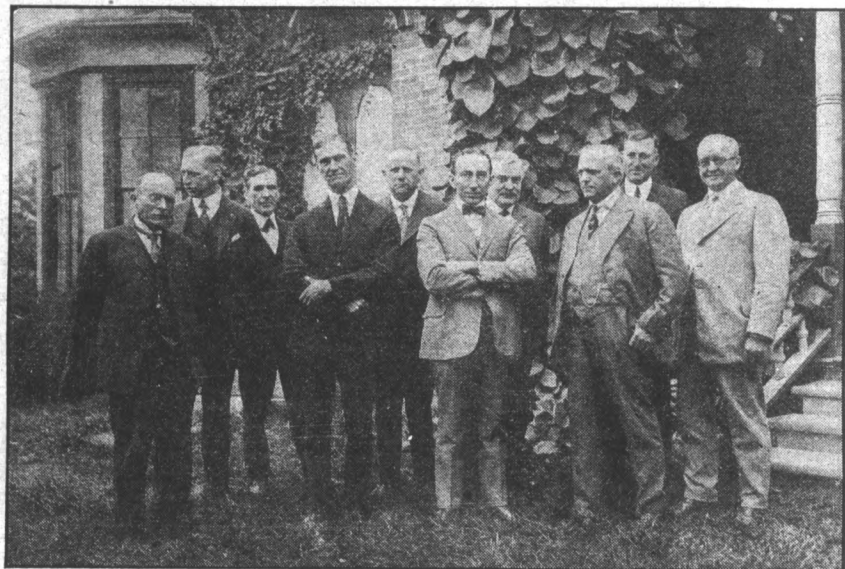
In a certain association 511 cows were on test. One herd of sixteen cows made an average butter-fat production of 306 pounds; another herd of ninety-one cows averaged only 155 pounds. From the first herd, the average income above cost of feed was \$75 and from the second herd, sixty-four cents. The average cow in the former herd produced more income above cost of feed than the combined production of the latter herd. It would require 117 cows like these in the second herd to produce as much income above cost of feed as obtained from the average cow in the first herd.

\$5,000 Bull Brings \$50.

A few years ago a Wisconsin farmer sold his registered Holstein bull to a local butcher. At the time the bull was sold no records had been made by any of the daughters. Within one year, eleven of the daughters freshened between two and three years of age. Records of milk and butter-fat production were kept and to the farmer's astonishment the average milk production was 15,047 pounds and the average butter-fat production 571 pounds. Long before these records were computed the bull was dead and his hide converted into leather. Because there were no records a \$5,000 bull was sold for \$50. A cow-testing association tests the bulls by keeping the production records of the daughters; the bull association makes it possible to keep a bull until his daughters are tested. Such associations would have spared the bull under discussion.

Every dairy herd should be carefully selected. Every carefully selected herd should be headed by a good bull. A good bull gets productive daughters. Such daughters greatly excel their dams. The dams may be selected scrubs; the daughters become productive grades; and the granddaughters high grades of very large production. Such intelligent constructive breeding takes place in every well-managed, co-operative bull association. The bull association combines low investment, small expense, and large profit.

Near East Relief Workers for Michigan



Members of the Emergency Grain Board of the Michigan Committee of Near East Relief photographed at the Watkins Farm at Manchester during a recent meeting of the committee. Reading from left to right the members are: Luren D. Dickinson, chairman of general committee for Michigan; James I. Spillane, director for Michigan; Irving S. Sayford, publicity director; L. Whitney Watkins, secretary Emergency Grain Board; I. R. Waterbury, member Grain Board; Prof. David Friday, vice-chairman of the Grain Board; James Nicol, member Grain Board; Rev. Heulster, who has made personal investigation of conditions in the Near East; Chas. B. Scully, member Grain Board, and H. H. Halliday, chairman Emergency Grain Board.

Who's Who in Agriculture---By N. A. McCune

L. H. BAILEY, Cornell's great ex-dean of Agriculture, has recently issued a "Who's Who" among American agriculturists and farmers. The book contains the names of all classes of people interested in the betterment of American country life. As the author of some twenty-five volumes on agriculture and rural life subjects, Doctor Bailey is just the man to edit such a book as this country life "Who's Who." ("Rus" is the name of the book, being the Latin word for country). Of course there are hundreds of names of professors in the agricultural colleges, and experiment-

ers and experts in the employ of the Department of Agriculture. There are the names of the editors of farm journals, and a pretty good sprinkling of country preachers. County agents loom up with a long list of entries to their credit. But the feature that interests us today is, what of the men who are actually making a living on the farm? Are there many such names? And how were they trained, so as to make a success conspicuous enough to get them included in such a directory?

The time was, when a graduate of an agricultural college was regarded as a curiosity and more or less as a

joke. If he made a failure of a crop his neighbors had the laugh on him, or thought they did. Of course, none of them had ever had a crop failure. But even if they had, they expected this fellow who could write some letters after his name, this peripatetic encyclopedia, this fount of agricultural wisdom, who had spent four years studying under the "perfeccors," to raise bumper crops every time, and show the world how it ought to be done. I remember an agricultural graduate who made some mistake in hitching up a neighbor's team one day, getting the lines twisted, I think it

was. He did not hear the last of it for many a year. But that is changed now, at least to a large extent. The fellow with the letters after his name is having his innings. Not, of course, that he is the only farmer worth speaking to, but that he is making a success of digging a living out of the soil.

And here is this directory before us. It contains the names of a great many farmers, and the majority of them are either graduates of college, or have spent some time studying in college. In short, "Rus" speaks mighty well for the men who have devoted time and money to educating them-

selves for the country life service.

Two or three characteristics are manifest about these successful farmers. The name show that the educated and successful farmer, in a very large percentage of cases, is not only a farmer, but he is a particular kind of a farmer. He is a fruit grower, or a poultryman, or the breeder of a particular breed of cattle. Professional training has helped him to become a specialist. Not only has this training been the open gate to admit him to success in his line, but it has enabled

him to sell his knowledge to other people. Thus, a good many of these farmers are lecturers at farmers' institutes, or they are organizers of co-operative societies, or they are officers in live stock associations. In a good many instances one finds men classified as "farmer and writer," "farmer and director," of this or that company, "farmer and experimenter," "farmer and breeder." Thus, it comes out clearly that a man's time spent in college not only enables him to think more clearly on his farm problems, but it gives him

a wider range of interests, so that he is of more use to the outside world.

In this connection it is important to note that men who have taken short course training at the agricultural colleges show up well. The rapid, intense courses that these men take, develops them and fits them for greater usefulness. And in this connection there comes the county agent, one of the big factors in modern farming, and the county agent almost always has had college, as well as practical training.

This is not to say because a man

can show a diploma he is guaranteed success on the farm. A diploma will not guarantee a man success in any line of work. In all fields it depends on the man. Some men achieve amazing success with almost no schooling. The writer knows a man who has made a fortune in farming if not a million, well along toward it—who never went to school beyond the fifth grade. But he is a genius. The rank and file of men do better, with sound, professional training, such as is found in American agricultural colleges.

LATE AGRICULTURAL NEWS

POTATO GROWERS UNITE TO MARKET THEIR PRODUCT.

THE potato growers of New York state have united under the name of The Empire State Potato Growers' Association. They have already begun operating. Their headquarters are in Rochester, New York, with Mr. L. J. Steel as general manager. Mr. Steel was formerly farm bureau manager in Orleans county, New York. This association will sell potatoes grown by members throughout New York state.

Farmers in New York state are being well organized. There are three important organizations now functioning in this state, the one mentioned above, the Dairymen's League and the New York State Fruit Packing Corporation.—F. A. KUHN.

THE USE OF REFRIGERATOR CARS.

THE Department of Agriculture is urging shippers, carriers and receivers to make more efficient use of refrigerator cars. There is need for 20,000 additional fruit and vegetable refrigerator cars to move the large volume of perishable farm crops now ready for market, and this can be met only by prompt unloading. Investigations by the bureau of markets show that many receivers are holding the refrigerator cars as cold storage warehouses instead of unloading them promptly and permitting their return movement to producing sections. The result is that there are thousands of idle refrigerator cars at a time when railroads are finding it difficult to provide sufficient cars for the perishable products.

MILK PRODUCERS RAISE PRICE TO DEALERS.

THE Dairymen's League increased the price of milk for the month of October one cent. To Buffalo, New York dealers the October price will be \$3.65 per 100 pounds as against \$3.18 for September.—F. A. K.

WAR FINANCE LOANS.

DIRECTOR MEYER of the War Finance Corporation wants it distinctly understood that the corporation does not make loans to individuals. Much confusion, he says, has been created by misleading published reports indicating that the corporation has a fund for distribution on some pro-rata basis among farmers and banks financing farmers. As a result the corporation is receiving applications from individuals requesting their "share of the billion dollar agricultural credit." The corporation is authorized to make advances to banks, bankers, or trust companies, or to cooperative associations of producers which have made loans for agricultural or live stock purposes. The corporation has made no allocation of funds among sections or institutions and it has no authority to do so. Each application

is considered on its merits. For this reason applications for a "share of the corporation's funds," based upon some supposed allotment, serve no useful purpose and only tend needlessly to increase the corporation's correspondence.

CROP CONDITIONS IN CLOVERLAND.

MR. L. M. GEISMAR, agricultural agent of Houghton county, recently journeyed through several upper peninsula counties and has reported on crop conditions in this territory to the Daily Mining Gazette, of Houghton. He found that, as regards rainfall, Ontonagon, Baraga and Marquette counties had fared rather better than Houghton county, which is likely to bring a fair yield of potatoes in the favored counties. He found the corn crop everywhere "an overwhelming success," and that tomatoes were doing well. Buckwheat and millet showed exceptional yields, he says, but other crops are below average, the wheat crop being only half or so of a normal yield. Oats will do even worse but rye better than this. Hay was found a fifty per cent crop.

WOULD SELL POTATOES MORE DIRECT.

DEMANDS of the members of the Michigan Potato Growers' Exchange at Cadillac that it deal more directly with the consumers, seem in line to be satisfied as a result of an offer made by Herbert F. Baker, of Cheboygan county, former president of the Exchange, to the Michigan State Federation of Labor in convention at Grand Rapids last week, to sell its members potatoes in carlots at wholesale prices. The delegates sanctioned the proposal as much as they were empowered to do so, and when Mr. Baker returned to the exchange's headquarters in Cadillac he took with him the names and addresses of each delegate through whom it is expected business relations later will be developed. If the trade pact works satisfactorily, Mr. Baker explained that it would act as an entering wedge, opening the way for other cooperative deals of similar nature.—R.

BETTER ROADS FOR THE SAME MONEY.

MUCH road tax money could be saved through the timely and proper spreading of gravel as it is dumped upon the road and the average farmer-to-market road could be kept in one hundred per cent better condition by the orthodox use of the road drag and grader. Detailed information is given in the following letter from State Highway Commissioner Rogers: Even though the state spending vast sums for bond money in road construction, it is still true that the greatest road tax in Michigan is the tax which the people in the rural sections vote upon themselves at the annual town

meetings. Last year this tax amounted to \$18,495,380.04.

As much of this money is expended in hauling gravel to roads, a word or two as to the application of gravel and the maintenance of gravel roads afterwards, may not be amiss. Too commonly a first-class job is spoiled by neglecting the gravel after it is dumped, too often not spread, upon the road. In fact, it is left to pack itself and immediately becomes full of bumps and hollows which become so hard that they can hardly be smoothed except by using a scarifier.

This could easily and cheaply be prevented by spreading the gravel with the use of the four-wheeled grader followed by a spike-tooth harrow and the road drag. In fact, the gravel which is placed on each day should be spread in this way and made as smooth as possible before quitting work at night. Later the constant use of the road drag would make many of these township gravel roads which have been cheaply built, as pleasant to drive over as many of the more costly state highways.

When and How to Drag.

Probably no implement used in road building or maintenance has done so much to keep the roads constantly smooth as the use of the patrol road drag and grader. As soon as the frost begins to come out of the ground in the spring, use the road drag. Use it frequently, especially after rains, until the ground freezes in the fall. When the road softens during the winter months, smooth it up with the road drag so the surface will freeze smooth.

Hitch to the drag in such a way that it will be drawn at an angle, forcing some gravel towards the center of the road. If the drag cuts too deep, shorten the hitch, if too little, lengthen it. Drag one side of the road, then the other, lastly making a trip down the center. If the road is not smooth, ride the drag, stepping on it sufficiently to vary the cutting depth to work out high places in the gravel and fill the low ones.

Strive toward a uniform crown in all gravel roads. When you drive over the road you will readily detect if it is too crowning. If too flat it will hold water.

Large stones embedded in the surface should be taken out as it is impossible to handle a road drag properly when it is bobbing over stones.

One year's faithful use of the road drag will convince the taxpayers of any township that the money had been well expended. Won't you try it?

QUESTIONNAIRE ON FARM PRICES.

MICHIGAN farmers are to tell the Joint Congressional Commission of Agricultural Inquiry what they have paid for necessities and the prices they have received for their crops during the period of 1913-1921, inclusive says the State Farm Bureau, which has sent out to each County Farm Bureau on September 28 an American

Farm Bureau questionnaire for that purpose.

The questionnaire to Michigan counties is going to every County Farm Bureau in the nation and was prepared by the American Farm Bureau Federation at the request of the Joint Commission, which would have the data to assist it in its investigation of the causes responsible for the present condition of agriculture as a business.

The price survey questionnaire has been divided into two sections, taking into consideration articles which are considered representative, and it takes in the country as a whole and is adapted to all farmers. It seeks to obtain from authoritative local records the price paid for or received for each commodity on March 1 and November 1 of each year from 1912 to 1921 inclusive, together with a description of the changes in quality, size, etc., of the article in question and other information which would be of interest to the commission.

The questionnaire seeks the price of various articles of food on the above dates as an indication of the general trend of prices throughout the year, the price paid by the farmer for clothing, household furnishings, production equipment, fertilizer and spray material, seeds, feeds, fuel and lighting. On the other hand, the questionnaire would have authentic information on the price paid for various farm crops and products throughout that period for purposes of comparison and presentation to the Joint Commission, which is now studying farmers' problems.

CONTROL OF CELERY BLIGHT STUDIED.

FOUR important meetings were held near Hudsonville on September 29 for the purpose of studying damage done by celery blight and the results of fertilizer experiments. Ezra Levin, former muck specialist at the Michigan Agricultural College, but now with the State Department of Agriculture, and County Agent C. P. Milham, of Grand Haven, explained blight preventatives and pointed out the value of fertilization. Demonstrations were held at farms owned by Seth Coburn, Henry Gerrits, Joe Patmos and Harm Molter. Celery blight is causing thousands of dollars loss to the growers this year.—R.

A BUYER'S OPINION OF FARM BUREAU WOOL.

MR. C. J. FAUCETT, director of wool marketing of the American Farm Bureau Federation, reports that a wool buyer for a large eastern mill recently made this remark when examining a large graded line of 1921 Iowa pooled wools: "It is simply wonderful to note the improved condition in which the pooled wools are presented. If I were buying these grades, I would simply order them sacked and would not examine each fleece to see if it is true to grade, as is customary.

A County of Diversified Farming

In Traveling About Van Buren County the Scribe Finds Farmers Succeeding in Many Lines of Agriculture



ONE needs but to ramble through Van Buren county to realize that it is typical of Michigan. Like the state of which it is a part, it is known for its diversity in crops, soils and successes. Its soils range from light sandy to heavy clay, and it stands as one of the leaders among counties in such widely different agricultural activities as pure-bred cattle, poultry, fruit, mint and summer resorters.

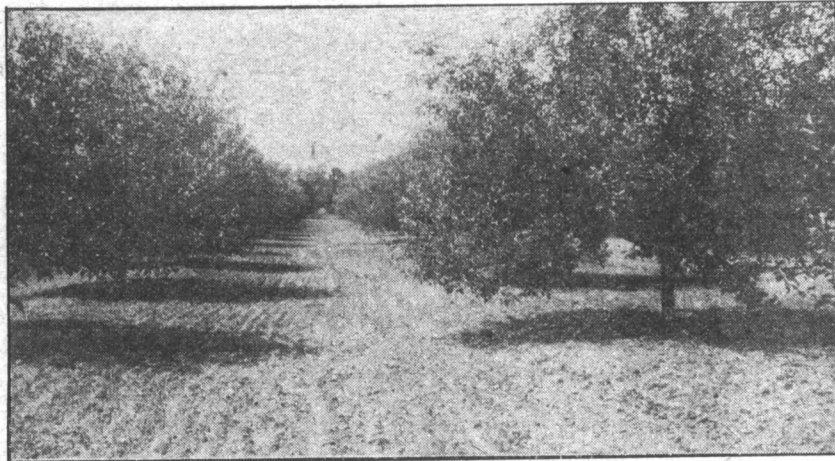
Van Buren county has also been prominent in modern agricultural development. It has the oldest fruit society in the state, the South Haven and Casco Pomological Society, which has held its meetings continuously since 1871. It is the pioneer county in successful cooperative farmers' associations, as it has been due to the success of the South Haven Fruit Exchange and the Southern Michigan Grape Association that other successful cooperative associations have been formed. It is also the first county in the state to take up poultry culling, the first demonstration being held at the home of E. A. Wang at Paw Paw.

This county was also first in the wheat variety test in 1918 and 1919 when it thoroughly demonstrated the value of Red Rock wheat. It is now organizing its second cow-testing association which makes it the second in the county in the state having two associations. Its Paw Paw and Lawton grape district, which has been the chief factor in making Michigan grapes nationally known, makes the greatest grape-producing county in the state.

Its progressiveness in agricultural work is indicated by the fact that it is and has been the home of many agricultural leaders. Foremost among these is Dr. L. H. Bailey, the world's foremost horticulturist and agricultural leader, who was born at South Haven. It was there as a barefoot boy that Dr. Bailey fostered his love for things that grow. Mr. T. T. Lyon, the country's greatest expert on fruit varieties in the eighties and nineties, lived at South Haven and at his death turned over to the state the South Haven

Experiment Station so that his work might be continued. The late C. J. Monroe, South Haven, and Mr. Jason Woodman, of Paw Paw, have also been very active in Michigan's agricultural development.

Being a progressive agricultural county, its county agent is most likely to be a progressive man. In this the county is fortunate, for we have never seen a man who has put more "pep" and enthusiasm in agricultural work than County Agent W. C. Eckard. Farming is bred in the bone with him, and he is at it most of the time from sunrise to sunset in some agricultural work. Because of the great variety of the needs of the farmers of the county, Mr. Eckard has not specialized on any single project, but he has been very active in helping the farmers to help themselves in the various lines of agricultural activity which abound in the county. Chief among the projects which he is giving his attention is fertilizer work on fruit. This work has shown the value of nitrate of soda or sulphate of ammonia on fruit trees. These tests prove that from three to five pounds of either of these nitro-



Five-year-old Jonathan on H. A. Keister's Farm, which Produced a Half Bushel Per Tree.

genous fertilizers add greatly to the vigor of the foliage, increases the tree's bearing qualities and makes more certain a good cover crop in the orchard.

Among the grains, an oat variety test, seed corn tests, as well as tests with alfalfa, soy-beans, lupins and hubam clover are being carried on. Special attention has been given alfalfa, and as a result this legume is the standard hay crop of the county.

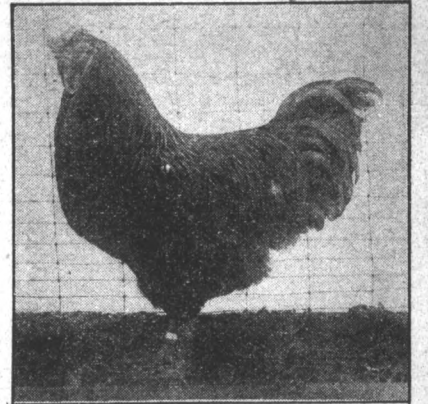
When the scribe traveled about the county with Mr. Eckard, he saw so many things which would be of interest to Michigan Farmer readers that it would fill a book to tell them all, so one can hope to hit the high spots only.

In the eastern part of the county, around Paw Paw and Lawton, there are many successful farmers, most all of whom grow grapes, but many have also made successes in other lines.

We found F. J. Webb farming 240 acres near Paw Paw, of which thirty-three are in grapes. This acreage of grapes produced over \$16,000 worth of fruit in 1920. During the same year his four acres of cherries brought in more than \$3,000. He has three acres of asparagus which brings in an average of \$1,000 a year.

T. B. Woodman farms 100 acres, of which twenty-five in grapes produced 167 tons of fruit in 1920. Mr. Woodman also grows about seven acres of potatoes each year, the five-year average yield of which has been 260 bushels of marketable potatoes per acre. Mr. Woodman started on his present location near Paw Paw about twelve years ago with little besides a good name and a grim determination to win. Now he is a director in the local bank, and has other interests.

M. B. Buskirk & Son work 320 acres, seventy-five acres of which are in grapes and ten in cherries. In 1919, one and one-quarter acres of cherries produced \$1,100 worth of fruit, and in 1920 the same orchard produced \$1,200 worth of fruit. They also have two acres of asparagus which produces



now has fifteen hundred head on the farm. He will carry over seven hundred and fifty hens and pullets during the coming winter.

The Woodman Brothers, David and John, sons of Jason Woodman, operate their farms in partnership and have 200 acres under the plow. They specialize in registered Hereford cattle, alfalfa, grapes and potatoes. They have eighty-three acres of alfalfa used both for hay and pasture. The surplus hay is sold, 120 tons being marketed mostly from the field this year.

The Woodman potato field has produced during the last fourteen years an average yield of over 300 bushels to the acre. They find that a good way to fit a field for alfalfa is to make a heavy application of lime on the land being prepared for potatoes, then work the soil up the following spring without plowing, seeding to alfalfa about June 15. Proper management of the seed prevents scab on the limed land.

Near the Woodman Brothers' farm is that of a cousin, Edwin Woodman, whose father, Edson Woodman, seeded the first successful alfalfa field in this section twelve years ago. At that time he procured Grimm alfalfa seed from Joseph E. Wing which was used to seed the twenty-four acres, twenty-two acres of which are still producing large hay crops each year.

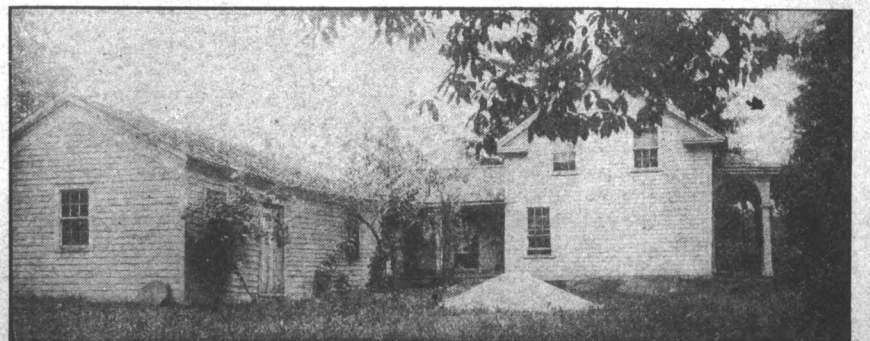
The Allen Brothers, prominent Hereford breeders, are farming 350 acres at Glendale, which includes a forty-acre alfalfa field, twelve of which produced forty tons of hay in the first two cuttings this year. Their Hereford herd consists of sixty head of cattle of the Fairfax and Repeater breeding. The Allen boys also have a herd of forty pure-bred Poland-China hogs which is headed by Defender Junior, who was the senior champion at the State Fair in 1920. Up until a year ago the three brothers, Dan, Howard and Ruben, conducted a large general store in Glendale, and were for many years in a strawberry plant business.

Interlakes Farm at Lawrence has become familiar to our readers through its advertising of Rhode Island Reds. J. and C. Whittaker, who own and manage the farm, specialize in utility

(Continued on page 344).



For Fourteen Years the Potato Crop on the Woodman Brothers' Farm Has Yielded an Average of Three Hundred Bushels Per Acre.



The Birthplace, at South Haven, of Dr. L. H. Bailey, One of America's Greatest Agricultural Leaders.

OUR SERVICE DEPARTMENT

ADVERSE POSSESSION.

I have a forty-acre farm in Berrien county, Michigan, which is the back forty of an eighty-acre tract lying on the public road. My property includes a private road one rod wide running through the front forty to the public road. My deed and the abstract for the entire eighty-acre tract states definitely that no obstruction is to be placed in this road, but the owner of the front forty placed a gate at the end of my private road without my permission. Since the gate has been there for nearly fifteen years, and I do not wish him to get an easement by adverse use, I want to know what steps to take to have the obstruction removed. Is an oral notice to remove the gate sufficient?—A. M. O.

Notice would be no good. Only action or removal will suffice. No notice is necessary. Merely remove the gate and keep it removed, and no adverse title will ever accrue.—J. R. R.

MAINTAINING PARTITION FENCES.

A owned a house and lot in a small village and many years ago he fenced it in with a poultry fence, three sides of which formed a line fence. Some years since fire destroyed the business portion of the town and people moved away, leaving the houses vacant, he among the rest, and the buildings were sold for the lumber, torn down and moved away. A year ago he sold his house which was torn down and moved away. Last spring he took down all his poultry fence, which leaves the adjoining property exposed to the highway, and that is the situation at the present time. Had he a right to remove this fence after it had been used for a line fence for twenty years or more?—R. D. F.

No provision of the statutes of this state fully covers the question asked and we find no decision on it in this state. In some other states it has been held that though the land has been enclosed and the line fence divided, there is no obligation to maintain the fence, other than the loss of remedy for trespassing animals on the land of the negligent party, and the liability on him if his cattle escape through his dilapidated part of the fence; and that interpretation of the statutes is reasonable, and it is believed would be followed by our court. On the other hand, it has been held by a few courts that the adjoining proprietor has acquired a species of ownership in the whole fence, whereby he is entitled to an injunction to prevent removal of it, or damages for the removal.—J. R.

AN ABSTRACT OF TITLE.

I bought some land in Manistee county, Michigan, from a land company, and I have a warranty deed for same, but the people tell me here that my deed is not good without an abstract of title. Is this true?—M. E. G.

An abstract of title is a memorandum of the records affecting any particular piece of land. It is not a copy of the records but an abridgement of them. It has no force or validity in and of itself, and may be made by any person. Its value depends on the reputation and care of the person making the memorandum. The business of making abstracts used to be done by all lawyers; but of late years it is conducted almost entirely by persons making a specialty of making abstracts, and who for that purpose make a set of books showing the abstract of title to all the lands in the county. It often happens that the title is not in the person who appears by the records to be the owner; and in such cases one buying in reliance on the records might get no title at all. For example, if someone has put on record a forged deed, or if the title has been acquired by adverse possession against

the person having the record title, a purchase from the record title owner would pass to the buyer no title at all. Obtaining an abstract of the title does not make the title any better, nor lack of it any worse. The only advantage of an abstract is to enable one to ascertain what the records show without going to look at the records himself. The records do not make title. They are merely notice to purchasers of what the records show. All persons dealing with the title are bound at their peril to take notice of what appears of record. It is because the record is not a guaranty of title that the Michigan State Grange and other organizations have endeavored to obtain a law making the record title. This is known as the Torrens System.—J. R. R.

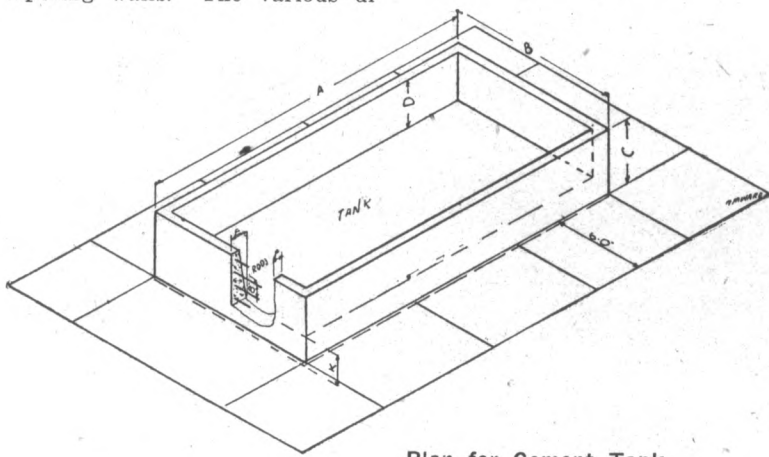
MATERIALS REQUIRED FOR CEMENT TANK.

I am planning on building a cement tank with walk on each side to prevent the usual mud holes that develop from the tramping of the animals.

Gratiot Co.

A. H.

The illustration herewith shows general specifications for the construction of such a tank as the inquirer asks for. Note the spacing of reinforcing steel and tapering walls. The various di-



Plan for Cement Tank.

mensions of the tank in this illustration are indicated by letters. The letters in the following table refer to the same dimensions. This table gives the amount of cement, sand and gravel required for tanks of various sizes. A study of this table will furnish the data necessary for purchasing needed supplies.

CAPACITY IN BARRELS	DIMENSIONS							MATERIALS		
	A	B	C	D	E	F	G	CEMENT SACKS	SAND CUBIC FEET	GRAVEL CUBIC FEET
56	16	8	2-11"	2-2"	6"	4"	9"	35	75	98
40	16	7	2-11"	2-2"	6"	4"	9"	35	68	82
40	16	6	2-11"	2-2"	6"	4"	9"	35	60	80
42	16	7	2-11"	2-2"	6"	4"	9"	35	60	80
34	14	6	2-11"	2-2"	6"	4"	9"	35	54	71
28	14	5	2-11"	2-2"	6"	4"	9"	35	47	62
31	12	6	2-11"	2-2"	6"	4"	9"	35	40	52
25	12	5	2-11"	2-2"	6"	4"	9"	35	35	44
19	12	4	2-11"	2-2"	6"	4"	9"	35	30	37
21	10	5	2-11"	2-2"	6"	4"	9"	35	30	37
16	10	4	2-11"	2-2"	6"	4"	9"	35	26	33
11	10	3	2-11"	2-2"	6"	4"	9"	35	21	27
9	8	4	2-11"	2-2"	6"	4"	9"	35	17	22
7	8	3	2-11"	2-2"	6"	4"	9"	35	14	18
5	6	3	2-11"	2-2"	6"	4"	9"	35	11	14
5	6	2	2-11"	2-2"	6"	4"	9"	35	10	12

METAL FOR FENCE POSTS.

Will angle steel fence posts $1\frac{1}{2} \times 1\frac{1}{2}$ inches thick, seven feet long, give satisfactory service, to repair woven wire fencing fifty-eight inches high? The original posts were cedar and are rotting off on sandy soil.—G. F.

Steel fence posts are used with some degree of satisfaction. I do not know that the size given, $1\frac{1}{2} \times 1\frac{1}{2}$ inch thick and seven feet long are the correct size. It is our opinion that the length of seven feet would not be sufficient to give good anchorage for a fence which is practically five feet high as not more than two feet would go into the ground. Anchorage could be provided, however, by setting the foot of the post in concrete. If angle steel is used for fence posts it prob-

ably would be wise to use only the manufactured kind. Ordinarily, mild steel cut up for that purpose would deteriorate very rapidly coming in contact with the moist surface of the ground. Manufactured posts in addition to being resistant to rust are either galvanized or coated with a heavy protective paint.—H. H. M.

ALSIKE HAY FOR STEERS.

I am feeding thirty-three Hereford steers. I am feeding about three pounds of ground corn and oats twice a day and ensilage and all the alsike clover hay they will eat. Also feed about one pound of salt. Why should their bowels keep so laxative. Is it the alsike clover hay, or what can I feed to stop the trouble?

Oakland Co.

A. E. P.

I cannot tell from your inquiry whether you are feeding one pound of salt a day to the thirty-three steers, or whether you are feeding one pound to each steer. If you are feeding one pound to each steer this is an excessive amount of salt and would cause this laxative condition of the bowels. Two ounces of salt per day, per animal, is sufficient; in other words, about four pounds of salt per day for the thirty-three steers. I do not think the alsike clover hay ought to produce

strainer, milk pails, milk pans as you do ordinarily and then put a little sulphuric acid in the rinsing water and rinse thoroughly. This weak solution of sulphuric acid can be applied to the udder with the hand. You do not want it strong enough so that it will affect your hands in the least.

I think if you would do this two or three times that it will be effective. However, if the muddy places or the stagnant water is left, it will occur again. If you can keep them out of these places, when once the bacteria are eliminated, you will have no further trouble, but if it is impossible to keep them out, as it might be the case in a wild pasture, you will have to repeat the treatment if the trouble occurs again.

REMOVING WARTS FROM TEATS.

Please let me know what would take warts off of cows' teats. I have a four-year-old Holstein that is giving from twenty to twenty-five pounds of milk at a milking, but she is getting so many warts on her teats that it is hard to milk her. I have tried castor oil and all kinds of stuff, but without results.

Wayne Co.

T. W. G.

You do not state whether these are numerous fine long warts or large short ones. The fine long warts can be removed by tying a linen or silk thread tight around them as near to the teat as possible. This stops the circulation and they will drop off in a short time, but the larger warts, however, sometimes it is difficult to cord them with strings. If you can do so this will remove them, otherwise about the best remover I have found is to wash the teats with a weak solution of sulphuric acid. Warts are a peculiar growth and sometimes they remain on for a long time with any kind of treatment and then again they disappear with no treatment, just as they do off one's hands.

ALFALFA AFTER RYE.

I have a piece of sandy ground that is planted to corn. I wish to sow alfalfa on this ground next summer. Would it be all right to sow rye this fall and plow under in the spring as cover crop for the ground this winter?

Eaton Co.

F. J. C.

If you sow alfalfa alone next spring, seeding ought to be deferred until some time in June to give a chance to form a good seed-bed. Alfalfa is a little slow in starting and weeds are liable to get a start and retard the growth of alfalfa.

If you seed this ground to rye this fall, of course, it will act as a cover crop and prevent erosion. The rye plant will also prevent soluble plant food from being leached out of the soil but to form a good seed-bed for alfalfa in June, the ground should be plowed down early in the spring so that proper cultivation will produce the desired seed-bed and destroy the weeds. The chances for a good stand of alfalfa are good if you seed by this method. However, this rye could be plowed down early in the spring, taking pains to compact the soil and seed to oats or barley at the rate of about one bushel per acre and seed your alfalfa with this nurse crop. If the season is dry the barley or oats can be cut early for hay to give the entire ground to alfalfa. The barley or oats will grow quickly and smother most of the weeds so they will not interfere with the growth of the alfalfa. Which ever method you choose, do not forget to lime the soil well and also to inoculate with the proper bacteria, providing alfalfa has not been grown upon the land before.—C. C. L.

ROPEY MILK.

I have four milch cows running in wild pasture and when the milk and cream stands it becomes stringy. Please advise me as to the probable cause.—J. L. C.

In this instance, the udders of the cows are undoubtedly affected with what is known as "Ropey Milk Bacteria." They get this bacteria from wading through muddy places in the pasture or in stagnant water or they can find it in various other environments.

This stringy condition of the milk can be entirely overcome by washing the dairy utensils and the udders of the cows, especially taking pains to bathe the ends of the teats or the opening of the milk duct with a very weak solution of sulphuric acid. You can wash all of your dairy utensils,

Farm Tenancy on Increase

ADMITTEDLY, the ideal system upon which to base our agriculture is one of farmers who own their own land. This makes for stability, contentment and prosperity.

There is little cheap land left in this country. Even in the face of falling prices of all sorts of equipment, commodities and live stock, it now requires so much money to equip and conduct a farm that it is increasingly impractical for the man and wife with small means, no matter how willing and able they are to work long hours, to buy their own farm, and operate it at a profit.

The only way in which most of our ambitious young farmers can finance the purchase of a farm is to assume a heavier mortgage. Now it is a curious fact that the cash rent of most farms is lower than the interest charges against the purchase value of these same farms. The man who buys a farm on contract or an excessive mortgage is really paying a high rent, and should he, through one misfortune or other, be unable to pay interest when due, he stands a good chance of having the farm taken away from him, and of losing all the money he puts into the farm, and all of his time.

Therefore, while ownership is undoubtedly to be preferred to tenancy, a limited amount of tenancy is to be preferred to any substitutes for it, such as more laborers, or more ownership under heavier mortgages.

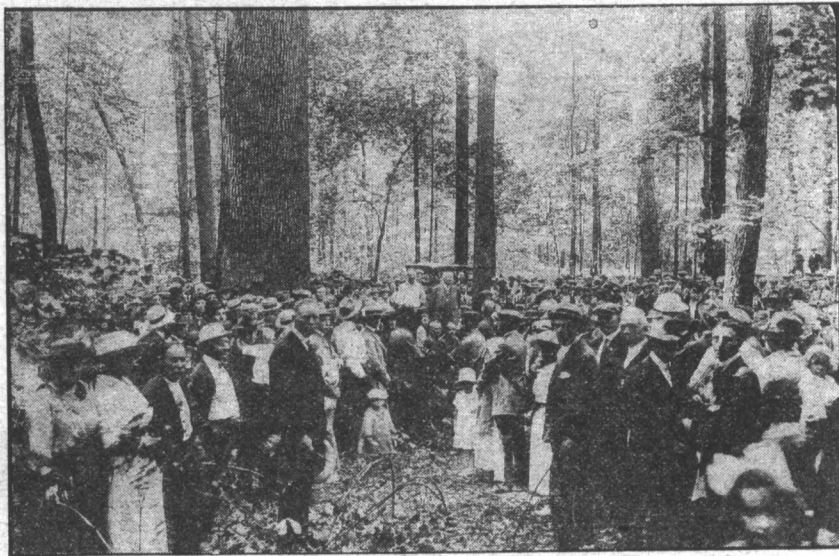
An analysis made in Wisconsin for a period of three years of 265 owned farms, 148 share rented farms, and forty-five cash rented farms, showed \$400 higher net farm income for the rented farms than for owned farms. This is largely because tenant farmers work harder than the owners. In the owner class are always to be found a great many farmers who have quit working hard or have become out of date in their methods. Too many tenant farmers work so hard that they do not take time to live properly. Mortgaged farm owners work even harder than tenants.

The general tendency in leasing arrangements is towards greater definiteness in agreements, towards more workable methods of dividing expenses and receipts, and towards the adoption of arrangements more conducive to good agriculture.

Longer leases are the key to better tenancy. The man who moves from one farm to another takes off all he can, and puts back as little as he must. Wise, indeed, is the landlord who has found a good tenant who will give him every reasonable inducement to remain. As lack of working capital so often spells the difference between failure and success even on a rented farm, the broad visioned landlord who has a capable tenant will make it his business to see to it that his tenant has money to run the farm properly.

W. A. FREEHOFF.

1922 Automobile Tours Planned



Grangers and Tourists Enjoy Program of Music, Declamations and Addresses in the Woodlot of George B. Horton at Fruit Ridge.

THIS is in reply to letters asking for information on the Michigan Farmers' Automobile tours for 1922. Several cars have already been registered, some for both tours—two trips are now being planned for next August.

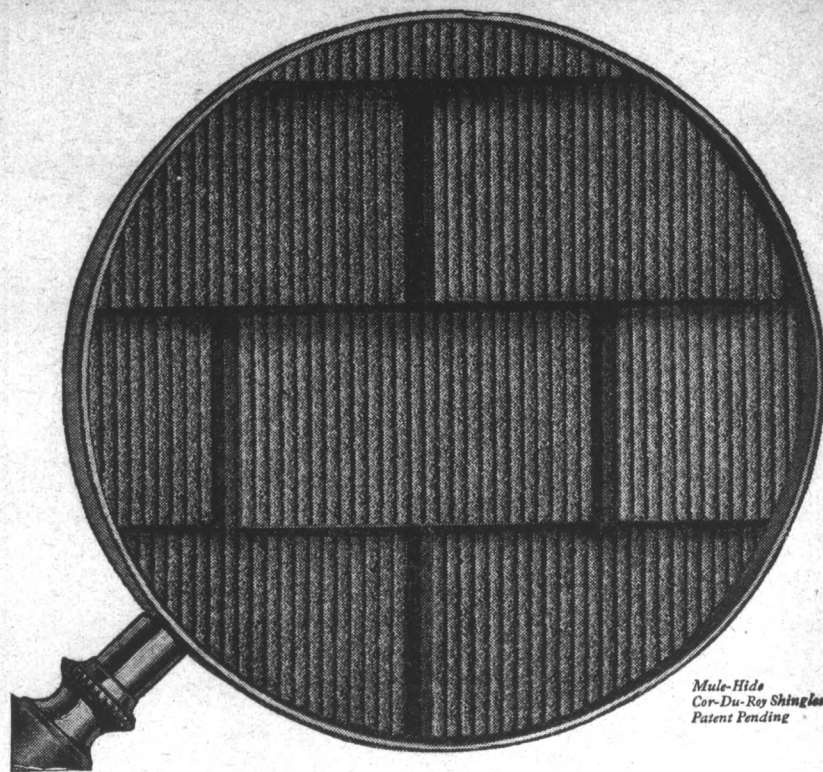
The first tour from southern Michigan to Niagara Falls, will take the first two weeks in August. The second tour will be from southern Michigan to Mackinac, and we expect a number of Ohio, Indiana and Pennsylvania farmers and their wives to join us at the initial camp, which will be in Battle Creek, and possibly on the military parade ground of Camp Custer. The second tour will start about August 16 and take ten days or more for the round trip.

The registration fee for each car in either tour will be three dollars. This assures the car owner a place in the caravan and camp all along either route. He can make his selection of the route when he registers and can change to either route any time before the tour starts. Several have announced they will go on both tours.

The route to Niagara Falls, starting the first of August from our first camp

in the Horton cow pasture, will be to Fremont, Ohio, where we will have a fine camp on the fair ground. Next day to Akron, where we will camp and have been promised a wonderfully fine program by the municipal and civic officials and the grange and farm bureau of that section. From there our route will probably be by way of Salem, Youngstown, Mercer, Pennsylvania, Franklin, Oil City, Titusville, Jamestown and along Chautauqua Lake to Buffalo and Niagara Falls. We will have a fine camp site close to the falls and stay four days. The return route will probably be by way of Buffalo, Erie, Ashtabula, Cleveland, Sandusky, Toledo and home.

Shortly after the return from the the Niagara trip those who go on the tour to Mackinac will gather at Camp Custer, Battle Creek. A big fair, grange and farm bureau program will attract thousands of farmers and their families to the food city, following which the tourists will begin their travels north along the west Michigan pike. Further announcement of the details of this journey, which have not as yet been fully worked out, will be made later.—J. H. BROWN.



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Old established Raw Fur House wants confidential buyer in every locality. If you have trapped or handled furs, previous buying experience not absolutely necessary. We furnish all information free and help you to become successful. Good opportunity to cash in your spare time during winter months. Write at once. Address President. Lock Box 117, Merchants Station, St. Louis, Mo.

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One New 12 H. P. Horizontal Hercules Gas Engine. Has never been run a minute. Just what you need to operate that small cornhusker or buzzsaw. Price \$250.00 F. O. B. Otsego, Mich.

Angle Steel Stool Co.
Otsego, Mich.

HOMEGROWN Natural Leaf Tobacco—Chewing and Smoking—5 lbs. \$1.25; 10 lbs. \$2.50; 20 lbs. \$4.00. FARMERS UNION, Mayfield, Ky.

Expert Fur Judges Make Money

Buying Furs for
ABRAHAM
FUR CO.
St. Louis, U. S. A.
Write us today for full information on how to Grade, Value, and Buy Furs. We will send you our FREE BOOK on this subject worth its weight in gold to anyone who handles furs.

Big Fur Season Ahead!
Be prepared. Get your full share of the real prosperity awaiting Trappers and Dealers that deal with America's Largest and Most Reliable Fur House the Abraham Fur Company of St. Louis, Missouri.

Trappers' Supplies
We carry the largest line of Trappers' Supplies in the World—everything the trapper needs. We have the cash capital to buy in large quantities and offer you real bargains in Traps, Guns, Smoke Pumps, Animal Bait, Rubber Boots, Clothing, etc.

Write for our price list today. Do business with Abraham Fur Co. and you will get the most satisfactory results. We save you big money on supplies—pay you more money for your furs and teach you how to Grade, Value and Buy Furs from others.

Write us today—sure—it's all free.

Abraham Fur Co.
141 Abraham Bldg. St. Louis, Mo.

Wool Wanted

We manufacture 100% virgin wool goods for wool owners, returning all the goods your wool will make, you pay for the making. "Pilgrim Mother" yarn, downy Batting, fleecy Blankets. Comfy Autorobes. Goods also sold direct from factory to user. Write for circulars and details.

WOOLEN MILLS,
Reed City, Mich. Estab. 1833.

Homespun: smoking or chewing tobacco, 10 lb. \$2.50; 20 lb. \$4.00; 50 lb. \$8.00. Collect on delivery. FORD TOBACCO CO., Mayfield, Ky.

ABOUT THE FARM

Farm Practices and Experiences Tersely Told

FARMERS ARE ACTIVE IN LAND CLEARING.

THOUSANDS of acres of cut-over lands in western and northern Michigan will be plowed for the first time next spring, according to L. S. Livingston, land clearing specialist at the Michigan Agricultural College who is basing his prediction upon the large volume of salvaged picric acid which farmers in those sections of the state have purchased through him from the war department.

County agents in Otsego, Missaukee and Mecosta counties have forwarded to Mr. Livingston carlot orders for the high explosive, while less than carlot orders have been received from Emmet, Cheboygan, Kalkaska, Wexford, Manistee, Montcalm, Barry, Allegan, Van Buren and Berrien counties.—R

GETTING THE CELLAR READY FOR STORING THE FARM PRODUCTS.

THE rotting of vegetables, such as potatoes, carrots, cabbage, etc. last year was the result of fungus and bacterial attack. The extreme mildness of the winter was responsible for the severity of the rotting. The activities of the organisms causing decay are speeded up by high temperature and depressed by cold. Warm storage rooms means much rot. The activities of the decay producers are also favored by high moisture. The life activities of the vegetables are also speeded up under warm storage conditions. They give off more moisture. All these things lead to a heavy loss from decay, shrivelling, etc.

With more nearly the normal winter when vegetables can be put in cold storage in the cellars early and held near the freezing point the loss from rotting will be greatly reduced.

The organisms causing decay are common in all garden and field soils. They commonly enter through wounds in the skin of the vegetable. Given a sound product, it will keep, unless it is in direct contact with a rotted vegetable, or is subjected to extremes of temperature and moisture.

The storage cellar should be cleaned of all refuse and thoroughly dried. A sprinkling with formaldehyde solution one pint to ten gallons may be given. However, whitewashing and thorough airing is sufficient, since the rot arises not from the walls of the bins, but from the conditions to which the product is subjected. Potatoes for instance, should be handled carefully so as not to bruise the skins. They should be protected from frost injury. Then if the bins are provided with good aeration and the winter is normal, loss need not be feared. In a word, store a sound product so as to keep it cool and dry.—G. H. Coons, of the M. A. C.

CUTTING DOWN FUEL REQUIRE MENTS.

THE recent drastic reductions in the price of motor fuels are no excuse for carelessness in the utilization of such fuels. The desirability and necessity of maintaining good fuel economy is just as great as ever.

Among the important things affecting fuel economy may be mentioned proper adjustment of the carburetor. All the carbureting accessories such as air meters, fuel vaporizers, etc., should be in first-class working order. The carburetor jets should be clean and all fuel passages must be clear and free of leaks. Leakage of air

through faulty gaskets, badly fitted valves or other places, sometimes causes faults in operation which are improperly ascribed to the carburetor.

Using the choke excessively is also productive of much trouble in causing carbon deposits and in clogging mufflers. This results in a sluggish engine, reduction of power, and, consequently, more fuel. A vicious cycle is thus established.

Valves should be carefully fitted and properly timed. Factory timing is rarely incorrect and when any repairs are made, or any overhauling of the motor is done, care should be taken to check the time accurately. The cooling system has some effect on fuel consumption. Generally speaking, the hotter an engine runs the less fuel will be used, but this has some exceptions. Cool operation results in fuel condensation in the combustion chamber and consequently carbon formation.

Adequate lubrication is also essential. Bearings that are too tight absorb power and it takes fuel to produce power.—F.

STARTS FEEDING GRAIN EARLY.

A PROGRESSIVE dairyman informed us the other day that he started to feed his dairy cows grain early in order to prevent a drop in their milk flow. He knows how impossible it is to get the cows back to a normal flow once they have been allowed to go down because of unnutritious or improperly balanced feed. He therefore supplements his pastures with grain and soon he will be adding ensilage. A suitable grain mixture for this purpose consists of ground oats and corn or barley, and linseed meal. He uses 200 pounds of the oats, about 400 pounds of the corn or barley, and 100 pounds of the linseed meal. When fed to cattle like his Holsteins, each animal receives a pound of the feed to every four pounds of milk which they produce. To the Jerseys and breeds giving milk with a higher per cent of butter-fat the feed is increased to one pound of the grain mixture to every three pounds of milk produced.

DEPENDABILITY OF MILKING MA- CHINES.

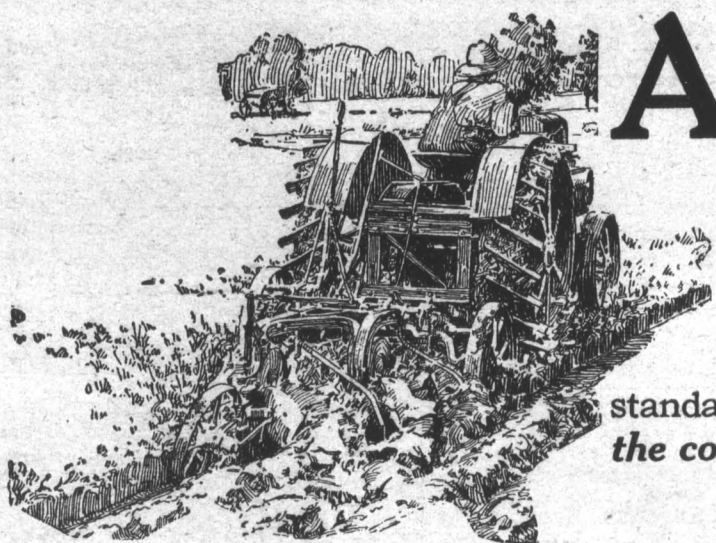
THERE is no question but that today most mechanical milkers are more efficient than the average hand milker when everything is taken into consideration," says Professor O. Erf of the Ohio University. "Their increased use in the future is not a matter of conjecture."

"The dependence that may be placed upon a good machine is of great importance. A well-made substantial machine is necessary for the best results. The milker is used twice a day and in many cases four times a day for 365 days in a year. No other machine on a farm is used so often, hence the necessity for good construction."

FARM PRICES RECOVER.

BUREAU of Labor statistics indicate that the price of farm products for August stood at eighteen per cent above the 1913 base, as compared with fifteen per cent above in July—an advance of three points in addition to an advance of two points for the month preceding. Food is the only other product showing an increase over July. The trend of all other commodity prices show a decline for the month.

What Price - on the WHITNEY Tractor?



A THOUSAND dollars? **Less than that!**
Nine hundred dollars? **Less than that!**
SEVEN HUNDRED DOLLARS?

—YES, MUCH LOWER THAN THAT!!

The Whitney Tractor—the same reliable, quality-built Whitney that has heretofore sold for \$1,175—is coming on the market at *a new, unheard-of price*. A price so astoundingly low that it will bring this sturdy, standard tractor easily *within the means of every farmer in the country*. Last month Whitney advertised

The Most Sensational Price Announcement In Tractor History

Brief Specifications

Power—9 H. P. on drawbar; 18 H. P. on belt.

Dimensions—Length, 123"; width 56"; height 58".

Weight—Domestic shipping, 3000 lbs. Boxed for export, 3900 lbs.

Transmission—Selective, 3 forward-1½, 2½ and 4 miles per hour. Reverse 2 M. P. H. All gears forged, steel cut and hardened, running in oil.

Motor—2 Cylinder opposed type 5½" bore, 6½" stroke, 750 rev. per minute.

The Whitney is a sturdy, time-tested, field-proven, two-plow tractor with the traction and strength of a three-plow tractor. Number of plows recommended for use with Whitney, two 14 inch; size thresher recommended 22x34. Bearings all oversized; drive wheels 6 inches larger than found on the average 2 plow machine. No extras to buy. A one-man tractor which will plow 6½ to 7 acres a day on intermediate speed or draw a double eight-foot disc harrow at the same speed—2½ miles per hour.

The advertisement told the story of the new Whitney plan of manufacture that allows the production of this standard machine at such an unprecedented price. There's no mystery in this plan. It is simply a case of big business—*standardized, quantity-production and national distribution*.

The production of a good, medium-size tractor so reasonably priced that every farmer could afford to buy it— that was the big vision of the men who first conceived the Whitney plan. They organized a \$5,000,000 corporation to finance the undertaking. They worked

out a big-scale production plan and a nation-wide scheme of distribution that cut manufacturing costs to a minimum.

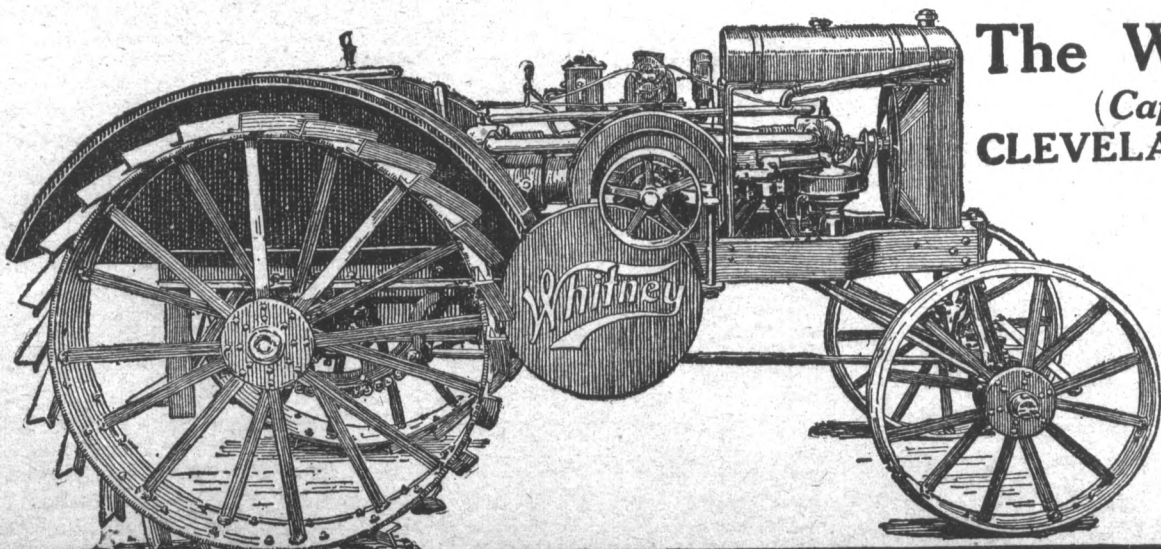
And they have succeeded in producing this standard, time-tried tractor to sell at a price as low as the cost of a good team of horses! That is the story of the new-price Whitney tractor.

And the price is all that is new. It is the same sturdy, reliable Whitney that has given such wonderful satisfaction on hundreds of farms the past five years. *A staunch, slow-speed machine with power a-plenty for any farm power job.*

New Price December 1st

The new Whitney price will be announced December 1. *You can bank on a big surprise!* For Whitney is lowering the price on this popular machine to the point where, once you know this dependable outfit, you'll say "*NOW I'll buy a tractor.*"

December 1st--the big cut. In the meantime it would be time well spent to investigate the Whitney. The attached coupon will bring you the complete facts on this proven tractor.



The Whitney Tractor Co.
(Capitalized at \$5,000,000)
CLEVELAND OHIO

The Whitney Tractor Co., 2747 Prospect Ave.,
Cleveland, O.

Gentlemen: Please send me complete information on
the Whitney Tractor.

Name _____

Street or R. F. D. _____

Town _____

State _____



Why tinker with costly ignition machinery when the inexpensive Columbia "Hot Shot" Ignition Battery is so easy to have?

Think of the advantages of using Columbia Dry Batteries on the farm:

- inexpensive
- long lived
- simple, no parts to care for
- portable, put electricity wherever you want it
- safe, free from fire risk
- easily obtained, for sale everywhere

A COLUMBIA "Hot Shot" Ignition Dry Battery costs little; is free from trouble; gives sure-fire ignition for a long, long time; is inexpensive and easy to renew.

A solid package of pep—4 cellpower

No machine parts to putter with nor protect from rust, nothing that constantly requires expensive "service" to keep it working.

Stop today—at electrical, hardware, or auto accessory shop, garage, general store, or implement dealer's—and get this fuel saving, power increasing ignition battery for your gas engine. Demand the genuine Columbia "Hot Shot" Dry Battery.



The world's most famous dry battery. Fahnestock Spring Clip Binding Posts at no extra charge

Columbia Dry Batteries

—they last longer

1162134

Easy, Now, To Saw Logs and Cut Down Trees



Thousands of Farmers, Woodsmen and Others Have Made the Old Hard Job the Easiest, With the Famous OTTAWA.

YOU, too, can easily clear your land and saw up logs into any lengths, providing needed fuel for yourself and to sell by using the OTTAWA—the Fastest Cutting One-Man Outfit. Easiest moved and most powerful. Takes the back-ache and hard work out of wood cutting: A great labor-saver. Does the work of many men. A big money-maker. Hundreds of OTTAWA owners are making splendid profit sawing for neighbors and selling wood in towns and cities. In this way the OTTAWA quickly pays for itself. When not sawing use as a portable engine for running grinders, shellers, pea hullers, washing machines, pumps and other power jobs. The first 4 cycle Log Saw built in America. More in use than all other log saws and so good they are the standard by which all log saws are judged.

OTTAWA LOG SAW

Now Selling At New Lower Prices.

Friction Clutch: Lever control. Start and stop saw without stopping engine. 4H-P. Four Cycle frost-proof motor. Magneto equipped at no extra charge. No batteries needed. Direct gear drive.

30 Days' Trial: Try the OTTAWA for a whole month to prove all claims. Liberal 10-Year Guarantee backed by largest Log Saw factory in the world.

Power Force Feed: Saws the human way. Easiest, quickest and safest. 310 strokes a minute. Plenty of power for sawing and belt work.

Special Offer, NOW! Get New OTTAWA 32-page book printed in 3 colors, showing what others are doing with this greatest labor-saver and profit-maker. Write Today.

Cash or Easy Payments Now

H. C. OVERMAN, Gen'l Mgr.
OTTAWA MFG. CO.
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FREE BOOK

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Without obligation to me, please send me your Free Book, and New Lower Prices on the Improved Ottawa Log Saw.

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



Wheels Like a Barrow



Easy to Move from Cut to Cut

One Man Log Saw



Cuts Down Trees.

Stock Farming

ON HOUSING THE BOARS.

WHEN talking with a successful Tuscola county hog breeder a few days ago he remarked that he always shied at purchasing breeding animals from a breeder who was not particular about keeping his boars securely penned away from his sows. In one instance he stated that a breeder had five or six young boars running in a field with a number of sows, all of breeding age. "How is that breeder to know the breeding of the pigs coming from these sows. On the other hand, when a man has his boars housed in secure pens then I know he is careful and I assume that if he is careful in one thing he is pretty sure to be particular about other matters, so if I find an animal in his herd which suits me I am sure to buy if the price is right. Of the careless man I would not buy breeding stock under any consideration."

CEMENT WATER TANK.

A few years ago I remember reading your description of a water tank for stock built of cement blocks. I wish to build a tank and would like to know if you still think well of them, and how they are built. How deep the foundation should go in clay; how reinforced, and any other details you can give.—H. S. F.

A cement block watering tank is all right, but it is no better than one built out of concrete. The reason I built my tank of cement blocks was because on another job I had a number of cement blocks left and I utilized them in a watering tank and it is satisfactory. Of course, these cement blocks must be reinforced. You can lay any kind of steel rods or heavy fence wire on each layer. Two strands of fence wire would be sufficient reinforcement. Of course, a cement block tank like a grout tank, must be plastered on the inside with rich mortar made of fine, clean sand and cement, then it should be washed with a cement wash, just as you would a cement cistern, otherwise the water will seep through.

If you haven't the cement blocks or have to pay too much for them, it probably would be just as well to make your form and pour your concrete properly reinforced, and nothing can be any better than this when the job is well done. You ought to go deep enough into the ground with your foundation wall to get below the frost. For a watering tank you ought to go two and one-half feet anyway. Inside the foundation wall it is not necessary to go as deep. In fact, there is little danger of frost getting through this wall and interfere with the cement in the bottom of the tank.—C. C. L.

SUNLIGHT AND SANITATION FOR HOGS.

ALTHOUGH hogs are properly supposed to thrive in dirt, they need clean, sanitary quarters, with plenty of fresh air, with lots of sunshine and with comfortable warmth in winter. How to build a hog house with these sanitary features is told by John Evard, swine specialist, and W. A. Foster, building expert.

Sunlight has been found in experiments with hogs to be one of the chief essentials in the promotion of health among swine. It gives warmth and promotes dryness, facilitates lighting, encourages ventilation, and kills disease-producing germs and generally makes for better sanitation and comfort in a herd. Every hog house should be planned so that some time during the day, direct sun rays will reach ev-

ery inch of the building's interior.

How to get adequate sunlight into the hog house at the right place and at the right time is a nice problem which is carefully worked out in this bulletin. With its rules and tables and suggestions as a basis, proper window locations for all types of houses and for all latitudes may be determined quite readily.

The bulletin also presents detailed information about various other construction devices that promote sanitation, and convenience, as pen construction, pen gates, ventilation, feeding floors and wallows.

Mr. Evard, one of the authors, says that satisfactory gains in swine feeding cannot be secured except by giving attention to proper shelter and sanitation for the swine as well as to feeding. "Warm, sanitary houses, with abundant sunshine, must be provided," says the bulletin. "Ample food must be given. Self-feeders have done much to solve the feeding problem. The hog has not abused this privilege. He neither wastes nor overeats. He never abuses a comfortable commonsense house. The swine-producer's problem is to furnish the food and the shelter and keep the hog comfortable, and he will do the rest."

LIVE STOCK PRODUCTS IN MICHIGAN.

THE total value of live stock products, which includes the various items from the dairy, the chicken coops, the sheep shed and the apiary, but not including the animals sold or slaughtered, from all the counties of Michigan, amounts to \$111,076,235. The dairy products totaled \$71,623,778, and the honey and wax \$416,959. These figures are taken from the 1920 census report.

DAIRY COW COSTS.

FIGURES on the cost of maintaining dairy cows, just released by F. T. Riddell, of the farm management department at the Michigan Agricultural College, give \$142.80 as the total direct cost per cow during the past year in the average herd. The material upon which this estimate is based was gathered from a cost accounting route in Wayne and Monroe counties, which included 528 animals on twenty-three different farms, and was checked carefully by W. J. Kurtz, of the college staff.

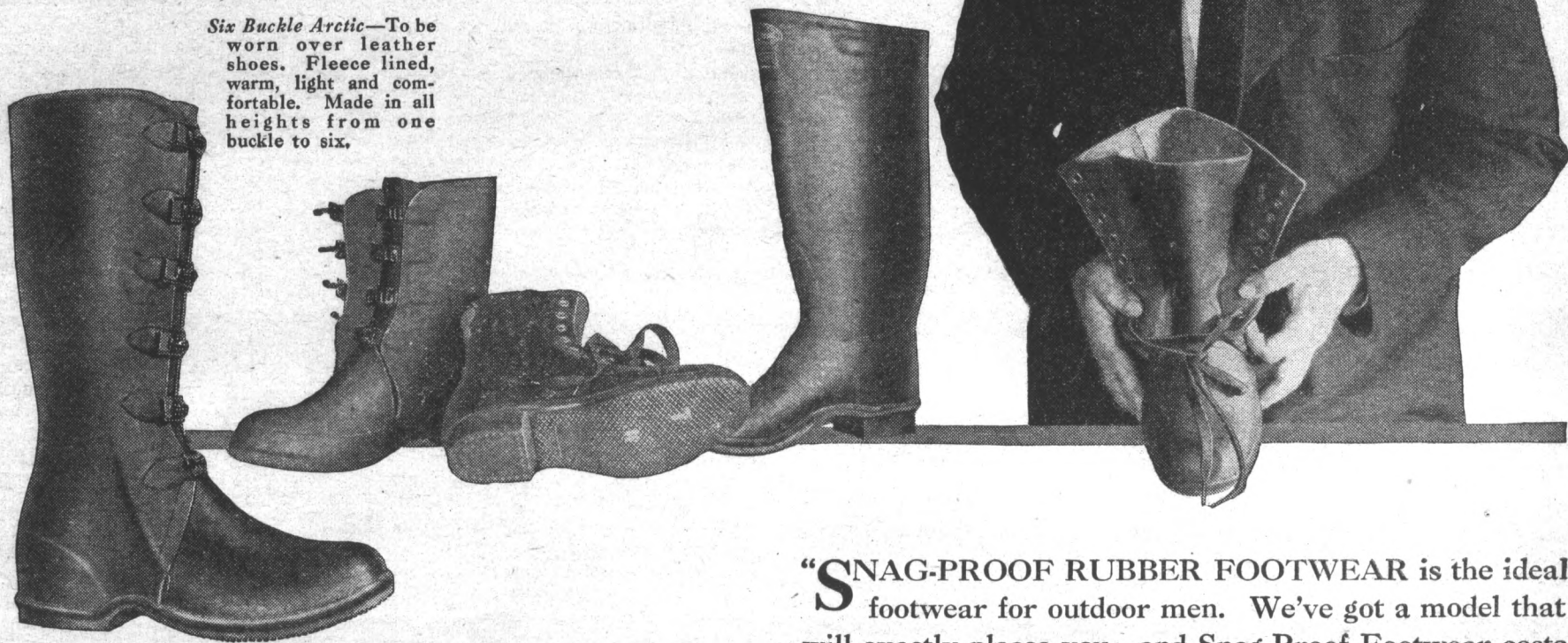
Returns from the herds studied on the route totaled \$235.06 per cow, leaving a net average return, above direct costs, of \$92.26 a year per cow. Costs included \$103.36 feed per cow, and \$39.44 for other costs, including maintenance of entire herd and feed for young stock and bulls. Returns included \$175.88 from milk and cream sales, and \$59.18 from other sources, including sale of stock and manure, and dairy products used in the home.

Man labor required to care for one dairy cow was found to total 151 hours a year, at an average price of hired labor of 24.9 cents per hour, including board. Total investment per cow ran to \$357.05, equipment and buildings being included in the investment figures.

An interesting feature brought out in the records was the fact that different herds, because of greatly differing production ability per cow, showed decided variance in earning power. Nine herds averaged 8,305 pounds of milk a cow, for a net return of \$111.62 per head; while eleven herds averaged but 6,310 pounds of milk per cow, for a net return of only \$92.94 an animal.

“What KIND of shoes are you wearing right now?”

Six Buckle Arctic—To be worn over leather shoes. Fleece lined, warm, light and comfortable. Made in all heights from one buckle to six.



Look for this green oval when you want satisfaction.



Pennsy—a water-and-weather-proof rubber shoe made to be worn like a leather shoe. It costs less—wears longer in exposure and protects the feet.

Hi-Top—Made full and wide to accommodate heavy woolen socks for cold weather wear; extra high tops—rawhide laces.

“**SNAG-PROOF RUBBER FOOTWEAR** is the ideal footwear for outdoor men. We’ve got a model that will exactly please you—and Snag-Proof Footwear costs less than leather, is warmer, absolutely water-and-weather-proof, and will outlast leather in exposure.

“Take this shoe in my hand. It’s our Top Sawyer—a very popular cold weather shoe, warmly lined on the inside, and made over-size so you can wear it over woolen socks. It is warm, springy, light and comfortable. Note how perfectly it’s made—absolutely water-tight. Our special steam cured in vacuum process makes it exceptionally long wearing and serviceable.

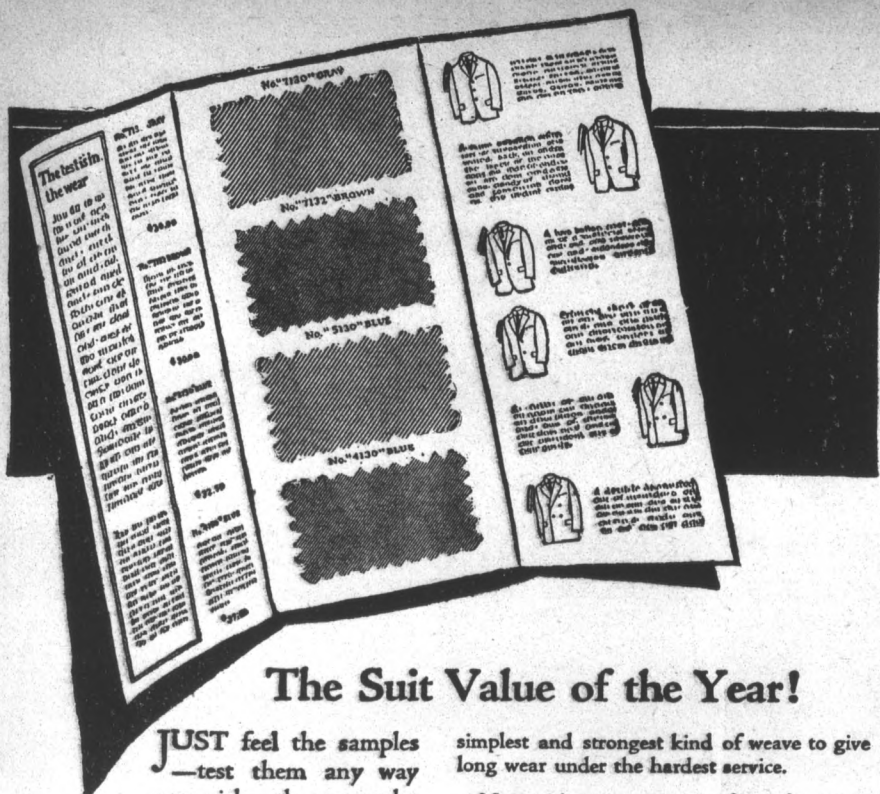
“Some of the other popular Snag-Proof models are illustrated on this page. There is the short boot, for those who have lots of muddy or swampy work. And other types to fit every need and pocket. Let me show you the Snag-Proof Line. It is really exceptional in values and quality. Come in to see me.

(Signed) Your Snag-Proof Dealer”

You’ll like the Snag-Proof dealer in your town. He’s a fine fellow, who’ll be glad to show you the right kind of footwear for the kind of work you’re doing. Let him explain why the green oval label—Snag-Proof—has been for over fifty years the unquestioned trade-mark of quality and satisfaction in rubber footwear.

LAMBERTVILLE RUBBER COMPANY, Lambertville, N. J.

“SNAG-PROOF” Rubber Footwear



The Suit Value of the Year!

JUST feel the samples—test them any way you wish—those samples of serge from the little folder which we will send you free.

That good old Clothcraft serge! In blue, gray, and brown; woven of finest balanced worsted yarn, carefully chosen to secure greatest natural fibre strength. Then woven in the

simplest and strongest kind of weave to give long wear under the hardest service.

Now pick your own type from the smart "real man" styles shown. And read what Clothcraft manufacturers have learned in 75 years of service; how they eliminated fads and frills, devised labor-saving short-cuts in manufacture; how they buy raw material in large quantities—all to give you maximum style and service for least money. Write for folder today.

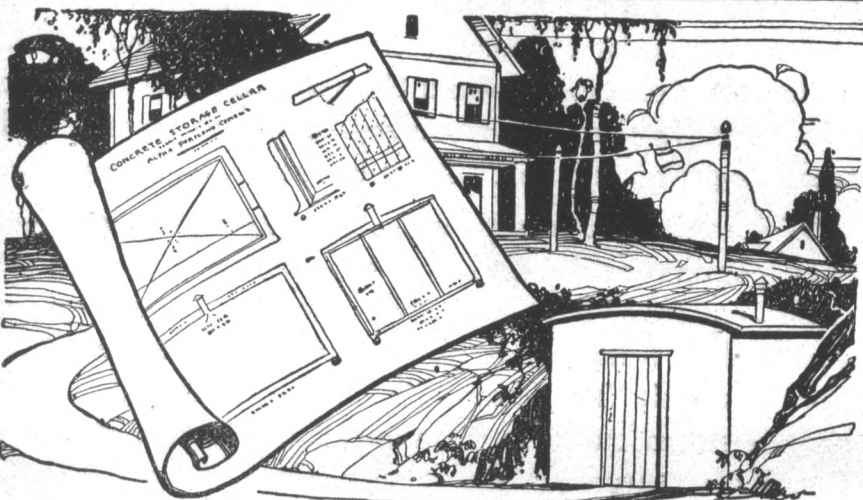
THE JOSEPH & FEISS CO., 2154 West 53rd Street, Cleveland, O.

THE JOSEPH & FEISS CO., 2154 West 53rd St., Cleveland, O.

Please send me without obligation folder containing actual swatches of the Clothcraft serges, etc.

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Free Plan for Cement Storage Cellar

You can build this and many other small farm improvements easily and economically with the aid of free ALPHA CEMENT Service Sheets and Bulletins that the local ALPHA CEMENT dealer has. Get in touch with the ALPHA CEMENT dealer and tell him what you are planning to build. The literature we have furnished him will be of real assistance to you in any new work that you undertake.

Cement buildings and improvements are fireproof, rat-proof, dry, clean and last practically forever. Insure the best cement construction by the use of good sand, good stone and ALPHA CEMENT.



ALPHA'S unvarying high quality is the result of over thirty years of experience in cement-making. Every bag of ALPHA CEMENT is guaranteed to meet fully standard specifications.

Alpha Portland Cement Company:
Chicago, Ill. Easton, Pa.

140 South Dearborn St.
Bellevue, Mich., New York, Boston, Philadelphia,
Pittsburgh, Baltimore, Ironton, Ohio

Plants at: Bellevue, Mich., Alpha, N. J., Cementon,
N. Y., Manheim, W. Va., Jamesville, N. Y., Martins
Creek, Pa., Ironton, O., LaSalle, Ill.

Use Alpha Cement

WINTER Will Soon Be Here

If you have a FUR COAT—FUR ROBE—FUR LINED COAT or LADIES FURS that needs repairing or made over into the latest styles send them to

THE BLISSFIELD TANNERY, Blissfield, Mich.

20 years of experience at this class of work, insures you a square deal.

Horticulture

GASING THE BORER.

IN that war which farmers carry on against the destructive peach-tree borer, gas, as in human warfare, is replacing cold steel.

Scientists are now holding a series of demonstrations on the use of paradichlorobenzene, a chemical which releases a gas that seeps into the soil and gets ninety-five per cent of the borers. It is far more effective than "worming" with a knife, the old method, and may be secured from wholesale druggists at a cost of about three cents for each tree.

First put to such use three years ago by E. B. Blakeslee, of Ohio, the chemical has already saved large sums to growers, and is being pushed by agricultural colleges everywhere. Provided trees under six years of age are not treated, and provided that no more than an ounce of paradichlorobenzene is used to a tree, there is no danger of injury.

Following is the method which has given best results:

"Clear the ground and level it for a circle of six inches from the trunk. Remove gum from the bark, and then lay down the girdle, using not more than an ounce of the chemical, evenly distributed in a ring about two inches from the trunk, and an inch wide.

"Cover with fine soil, mounded and compacted to a cone, and leave it so for at least three weeks. If the soil has been wet, wait from four to six weeks before uncovering.

"Late September and early October, it has been discovered, are the best times to apply the treatment."

NITRATES FOR ORCHARDS.

OUR fathers were content to wait ten to fifteen years after setting an orchard before it came into bearing. In this hurry-up age we will not wait that long.

There are two ways to get a bearing orchard in a comparatively short time; one is to set those varieties which bear young, such as Wealthy and Wagener, and another way is to hasten the growth of the trees by means of fertilizers. Experiment has shown that nitrate of soda is one of the very best fertilizers for orchards. Applied in quantity of from a tea cup full for young trees to a maximum of four pounds for old trees, it is of great benefit.

The above information may be obtained from the bulletins of the experiment stations of Virginia, Oregon and Michigan, and doubtless other states. If that were all, this article would be of little use but, in every case, the bulletins do not tell the full story. Digest the following fully before you pin your faith too firmly to nitrates.

Nitrate of soda and its chemical brother, sulphate of ammonia, stimulates vegetative growth. They will cause the tree to grow rapidly and throw out numerous shoots, besides increasing the setting of buds for the next year, but there are two vital results of nitrate applications which the experiment stations fail to mention, though no doubt the failure is not intentional, here they are, get them:

Nitrate, applied before the growth starts, in the spring, retard the ripening of the fruit by a matter of from ten days to two weeks. Does that fact mean anything to you? To me, it means that my neighbors have picked their fruit and supplied the markets before my fruit is ripe. It means that an early freeze is apt to catch the

fruit unpicked. It means delaying gathering fruit until the nasty and uncertain weather of late fall or even early winter.

Point number two is just as vital, perhaps even more so. Nitrate applications affect the color of the fruit so that normally red apples will show considerable green and, in some cases, fail entirely to take on the much desired red. Now what does that mean?

The markets demand a red apple. Red apples will outsell green or yellow apples every time. In case of abundance, the red apples will sell when the buyer will not even look at green or yellow ones. A few varieties like Grimes, Winter Banana and Golden Delicious may sell on their merits but only to people who know their worth.

Use nitrates, sparingly, on young trees which, through neglect, have ceased to bear good crops. Apply as a spray solution or by simply throwing it around the tree far out, but better go slow on nitrates if your orchard is in a profitable bearing condition.

L. B. REBER.

The matter to which Mr. Reber refers is a debatable one. Many have been very successful with the use of nitrates in the orchard, while others have had results similar to those Mr. Reber refers to. A discussion of the subject by our readers should prove of value. We would be pleased, therefore, to hear from those who have had experience with any form of nitrates, giving the method of use and the results obtained.—The Editors.

MICHIGAN LEADS IN SMALL FRUIT.

IN the year 1909 Michigan occupied third place in the acreage devoted to small fruits. Since then her position has advanced and now she is in first position among all the states of the Union in this line of agriculture. Her total acreage, according to the 1920 census figures, is 21,021. New York comes second with 20,412 acres; Missouri third with 16,768, and New Jersey fourth with 15,374 acres. Of the above acreage of small fruit in Michigan, 8,048 acres are given over to the production of strawberries.

BIG PEACHES.

THE publicity given by the state press and agricultural papers to a peach known as "Stump the World," grown in Kent county, has aroused considerable comment among peach growers and brought out some big peaches in local show windows. The Stump the World is not a new variety having been grown in Van Buren county many years but not comparing in popularity with standard varieties. It is, of course, a fact that a small crop in peaches always means an unusual development of the fruit on the trees and for this reason all varieties were unusually large this year. Numerous specimens of Crawford, Elberta and Smock were shown, measuring eleven to twelve inches in diameter, and weighing ten to eleven and a half ounces, but it remained for G. H. Kelley, fruit farmer living two miles south of Covert to show real peaches. He brought in a basket of the J. H. Hale variety weighing from eleven to thirteen ounces each, while one monstrous specimen measured thirteen and a half inches in circumference and balanced the scales at an even sixteen ounces. Compared with these specimens the far advertised "Stump the World" would look very ordinary. This big peach displayed in a bank window at Benton Harbor attracted much attention.—E. R. Root.

The "U.S." Boot

Millions of farmers know this honor-mark of quality—the famous "U. S." Seal. Look for it whenever you buy rubber footwear.

Note the special "Rocker" last—See how the foot of the boot curves up toward the toe instead of lying flat. This means that in walking the boot rocks forward without excessive wrinkling at the instep.

The "Pitch-forward" leg—Instead of being built straight up - and - down, the leg is pitched or inclined forward. So, instead of sliding and chafing at every step, it allows the utmost freedom of motion.

At the Instep—8 layers of fabric and tough rubber mean long life combined with perfect flexibility.

This "spike" side stay, backed by the broad collar with 6 extra layers of rubber and fabric, keeps the boot upright and springy—prevents sagging down around the ankles.

11 layers here! Right back of the heel is where lots of boots give way. The "U. S." Boot has 11 thicknesses at this point! It's built so as to hug the heel properly and prevent chafing.

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Seventy-five years of experience are behind the "U. S." line of rubber footwear. It is complete with a type for every need—all built in the same rugged, reliable way—for men, women, and children.

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Look for this seal on all



"U.S." Rubber Footwear

HEARING ON CORN BORER QUARANTINE.

A FORMAL hearing to consider further steps necessary to prevent the spread of the European corn borer, which now threatens to invade the corn belt, will be held at Washington, D. C., October 11, by the Federal Horticultural Board of the United States Department of Agriculture. Federal quarantines against the pest now exist in the states of New Hampshire, Massachusetts, New York and Pennsylvania. Reports of field investigations already indicate a very rapid spread of the borer during the present season, with new infestations in northwestern Pennsylvania and in northern Ohio, and the survey is still incomplete. The proposed quarantine line from Lake Michigan and the Indiana line south to the Ohio river and thence east. It is an open question whether the protection of noninfested areas that can be secured through quarantine action from now on, will justify the expense of enforcement and the interference with commerce.

The hearing will take up this whole question, which may result in a reshaping of the board's policy in combating the spread of the pest. It will cover the application of any possible quarantine to corn and broom corn, including all parts of the stalk; sudan grass, celery, green beans in the pod, beets with tops, spinach, rhubarb, oats and rye straw as such or when used as packing, cut flowers or entire plants of chrysanthemum, aster, cosmos, zinnia, and hollyhock; also cut flowers or entire plants of gladiolus and dahlia, except the bulbs without stems, and other herbaceous plants likely to carry the pest to new regions.

Persons interested in the proposed steps to be taken by the board may appear at the hearing either in person or by attorney.

RYE MARKET MAY IMPROVE.

THE failure of agriculture in Russia promises to develop a rye market for American growers and since Michigan is the leading rye state of the Union the news is of peculiar interest to the farmers of the state. In the province of Riga which, before the war, was a leading rye exporting section, there now comes word that rye will be imported. The comparatively small acreage planted there in 1920 has been quite seriously damaged by drought and the outlook for planting this season is for another small acreage. Michigan Rosen rye is now being shipped to Denmark, Germany and other countries which originally secured this type of rye from the Riga district.

THE RURAL TEACHER AND AGRICULTURE.

FOR a teacher to be able to cover the broad subject of agriculture even in a most superficial way is not to be expected after one month of training at a summer school. Certain teachers may, however, develop certain hobbies, such as nature study or a school garden. One may be an amateur botanist and interest school pupils in collecting weeds and grasses for analysis. One may make collections of insects; another may lead the school in making a survey of the crops grown in the school district, or of the different breeds of live stock.

These and other studies are important contributions to the study of agriculture and may be followed to great advantage as diversions from the regular school courses.—W. E. McMULLEN, Huron County.

Seed corn is best chosen in the field rather than from the bin, but must come from stalks which mature naturally and not prematurely as a result of root disease.—G. H. C.

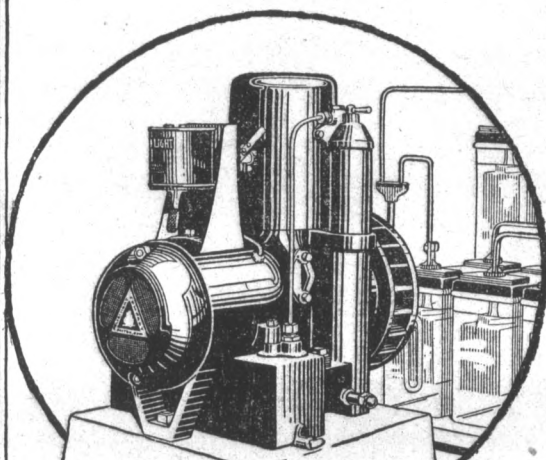
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WORLD EVENTS IN PICTURES



The United States-Canadian Peace Arch at Blaine, Washington.



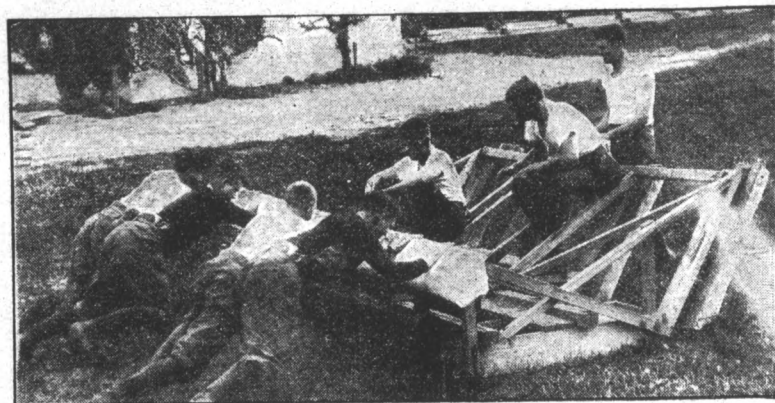
President Harding takes definite stand against bonus for healthy war veterans, in speech at Ritz Carlton Hotel, Atlantic City.



Captain of "Army" football team ready for this year's battles.



An unknown sea monster cast up on New Jersey coast. Scientists think it a cross between a whale and sea cow.



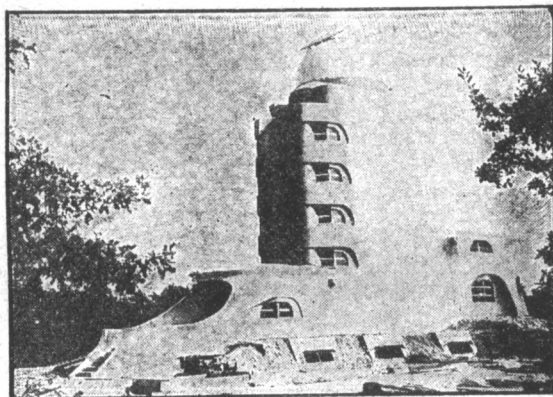
Harvard football candidates developing "push" for a "stone wall" defense by shoving this roller around the field.



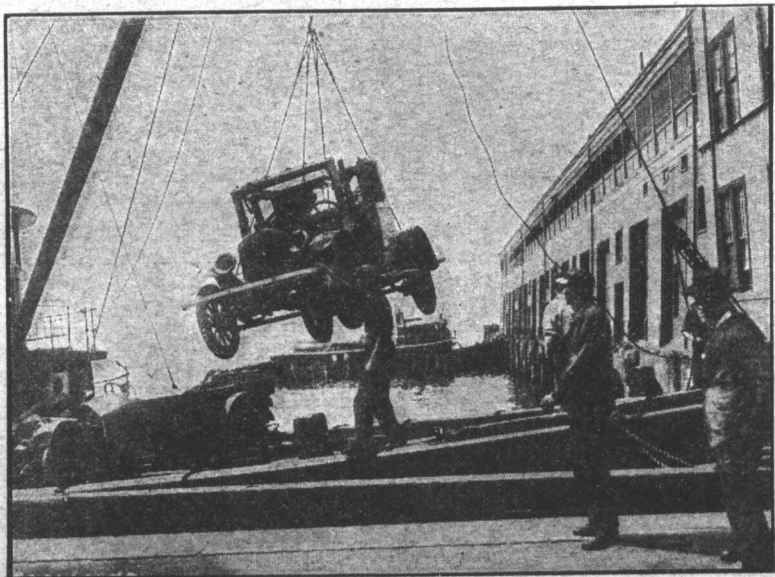
New York homeless children get candy treat from war orphans of France.



Alfons Kurtzo does stunts on top of twenty-eight-story building.



Professor Einstein's observatory where he will experiment on his relativity theory.



East River at the foot of Tiffany Street, New York, is the graveyard for stolen motor cars.



Starving Russians gather at the American Relief Administration at Baranowice for food.

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

Copyright by Little Brown & Company

"When did you get this?" Eaton asked, looking out.

"Just now."

"How could you get it here?" Eaton questioned, watching the conductor's face.

"We've had train instruments—the emergency telegraph—on the wires since four o'clock and just got talking with the stations east; wires are still down to the west. The message came through yesterday some time and was waiting for you at Simons; when we got them this morning, they sent it."

"I see; thanks," Eaton, assured that if the conductor had seen anything, he suspected no significance in what he saw, closed his curtains and buttoned them carefully. The conductor moved on. Eaton took a small English-Chinese pocket-dictionary from his vest pocket and opened it under cover of the blanket; counting five words up from thicket he found they; five down from knot gave him know; six up from youngster was you; six down from omniscient was one; seven up from issue was is; and so continuing, he translated the nine words to:

"They know you. One is following. Leave train instantly."

Eaton, nervous and jerky, as he completed the first six words, laughed as he compiled the final three. "Leave train instantly!" The humor of that advice in his present situation, as he looked out the window at the solid bank of snow, appealed to him. He slapped the little dictionary shut and returned it to his pocket. A waiter from the dining car came back, announcing the first call for breakfast, and spurred him into action. Passengers from the Pullman at the rear passed Eaton's section for the diner. He glanced out at the first two or three; then he heard Harriet Dorne's voice in some quiet, conversational remark to the man who followed her. Eaton started at it; then he dressed swiftly and hurried into the now deserted washroom and then on to breakfast.

The dining car, all gleaming crystal and silver and white covers within, also was surrounded by snow. The space outside the windows seemed somewhat wider than that about the sleeping car. And a moment before Eaton went forward, the last cloud had cleared and the sun had come out bright. The train was still quite motionless; the great drifts of snow, even with the tops of the cars on either side, made perfectly plain how hopeless it would be to try to proceed without the plow; and the heavy white frost which had not yet cleared from some of the window-panes, told graphically of the cold without. But the dining car was warm and cheerful, and it gave assurance that, if the train was helpless to move, it at least offered

A Summary of What Has Already Been Told

Gabriel Warden, capitalist and railroad director, mysteriously comes to death in his automobile. Connery, special conductor, gets orders to take charge of regular train and to obey requests of a passenger who will identify himself by a special card. Five passengers get on: Mr. Dorne and his daughter Harriet, a man named Avery, an Englishman, and a young man calling himself Philip D. Eaton. Mr. Dorne makes himself known to Connery by the card referred to, and Miss Dorne becomes acquainted with Mr. Eaton. The following morning the train was stuck in the snowdrift. Eaton gets a telegram.

luxuries in its idleness. As Eaton stepped inside the door, the car seemed all cheer and good spirits.

Fresh red carnations and ruddy roses were, as usual, in the cut-glass vases on the white cloths; the waiters bore steaming pots of coffee and bowls of hot cereals to the different tables. These, as usual, were ten in number—five with places for four persons each, on one side of the aisle, and five each with places for two persons, be-

furthest of the small tables; a traveling-salesman-looking person was washing down creamed. Finnan had dock with coffee at the next; the passenger who had been alone in the second car was at the third; the Englishman, Standish, was beginning his iced grape-fruit at the table opposite Miss Dorne; and at the place nearest the door, an insignificant broad-shouldered and untidy young man, who had boarded the train at Spokane, had just spill-

Mother's Brown Beauties

By LeRoy W. Snell

Some sing about the beauty of the lily or the moon.

And others of the fragrance of the fields in May and June.

But I sing of a beauty that has them beat a mile

It's the color of Ma's doughnuts when they're fried in proper style.

There's a fragrance that come stealing as you wander through the door,

Beats all the smells of nature and a lot of them some more.

And you feel a hunger creeping down and up and up and down

When you spy the milk pan heaping with those jewels plump and round.

Oh! a doughnut hot and crispy, golden brown, like Mother fries,

With a glass of milk beside it is a feast for hungry eyes,

But it's better for your stomach, and the feeling when you're done

With a dozen of Ma's doughnuts, is, you'd like another one.

side the windows on the other side of the car.

Harriet Dorne was sitting facing the door at the second of the larger tables; opposite her, and with his back to Eaton, sat Donald Avery. A third place was laid beside the girl, as though they expected Dorne to join them; but they had begun their fruit without waiting. The girl glanced up as Eaton halted in the doorway; her blue eyes brightened with a look part friendliness, part purpose. She smiled and nodded, and Avery turned about.

"Good morning, Mr. Eaton," the girl greeted.

"Good morning, Miss Dorne," Eaton replied collectedly. He nodded also to Avery, who, stiffly returning the nod, turned back again to Miss Dorne.

Amy and Constance, with their parents, occupied the third large table; the other three large tables were empty. "D. S." was alone at the

ed half a cup of coffee over the egg spots on his lapels as his unsteady and nicotine-stained fingers all but dropped the cup.

The dining car conductor, in accordance with the general determination to reserve the larger tables for parties traveling together, pulled back the chair opposite the Englishman.

As he was about to seat himself there, the girl again looked up. "Oh Mr. Eaton," she smiled, "wouldn't you like to sit with us? I don't think father is coming to breakfast now; and if he does, of course there's still room."

She pulled back the chair beside her enticingly; and Eaton accepted it.

"Good morning, Mr. Avery," he said to Miss Dorne's companion formally as he sat down, and the man across the table murmured something perforce.

As Eaton ordered his breakfast, he appreciated for the first time that his coming had interrupted a conversation

—or rather a sort of monologue of complain on the part of Standish addressed impersonally to Avery.

"Extraordinarily exposed in these sleeping cars of yours, isn't one, wouldn't you say?" the Englishman appealed across the aisle.

"Exposed?" Avery repeated, more inclined to encourage the conversation.

"I say, is it quite the custom for a train servant—whenever he fancies he should—to reach across one sleeping?"

"He means the porter closed his window during the night," Eaton explained to Avery.

"Quite so; and I knew nothing about it—nothing at all. Fancy! There was I in the bunk, and the beggar comes along, pulls my curtains aside, reaches across me—"

"It got very cold in the night," Avery offered.

"I know; but is that any reason for the beggar invading my bunk in that way? He might have done anything to me! Any one in the car might have done anything to me! Any one in your bally corridor-train might have done anything. There was I, asleep—quite unconscious; people passing up and down the aisle just the other side of a foolish fall of curtain! How does any one know one of these people might not be an enemy of mine? Remarkable people, you Americans—inconsistent, I say. Lock your homes with most complicated fastenings—greatest lock-makers in the world—burglar alarms on windows; but when you travel, expose yourselves as one wouldn't dream of exposing oneself elsewhere. Amazing places, your Pullman coaches! Why, any one might do anything to any one! What's to stop him, what?"

Eaton, suddenly reminded of his telegram, put a hand into his pocket and fingered the torn scraps; he had meant to destroy them, but had forgotten. He glanced at Harriet Dorne.

"What he says is quite true," she observed. She was smiling, however, as most of the other passengers were, at the Englishman's vehemence.

They engaged in conversation as they breakfasted—a conversation in which Avery took almost no part, although Miss Dorne tried openly to draw him in; then the sudden entrance of Connery, followed closely by a stout brusque man who belonged to the rear Pullman, took Eaton's attention and hers.

Other passengers also looked up; and the nervous, untidy young man at the table near the door again stopped coffee over himself as the conductor gazed about.

"Which is him?" the man with Connery demanded loudly.

Connery checked him, but pointed at the same time to Eaton.

AL ACRES—The Committee Places Al Among the Great.

—By Frank R. Leet



"That's him, is it?" the other man said. "Then go ahead."

Eaton observed that Avery, who had turned in his seat, was watching this diversion on the part of the conductor with interest. Connery stopped beside Eaton's seat.

"You took a telegram for Lawrence Hillward this morning," he asserted.

"Yes."

"Why?"

"Because it was mine, or meant for me, as I said at the time. My name is Eaton, but Mr. Hillward expected to make this trip with me."

The stout man with the conductor forced himself forward.

"That's pretty good, but not good enough!" he charged. "Conductor, get that telegram for me!"

Eaton got up, controlling himself under the insult of the other's manner. "What business is it of yours?" he demanded.

"What business? Why, only that I am Lawrence Hillward—that's all, my friend! What are you up to, anyway? Lawrence Hillward traveling with you! I never set eyes on you until I saw you on this train; and you take my telegram!" The charge was made loudly and distinctly; every one in the dining car—Eaton could not see every one, but he knew it was so—had put down fork or cup or spoon and was staring at him. "What did you do it for? What did you want with it?" the stout man blared on. "Did you think I wasn't on the train? What?"

"I was in the washroom," he continued, roaring for the benefit of the car, "when the conductor went by with it. I couldn't take the telegram then—so I waited for the conductor to come back. When I got dressed, I found him, and he said you'd claimed my message. Say, hand it over now! What were you up to? What did you do that for?"

Eaton felt he was paling as he faced the blustering smaller man. He realized that the passengers he could see—those at the smaller tables—already had judged his explanation and found him wanting; the others unquestionably had done the same. Avery was gazing up at him with a sort of contented triumph.

"The telegram was for me, Conductor," he repeated.

"Get that telegram, Conductor," the stout man demanded again.

"I suppose," Connery suggested, "you have letters or a card or something, Mr. Eaton, to show your relationship to Lawrence Hillward."

"No; I have not."

The man asserting himself as Hillward grunted.

"Have you anything to show you are Lawrence Hillward?" Eaton demanded of him.

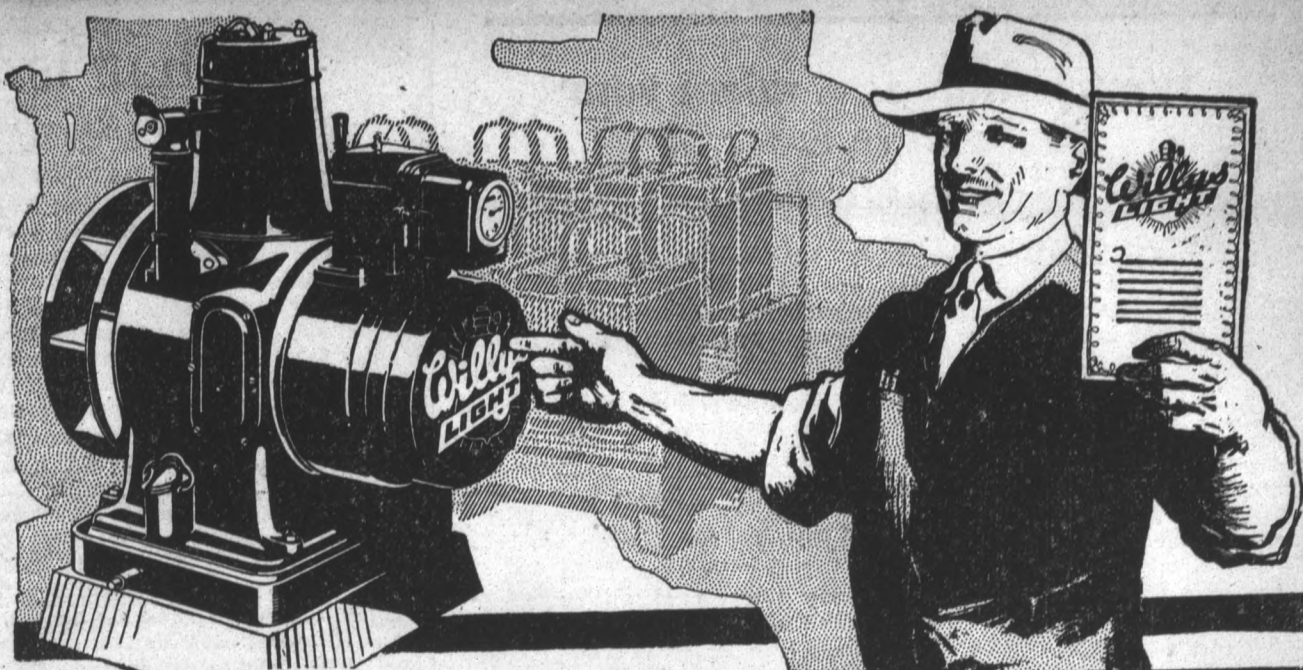
"I never gave any other name than Lawrence Hillward," the other declared.

Connery gazed from one claimant to the other. "Will you give this gentleman the telegram?" he asked Eaton.

"I will not."

"Then I shall furnish him another copy; it was received here on the train by our express-clerk as the operator. I'll go forward and get him another copy."

"That's for you to decide," Eaton said; and as though the matter was closed for him, he resumed his seat. He was aware that, throughout the car, the passengers were watching him curiously; he would have foregone the receipt of the telegram rather than that attention should be attracted to him in this way. Avery was still gazing at him with that look of quiet satisfaction; Eaton had not dared, as yet, to look at Harriet Dorne. When, constraining himself to a manner of indifference, he finally looked her way, she began to chat with him as lightly as before. Whatever effect the incident just closed had had upon the others,



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If you stay awake half the night you don't feel any too cheerful.

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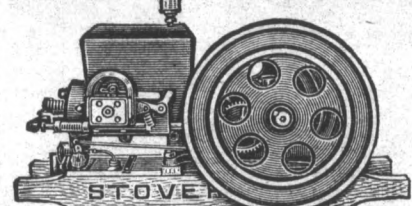
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What is Salvation? Our Weekly Sermon—By N. A. McCune

THERE is a statement in the First Epistle of John, "He that hath the Son hath life; he that hath not the Son hath not life." No shorter or more penetrating definition of salvation was ever written. It goes to the bottom of things. What is life? No one knows. We know it when we see it, but we cannot tell what it is. When you see kittens playing in the woodshed, chasing their tails, arching their backs, dancing back and forth, you recognize that as one form of life, and a very beautiful form. When you watch robins ceaselessly traveling to and fro, carrying worms to their young, that is life. Your boy stands in front of the mirror admiring his muscles. He glows over the fact that the life within him is developing. Then there is intellectual life. No one can come into the presence of a highly developed mind, without feeling the effect of it. The highest form of life is the life of Deity. Whether the life that God possesses is different in kind from the life of men, or not, it is at least of greater intensity. He who hath the power of creation is one who is the author of all life.

The physical organs of man are not greatly different from those of animals, but the moment you pass from the physical to the spiritual, the animal is left far behind. What is the characteristic of some men, that lifts them so far above their fellows? Look at some of the heroes of the Bible. They rise above others about them as the mountain does above the plain. They possess some form of life. He is not the mayor of a great city, nor the governor of a state, nor the president of a university, nor the head of the National Farm Bureau, nor renowned as the breeder of a particular breed of cattle. Yet Abraham lives on. He had life, in his soul. A couple of centuries ago, there lived a tinsmith, who was also a local preacher. He was very ardent in his belief, and was imprisoned for it. For twelve years he lay in Bedford jail. He said he would never yield his convictions, if the moss grew over his eyebrows. While in prison he wrote a book, Pilgrims Progress. That book will never die. How could this ignorant man draw those wonderful pictures of Mr. Greatheart, Mr. Standfast, Christiana, and those typical human figures, Mr. Fearing, Mr. Facing-both-ways, Mr. Ignorance, Mr. Brisk, and Mrs. Bat's Eyes? The only answer we know is, that Bunyan had life in his soul. How could James Gilmore labor for years in the vast unexplored steppes of Mongolia, the only white man for hundreds of miles, and the first missionary who had ever ventured there? How could Lincoln keep his head and his heart during four years of war, hate, misunderstanding and abuse, while men like Seward, Stanton and Chase urged him to adopt a more radical course? Lincoln had life. He must have had life, a kind of life of which these other men knew but little.

SALVATION is life. Salvation is the life of God in the soul of man. "He that hath the Son hath life."

And if salvation is life, sin must be the want of life. If salvation is life, sin must be death. And that is exactly what Scripture describes it to be. We know that disease is death working in life. Take tuberculosis. I know a young man who was as strong as a horse. I felt of his arm. It was as hard as a post. One day after sudden and extreme exertion, he was taken with a hemorrhage. From that time he has been grappling in a life and death struggle with the enemy. That

was death working in life. Undoubtedly the germs of tuberculosis had been in his body for a long time, before their presence became known. Sin is death working in life. When a man is suddenly discovered in some crime, when he is found to have taken large sums of money, it is not sudden. It has been working for a long time. He may have been appropriating smaller amounts of money, or he may have been indulging in other sin. The principle will hold. Death has been working in his life for a good while. When disease runs its course, it kills the body. When sin runs its course, it kills the soul. "Sin when it is finished bringeth forth death."

Now the treatment for this fearful condition is, to bring the soul into a new environment. What is done with a person suffering from consumption? Is he not made to sleep out of doors, live in the open, and eat foods that contain a high degree of vitality? He is placed in an absolutely new environment. Christ is the environment that changes the soul. When He comes into contact with the soul, it brings new life, new power, a new resistance to future temptation. Millions of witnesses could be called to testify to this. Christ does impart life, to those who will have it. To have Christ is to have life. And life is salvation.

THIS is variously described. It is spoken of in the Bible, as friendship. "I have called you friends." A good friendship is a wonderful thing. Every true friendship is a give and take relation. Each influences the other. When one's friend is the great Friend, it is certain to have a deep and changing influence on his life. Again, it is described as the vine and the branches. The only way in which the branch can live, is by adhering to the vine. Just under the bark there is a delicate portion of the stem through which the sap flows. To kill the tree it is not necessary to cut it down. Simply cut a ring around, deep enough to cut this layer. The sap is the life, and when sap cannot flow, death follows. Christ says that salvation is like that. Salvation is the life of God flowing into the human soul, through faith, and thus maintaining life. Stop the flowing life, and the individual no longer possesses the joyous life he once had. Every up-to-date orchardist employs many ways of keeping up the productivity of his orchard. He prunes, he sprays, he grows clover and turns it under. He knows that it pays to do this. And all the various means by which one can keep himself in close touch with the source of life, ought to be used. There is prayer. Nothing can vitalize like that. There is the reading of the Bible. That has a big place, as many can verify from experience. There is church attendance, and there is the reading of thought-provoking books and papers. Salvation is free. But it can only be kept by effort. No matter how many revival meetings one may have attended, no matter how many different churches one may have belonged to at various times, no matter how carefully one may have been confirmed, finally it comes to this, is Christ in the soul? All these means of achieving salvation are important—revivals, confirmation services and all that. But always at last it comes back to this, have you got God? And the best of it is, that we can exchange our poor, condemned house, with its rickety spiritual furniture for a beautiful house furnished by the Master of the Universe. And this exchange is not one that we wait for, when we die. We may have it now.

it appeared to have had none at all upon her.

"Are you ready to go back to our car now, Harriet?" Avery inquired when she had finished her breakfast, though Eaton was not yet through.

"Surely there's no hurry about anything today," the girl returned. They waited until Eaton had finished.

"Shall we all go back to the observation car and see if there's a walk down the track or whether it's snowed over?" she said impartially to the two. They went through the Pullmans together.

The first Pullman contained four or five passengers; the next, in which Eaton had his birth, was still empty as they passed through. The porter had made up all the berths, and only luggage and newspapers and overcoats occupied the seats. The next Pullman also, at first glance, seemed to have been deserted in favor of the diner forward or of the club-car farther back. The porter had made up all the berths there also, except one; but some one was still sleeping behind the curtains of Section Three, for a man's hand hung over the aisle. It was a gentleman's hand, with long, well-formed fingers, sensitive and at the same time strong. That was the berth of Harriet Dorne's father; Eaton gazed down at the hand as he approached the section, and then he looked up quickly to the girl. She had observed the hand, as also had Avery; but, plainly, neither of them noticed anything strange either in its posture or appearance. Their only care had been to avoid brushing against it on their way down the aisle so as not to disturb the man behind the curtain; but Eaton, as he saw the hand, started.

He was the last of the three to pass, and so the others did not notice his start; but so strong was the fascination of the hand in the aisle that he turned back and gazed at it before going on into the last car. Some eight or ten passengers—men and women—were lounging in the easy-chairs of the observation-room; a couple, ulstered and fur-capped, were standing on the platform gazing back from the train.

The sun was still shining, and the snow had stopped some hours before; but the wind which had brought the storm was still blowing, and evidently it had blown a blizzard after the train stopped at four that morning.

"There's no way from the train in that direction now," Harriet Dorne lamented as she saw this.

"There was no way five minutes after we stopped," one of the men standing at the end of the car volunteered. "From Fracraft on—I was the only passenger in sleeper Number Two, and they'd told me to get up; they gave me a berth in another car and cut my sleeper out at Fracraft—we were bucking the drifts about four miles an hour; it seemed to fill in behind about as fast and as thick as we were cutting it out in front. It all drifted in behind as soon as we stopped, the conductor tells me."

The girl made polite acknowledgment and turned to her companions.

"What shall we do with ourselves, then?"

"Cribbage, Harriet? You and I?" Avery invited.

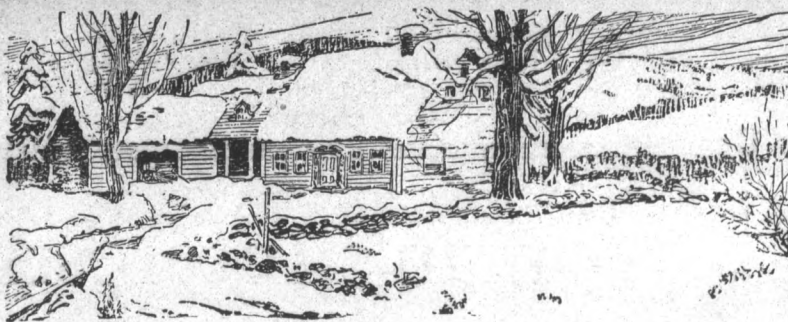
She shook her head. "If we have to play cards, get a fourth and make it auction; but must it be cards? Isn't there some way we can get out for a walk?"

"There's the top of the cars, Miss Dorne," Eaton suggested. "If we could get up there, we'd get a fairly decent walk and see everything."

"Good" the girl applauded. "How do we get up?"

"I'll see the conductor about it," Eaton offered; and before Avery could discuss it, he started back through the train.

(Continued next week).



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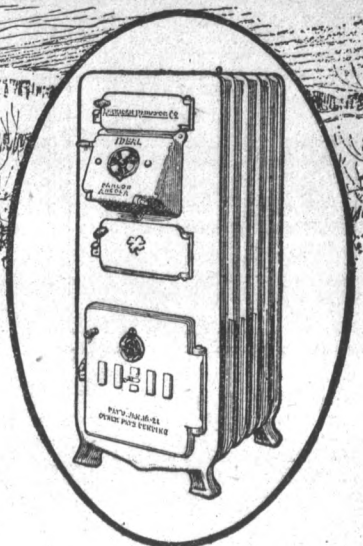
Because it may be installed in any room, the kitchen or cellar. Because it burns any fuel. Because no running water is needed; the same water is used over and over.

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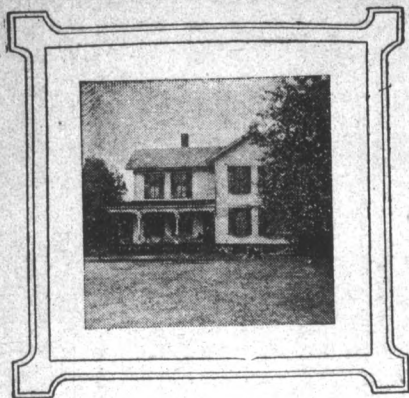
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SUNNY MONDAY.

"Away with blue Monday
Let's make the day sunny,
With the aid of our wits,
We surely can do it."

When one's washing machine is run by a gasoline engine or some other machinery run motive power, one is not so concerned about the size of her weekly washing. But when one is dependent upon elbow grease as a motive power and there is a good-sized family to wash for, then it behooves the housewife to study up ways and means of making the weekly washing smaller.

I find that by using oilcloth for various purposes the weekly washing may be lessened to quite an extent. An oilcloth apron for kitchen use minimizes the number of dish aprons. A good-sized bib apron made of oilcloth, hung in a convenient place at the barn or in the dairy will be handy for the man of the house when he is milking and caring for the milk. Oilcloth apron bibs for the children to wear at the table help wonderfully in keeping their clothing clean.

The use of paper towels, napkins, etc., will be found a labor-saver. While these articles are comparatively cheap it might not be wise from an economical standpoint to use them every day, but it is a good plan to keep a supply on hand to be used when there is sickness or extra work to be done and one has little time to spend in washing clothes.

I find that the general washing is also greatly diminished when, through the week I gather up and wash the small pieces, such as hosiery, hand kerchiefs, dollies, dishtowels, small pieces of children's wearing apparel, etc. It takes but a little time to wash a number of these, yet the general weekly washing will be noticeably smaller if this is done. A small wash tub, a stout toy washboard, the kind that usually sells for half a dollar, and a large pan with a cover to be used as a boiler, are the utensils I find handy when washing these small things.

When doing the general washing I find a scrub brush valuable in removing dirt and grease from heavy overalls, men's shirts, underclothing, etc. Many times a machine will not remove these entirely and it is necessary to rub them on a washboard. By placing the soiled part on a board and rubbing with a stiff scrub brush the work can be done better and easier than by rubbing with the hand.—DOROTHY CLARK.

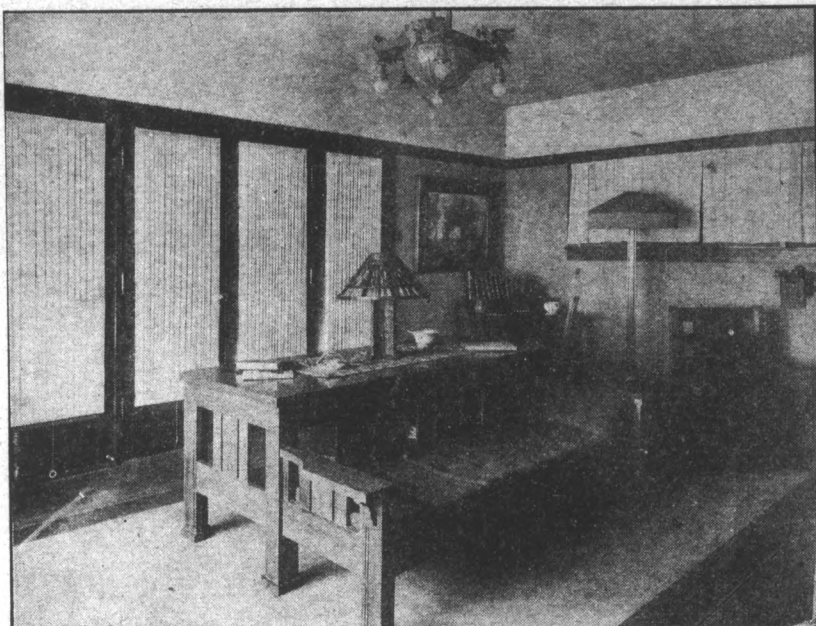
REQUESTED RECIPES.

Mrs. E. D. W., Munith:—I have no recipe for pickling fish for long keeping. To pickle for immediate use boil the fish, pour off liquor, cut fish in pieces convenient for serving, mix the liquor with an equal quantity of vinegar, add spices to suit, and pour over fish. Let stand over night, or twenty-four hours, before serving. Fish pickled this way will keep several days. I see no reason why they could not be packed in jars and finished by the cold pack method. The time given in the government bulletin for processing fish is three hours in a hot water bath.



Whoever thinks a faultless piece to see
Thinks what ne'er was, nor is, no e'er shall be.
—Pope

Woman's Interests



Renewing Old Furniture

By an Economical Housekeeper

LIVES there a woman with soul so dead who does not respond to the appeal of a nicely kept house? A house with floors unmarred and furniture unscratched, where dust collecteth not and ravelings litter not the floor? Especially does the woman whose furniture bears the marks of warfare put there by sturdy little figures sigh for the day when she can have new things, bright, shiny, and never dusty.

Most of us will sigh in vain for the new, but there is no reason why all of us can not have the unmarred after the children get by the climbing stage and have been taught that chairs are made to be set upon, and not as step ladders. Renovating old furniture is not a task which calls for much cleverness nor for much strength. Its demand is for time and infinite patience.

Of course, by this time you have learned for yourself the folly of buying varnished, bright, shiny furniture. The only sort for the busy woman with children is the dull, waxed finish. This is not hard to put on and is much easier to keep looking nice. Its beauty increases with its age, the frequent waxing and polishing deepening the rich tones of the finish.

Perhaps you bought cane seated dining-room chairs, and the seats have long since acquired a sag, or perhaps given up the struggle altogether. You want a dining-room suite that looks like one of those fifteen hundred dollar ones marked down to three hundred and ninety-nine, which the stores are picturing so alluringly in their advertisements. The only thing for you to do, probably, is to make your old one look as near like it as possible.

The first step in the process of renovating is to take off the old varnish. There are various ways of doing this. One is to apply a thick paste of gold dust and water, and after the varnish is well soaked up, scrape it off with a coarse wire brush which paint shops sell for this purpose. A better way is to buy varnish remover, apply it with a brush, and then remove with a broad

spatula. Directions for using the varnish remover will come with the can. Before removing the varnish it is advisable to take off the old seats from the chairs, and all the gingerbread decorations from sideboard or buffet and table. The new idea in furniture is simplicity. So if yours is trimmed with attached curleycues remove them all, and be repaid by the loss of useless dust catchers.

The varnish having been removed the next step is to apply a coat of stain. If your furniture is of oak it is better to select a stain suited to this wood. There are several sorts to choose from, golden, fumed, mission. A walnut stain could be used, but as the grain of the wood is so different you would be disappointed without a doubt. After the stain, the wax is applied. This should be in paste form. To apply, fold a yard square of cheese cloth twice to make a smaller square, put a generous tablespoon of wax in the center so that four thicknesses of cloth will come between it and the wood, twist the corners together, and holding the wax like a ball in the hand rub the wax into the wood. This will take time and patience, but the result is satisfactory enough to repay you for the work done.

After the finish is completed remember to always polish with dust cloth dipped in liquid wax. Do not use oiled cloths. Oil is the thing for varnished furniture, but for waxed floors or furniture nothing but wax may be used.

After the furniture is waxed the question of new seats for the chairs arises. For the farm family undoubtedly real leather seats are more satisfactory. There is a temptation to the beauty-loving woman to choose the tapestries or velours which are so lovely in show windows, but unless the men of the family can be trained to change their work clothes to Sunday best before every meal, the result will be fatal to the chairs. Leather is easily cleaned. Spots can be wiped off with a chamois wrung out of warm soap suds, and the leather must be



immediately rubbed with a waxed cloth.

If you are skillful with scissors, and a hammer the upholstering can be done at home. Webbing may be purchased at any furniture store for the bottom, and excelsior will do for the filling. A binding to cover the cut edge of the leather may be made of a fold of leather, with the raw edges turned under, and the whole fastened on with upholsters' tacks.

CARE OF FURNACES.

THE United States Department of Agriculture offers the following advice to fire builders:

Keep all heaters clean. Soot and ashes reduce effective heating.

Leaks cause drafts and consequent loss of heat. Mend them with cement.

To build a fire: Close all dampers, shake grate and remove ashes.

Put in crumpled papers, cover with kindlings laid criss cross to admit air, then a thin layer of coal, or hard wood, if wood is used. Open ash pit and smokepipe dampers and light paper. When fuel is burning freely adjust the dampers.

Attend to fire regularly. If low, put on only a little coal. If a large amount of coal is used leave a part of glowing fire exposed.

In severe weather fill last thing at night. The first thing in the morning open dampers and add a little coal. When fire is burning well, shake it and add more coal.

Clean ash-pit daily. A short, swift stroke of shaker sifts ashes through grate. In mild weather have a bed of ashes on top of the grate. In severe weather, shake till a glow appears. Always leave grate set level.

Keep firepot full. You get better heat if coal is even with door in front and a little high in the back. Never poke fire bed.

Special directions for soft coal: Open damper in coaling door to admit air necessary to burn gas. Always allow some red coals to remain exposed. Clean smokepipe once a week. Do not try to burn soft coal with a hard coal grate, or vice versa.

Hot Water Heaters.—All radiators must be entirely filled to give best results. Open air valves frequently until drop of water appears. If none appears, water must be added.

Steam Heaters.—Look at glass water gauge whenever you attend to fire. Gauge must be kept full of water. If no water shows in glass, more water is needed. Smother the fire with ashes and let boiler cool before adding, to prevent explosion.

Be sure air valves are working perfectly. They are to let air escape and steam fill radiators.

WHEN YOU REMODEL A GARMENT.

IF you are one of those unfortunate women who can buy what you want when you want it, and let someone else sweat over the bills, do not read this. But if you belong to the lucky majority who get a suit this fall, a hat about Christmas, and the gloves, shoes and hose that properly belong to the suit, when it is in its second season, this may be of help to you. Perhaps after you read it you may de-

cide to make the old suit last another year in a new guise, and buy the accessories this fall.

Up in the attic you may have an old black broadcloth suit which went out of style before the war. If you have you are in luck, for both broadcloth as a fabric and black as a color are in high favor this season. And while the ultra dress has the long lines from shoulder to hem which look discouraging to the home dressmaker seeking to convert a suit into a dress, there are really good models with girdles which give one a chance to utilize the suit coat. Or a long black broadcloth coat might be converted into a smart new dress by using a front panel of satin or silk.

In making over the suit the first step is to get your material ready. It should be first ripped, using a safety razor blade, or a good sharp knife if you haven't the razor blade. Then take out doors and brush the pieces with a stiff brush, taking care to remove all stitches and lint. Pure wool may be washed with soap flakes or a good wool soap and soft warm water. Make a lather before entering goods. Do not rub on soap. Be sure that the water in which the goods is washed and in which it is rinsed, is of the same temperature. Do not use too hot water. Changing the temperature causes the wool fibres to stiffen. It is better to leave a little lather in the rinsing water, as otherwise the natural oil of the wool is removed. The soap that adheres to the cloth will be removed when the material is hung outside. If the water is hard, soften with borax or ammonia.

Run the material through a wringer, do not twist with the hands, and hang on the line to partially dry. Then roll it lightly, let stand for an hour, and press, over a cloth, on the wrong side.

If you are not sure of the quality of the wool it would be better to clean it in gasoline. To do this only a high grade gas can be used, as the low grade oils remain in the wool and the cloth becomes a dirt catcher. To test the gas, put a little on a sheet of writing paper, and allow it to run off to the side. If it evaporates quickly and leaves no marks on the paper it is all right to use.

Silks are better washed in gasoline. Or perhaps you will want to dye it. Georgettes, crepe de chine, and foulards dye well. If you decide to dye, first remove all the color possible. Make a heavy suds of a mild soap added to water enough to cover the goods. Enter the silk and boil until color is removed. Thirty minutes should be sufficient, fifteen is often enough. A little washing soda added to the water hastens the process.

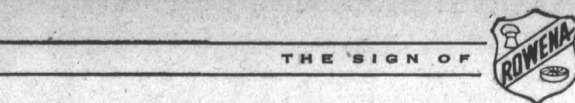
In dyeing, follow directions on the package you select implicitly.

Before starting your work of cleaning, study well your garment and decide on a pattern. Be sure that you have material enough to carry out your idea before you start ripping up the old garment. There are many good patterns on the market, and all will tell you how much material you need. If you are at all clever with the needle, you will be able to do the work yourself, especially if you have made one of the dressforms which the extension department of the agricultural college have been helping Michigan women make. If you have doubts as to your skill it would be economy to hire a dressmaker to do the work.

In 1912, of all canning done in thirty-three representative states, only twenty-five per cent was of vegetables. Now, more than sixty per cent of the canning done in these states is vegetable preservation.

A room of his own, attractively kept, is one of the best ways of keeping son on the farm.

Community Spunk should see that the schoolhouse, at least, has sanitary indoor toilets.



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You'll be surprised at the results obtained from Lily White. It is guaranteed to please you. For three generations it has satisfied the women of Michigan who take pride in their baking.

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Insurance Hits Retail Selling

\$450.00 Reported Cost of Coverage For Sedan in New York

Of all problems confronting the automobile industry, particularly those engaged in the selling end of the business, none is of greater importance and none presents a more difficult proposition than the stolen car in the matter of automobile insurance. The old line rates have become prohibitive. The cost of insuring the average sedan in the old line company in the East is \$450.

The congestion of traffic, leading to frequent accidents, careless driving and the auto thief increases the cost of insurance. The careful automobile owner by careful driving, putting a proper lock on his car and placing same in a garage when visiting the large cities, helps to keep down the cost.

The Citizens' Mutual Automobile Insurance Company of Howell, has saved its members many million dollars since organization. It insures in the smaller cities and country districts of the state. The rates are very reasonable. It has paid out in claims over \$850,000.00, carrying a surplus of \$125,000.00 in addition to the office building and equipment.

If your car is not insured see the local agent or write the Citizens' Mutual Automobile Insurance Company, Howell, Michigan.

Have Up-To-Date Stationery

We print, Box Writing Paper, 24 sheets, 24 envelopes, 50 cts. 50 Personal Cards and Case 50 cts. 150 and Case \$1.00. 50 each Letter-heads, Billheads, Envelopes \$1.00. WEDDING STATIONERY, ETC., SAMPLES. RUSSELL BROS., Dept. 22, Bayonne, New Jersey

Michigan Farmer Pattern Service

CATALOG NOTICE.

Send 15 cents in silver or stamps for our up-to-date fall and winter 1921-1922 catalog, containing over five hundred designs of ladies', misses' and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating thirty of the various, simple stitches) all valuable to the home dressmaker.

No. 3721—Girl's Dress. Cut in four sizes, 8, 10, 12 and 14 years. A 12-year size will require 3¾ yards of 38-inch material. The underwaist of contrasting material will require three-quarters of a yard 38 inches wide. Price 12c.



No. 3121—Child's Dress with Bloomers. Cut in four sizes, 4, 6, 8 and 10 years. Size eight will require 3¼ yards of 36-inch material for the dress, and 1¼ yards for the bloomers. Price 12 cents.

No. 3717—Misses' Dress. Cut in four sizes, 14, 16, 18 and 20 years. A 20-year size requires 5½ yards of 36-inch material. The width of the skirt at the foot is two yards. Price 12c.

No. 3719—Ladies' Apron. Cut in four sizes: Small, 34-36; medium, 38-40; large, 42-44; extra large, 46-48 inches bust measure. A medium size requires 5¼ yards of 27-inch material. Price 12c.



No. 3716—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 4 inches bust measure. A 38-inch size requires 6¾ yards of 32-inch material. Without panels 4¼ yards. The width of the skirt at the foot is two yards. Price 12c.



No. 3718—Ladies' House Dress or Day Dress. Cut in seven sizes, 36, 38, 40, 42, 44, 46 and 48 inches bust measure. A 38-inch size requires six yards of 36-inch material. If made as illustrated it will require 4¾ yards of plaid and 1½ yards of plain material for 36 inches wide. The width of the skirt at the foot is about 2¼ yards. Price 12c.

Our Boys' and Girls' Department

Albert and His Trained Chickens

By Marjorie Sawyer

FINE feathers do not make fine birds," says Albert Schultz, the fifteen-year-old champion poultry raiser for Minnesota Boys' and Girls' Clubs. And Albert has plenty of chance to know, having raised prize poultry since he was five; at twelve he was a poultry judge at a fair, and he is now one of the directors of the S. E. Minnesota poultry show.

This year the first premium fell to Albert because of the large percentage of chickens he has raised from those he has hatched. From his seventy-nine



Albert Schultz, the Fifteen-year-old Poultry Champion of Minnesota.

birds he has received, counting the value of the stock he has on hand, \$330. The breed he is now specializing in is Single Comb White Leghorns. He has sold a good number of birds, the pullets bringing \$2.50 apiece, and the cockerels \$5.00.

The fact that Albert lives in the most thickly settled district of Rochester, a city of some fifteen thousand, and has a back yard only 40x50 feet, used for garden, strawberry bed and barn, has not kept him from being champion. From old boxes which he took to the school manual training class he made his own hoppers and feed troughs, which he thinks save time and feed.

Having won many prizes in county and state without belonging to the club, Albert could not for a time see that there was any benefit in joining. But the club leader finally induced him to take up the Single Comb White Leghorns, a more difficult breed to win prizes in than the Buff Orpingtons, in which he had previously specialized. Through her influence, a breeder from a famous poultry farm sold him settings from his first pen, so that he had specially fine stock to start with. Then the club leader gave him the benefit of her training and experience, visiting his chicks often. One of the greatest poultry experts, too, made visits to his yard, giving him instruction and inspiration. Next, he won extra prizes at the county fair because of his entries into the club classes, as well as the open. The same was true of the state, so that he is now very enthusiastic over the benefits of being a member of the Boys' and Girls' Clubs.

Albert really loves poultry, and hopes some day to have college training and be a specialist. He shows his affection by his care, and his petting. He has trained his chickens to do all sorts of tricks.

"It is the easiest thing in the world

to teach tricks to chickens," says the boy. "When a hen is sitting on the nest I pet her every time I go past. Sometimes one will fly at me, but then I sit down and spend half a day with her, and she is all right. If she is scratched under her bill between the wattles she will lift up her head and enjoy it as a cat does when its ears are scratched. After such petting the hens will allow you to take out the eggs and do anything you please with them.

"Before the chickens have their feathers I teach them how to ride on my bicycle. If it is left around the yard they will get used to roosting on the handle-bars. Then when it is trundled around slowly they will stick on tight. If they try to fly away I fasten them on with adhesive tape around their feet and then take them out for a swift ride. They learn that it is a simple thing, after all, and the next time they can go without the tape. I can coast down a steep hill and they will really enjoy it. They spread their wings and have just a fine sail. Sometimes they get frightened, and then they fly up onto my shoulders.

"A chicken can turn somersaults as well as a dog, but, of course, he must do it on a stick. Set him on, hit him gently on the back of his head, and he will turn around and come up all right. If he doesn't stick well, rubber bands will keep him on at first.

"My Jimmy was the best bird I ever had to do tricks. He could do everything the others could, and then some. He had a little wagon that he would draw when he was hitched to it. Sometimes I filled it with eggs. Jimmy was very proud, and liked to be photographed. Whenever he heard the click of the camera would straighten up his head, puff out his crop and lower his tail in fine form. If there were any other chickens near he would crowd ahead of them to be taken first.

"Training chickens is easy work; in

fact, there is nothing to it. The only thing is that you have to pet them and work with them from the time that they are hatched."

A CHAMPION BAKER.

MINA HANSEN, of South Dakota, champion individual bread baker among the young people of Faulk county, holds an exceptionally high production record for the club year just ended. During the year, as a member of the junior bread-baking club, she turned out the following products:

Bread, 440 loaves; cakes, 45; muffins, 11 dozen; ginger bread, 13; Parker House rolls, 12½ dozen; fruit rolls, 12 dozen; baking powder biscuits, 43 dozen; doughnuts, 10½ dozen; pies, 15; cream puffs, 14 dozen; buns, 36 dozen.

At current bakers' prices this means a total production to the value of \$125 to \$130. This is just another demonstration of the enviable record which boy and girl club members have for industry and thrift.

CROSSING THE STREET.

HOW did you cross the street?" is a game that pleases the boys and girls. One of its uses is stimulating the child's mind and increasing his vocabulary while the physical part of the game adds to its popularity.

The children stand in a line and the leader says to first one and then another, picked at random, "How did you cross the street?" The child must then cross the room, walking, running, hopping, jumping, staggering, dancing in any way he can conceive. The children shout the way, there being a rivalry as to which shall first determine his mode of procedure. There are a surprisingly large number of ways in which a street can be crossed, backward, forward, sideways, and even breathlessly, this last being an espe-

cially difficult way for the others to detect. If the street is crossed without the children being able to name the way depicted, a point is scored by the one crossing.—L. M. T.

GIVE THE BOYS A CHANCE.

THE United States Department of Agriculture investigated representative farms in Indiana, Iowa and Illinois, and found that farmers with a common school education had an average labor income of \$301 a year. Those with high school educations received a labor income of \$651 a year, and those with college educations received \$796 a year.

SATURDAY NIGHT BATHS FOR PIGS.

CLUB leaders whose special circular, sent from the Ohio State University, is held responsible for putting a Saturday night into piggy's weekend, declare that after the first time



Florence and Leo Nickel, of Fenton, Drive an Unusual Team.

the hogs like it, and profit greatly from weekly baths.

Hog men have long maintained that the pig is naturally a clean animal, and that the expression "dirty as a hog" is base libel against a creature born dainty but doomed by careless man to wallow. More than that, they declare, were it economically possible to wash every hog in the herd every week, the herd would show better gains at the end of the year.

With herds of but one head, the club youngsters are keeping their pigs as clean as cats, and will show them at the county fairs in this condition. Some boys have built special bathtubs for their hogs.

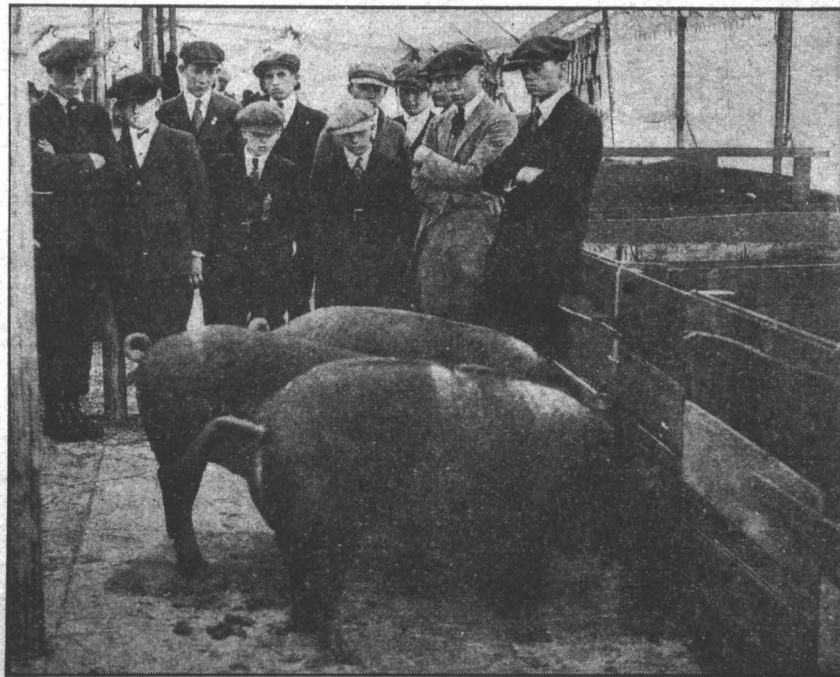
Asked to what extent farmers might profitably follow this practice, John W. Wuichet, state extension specialist in animal husbandry, said that a hog wallow of cold water, kept clean, accelerates summer gains and helps keep the herd in health. Swine cannot sweat, he added, and the farmer who provides such a wallow during hot weather is likely to be well repaid at butchering time.

LIVED HAPPILY EVER AFTER.

One of the novelists referring to his hero says:

His countenance fell,
His voice broke,
His heart sank,
His hair rose,
His eyes blazed,
His words burned,
His blood froze.

It appears, however, that he was able to pull himself together and marry the girl in the last chapter.—Boys' Life.



The club members who were fortunate to be able to attend the State Fair had excellent opportunities to study and have demonstrated to them the essentials of good conformation in high-bred live stock. The time spent around the live stock barns studying types and listening to the opinions of expert stock men was equivalent to a good short course in live stock work to those who were earnest in their desire for information.

Poultry Feeding Problems

By R. G. Kirby

MANY farmers have the wrong opinion of dry mash feeding for poultry and believe that it must be an expensive method. At first thought it seems as if the hens would gather about the hopper and eat all the time. But this is the way it works out: The hens occasionally take a bite of the mash. Then they have to drink water. The mash is dry and cannot be gorged down. After a hen has taken a few bites of mash she is ready to hunt around for other food.

The mash is not sufficiently appetizing to keep the hens from searching for other food. Hens that have been without mash might consume much more than usual when it was returned to them. But if the hopper is always full they soon satisfy their appetites and then only eat at intervals. The mash hopper insures every hen an opportunity of obtaining egg-making material at some time during the day.

When hens have mash they do not need so much other grain. Enough protein cannot be given to the hens in the form of hard grain. If they have the mash they can eat the materials needed to produce eggs. The use of mash saves enough hard grain to make its use practical. It also enables the hen to lay eggs and if mash feeding was more expensive than using hard grain, it would still pay to use the mash. The profit with poultry is the difference between egg receipts and feed costs. A cheap ration might bring no profit because of low egg production. A well balanced ration brings eggs and without eggs to sell there is no profit in the hen business, even if the feed cost is close to zero.

When there is plenty of sour milk the beef scrap or other protein in the mash can be cut in two. Some farmers find it a hard problem to feed sour milk in a sanitary manner. If the milk is placed in low dishes it is soon full of litter and very unclean. Dirty milk can be a cause of bowel trouble. It pays to place the milk in crocks on low wooden stands. These crocks can be scalded and kept free from dirt and gummy material. They are rather heavy and not easily tipped over. They are low in height so the hens can drink the milk to the bottom of the dish.

We have used galvanized pails for sour milk but the hens cannot drink to the bottom of the pail. They may roost on the edges and tip pails over. The dry mash from their bills settles in the bottom of the pails along with other dirt and some of the milk may have to be wasted when the pails are rinsed.

Some poultrymen find it a problem to keep hens from wasting every material that is served in a self-feeding hopper. The hens seem to have a mania for pulling out mash, oyster shells or grit until the nopper is emptied in the litter and much of the material wasted. This can be avoided by making a lip with a small piece of board on the front of the hopper. Then the trough of the hopper can be deep enough so the hens have to reach down for the material. If they still waste it, a piece of fine mesh poultry wire can be tacked over the opening so the birds will have to peck through the openings and only be able to obtain the material that they eat.

The clogging of dry mash hoppers is a problem if they have narrow throats. The remedy is to build them wide enough so that the mash will not often clog. Even then it is necessary to watch the hoppers occasionally and see that the mash is feeding down as it is used. A stick several feet long can be kept in a hopper that clogs

and used to break up the mash. That takes time and it pays to build the hoppers so they will seldom fail to let the mash slip down as it is used.

When old and young poultry use the same farm range it is often a problem to keep the chicks growing rapidly. The old birds crowd them from the feed hoppers and frighten them at feeding time. It pays to construct a dry mash hopper inside of an enclosure protected by slats so that the young birds can enter while the old ones are excluded. The chicks soon learn where they can feed unmolested and an improvement will be noted in their growth.

Such an enclosure can also be used for the water dishes and sour milk crocks used by the young growing stock. Of course, it is best to have them on a separate range but these small feeding yards are very useful on the general farm where all the poultry of all ages are allowed to run together.

Some breeders use wet mash and find trouble in keeping the poultry house clean and the feeding troughs in good condition. We believe that this problem can be avoided and the poultry houses kept more clean and dry if no wet mash is used. The birds grow and lay on dry mash and as such mixtures save much labor and seem to keep the birds healthy we can see no necessity of mixing up much moist feed. Of course, when there is an abundance of table scraps they can be made more appetizing to the hens if they are made into a moist mash by the addition of bran or the dry mash mixture used in egg production.

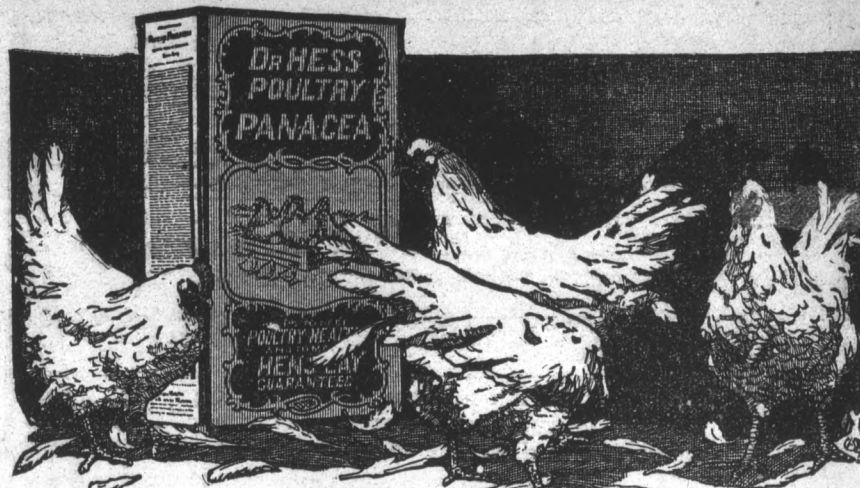
INFLUENCE OF MOULTING ON LAYING.

My chickens began to moult the last of August and are still moulting. I have about 150 chickens and am getting about a dozen eggs a day. I am told that chickens that moult in August and September are no good. How about it? I feed corn and wheat.—D.

Experience has shown that hens that moult in August are not usually good layers. They often take a long time to moult and in most cases do not start laying again until the next spring. The best layers are usually those who wait with their moulting until late in the fall, get through moulting quickly and start laying again.

Those who have made a study of, and have had considerable experience in producing good layers, find this as an almost certain indication of the laying qualities of hens. There are other indications which will tell whether a hen is a good layer or not, but when one doesn't know these indications, he can safely rely on the moulting habits in selecting the chickens. We would advise that you dispose of the early moulting hens and keep the late moulters.

Perhaps one reason why you do not get more eggs than you do is because you are not feeding properly for egg production. Corn and wheat alone do not give the chickens the proper food for the production of eggs. A very good method of feeding is equal parts by weight of cracked corn and wheat or scratch food and in addition a dry mash, which should be available to the hens at all times, of equal parts of corn meal, bran, middlings and ground oats. If you have sour milk available for the chickens, give them all they can consume. If not, add to the mash three quarters of a pound of commercial beef scraps to each four pounds of mash. It is wasting money to feed chickens improperly as, when this is done, the food given them is virtually wasted.



Help your Moulters Moul

Moulting time is the time that a hen needs assistance. It is the off-season in the life of the hen.

Think of the amount of a hen's energy, vitality and red blood that's required to reproduce a thousand feathers! (which is only an average plumage).

A moulting hen needs good health, good appetite and digestion. That's just what Poultry Pan-a-ce-a does for a moulting hen—gives her appetite and good digestion, so that she'll eat more and digest more.

Dr. Hess Poultry PAN-A-CE-A

Helps your poultry through the moult. And starts your pullets and moulted hens to laying.

It contains Tonics that produce appetite and good digestion—Tonics that tone up the dormant egg organs—Iron that gives a moulting hen rich, red blood and a red comb. It contains Internal Antiseptics that destroy disease germs that may be lurking in the system.

No disease where Pan-a-ce-a is fed

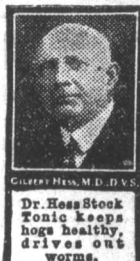
Pan-a-ce-a helps your poultry to stay at par during the moult. They don't become run-down, pale and thin. That's why a Pan-a-ce-a hen gets back on the egg job quickly instead of sitting around all fall and winter as a bill of expense while regaining her normal vitality.

Always buy Pan-a-ce-a according to the size of your flock. Tell your dealer how many fowls you have. He has a package to suit. Good results guaranteed.

25c, 75c and \$1.50 packages. 25 lb. pail, \$5.00. 100 lb. drum, \$10.00. Except in the far West and Canada.

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Ashland, Ohio



Dr. Hess Tonic keeps hens healthy, drives out worms.

Dr. Hess Instant Louse Killer Kills Lice

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POULTRY

PULLETS PULLETS

We are all sold out of 8-10 week old pullets. And are booking orders now for breeding pens of ready to lay Single Comb White Leghorn, 5 pullets or yearling hens and one choice cockerel for Oct. Delivery. These birds are all raised by us from our bred to lay American-English strain. None better any where, regardless of what price you pay. They must be seen to be appreciated. Get ready for next year breeding season by ordering a pen of these splendid birds and increase the profits from your flock. Choice breeding cockerel.

Price on application.

Macatawa White Leghorn Co. Inc.,
R. 1, Holland, Mich.

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

Trapnested Pedigreed White Wyandotte cockerels from hens with records of 231 to 266 mated to cockerels from a 257 egg hen.
C. R. HANES, Schoolcraft, Mich

Speed Up Layers Before Winter Comes

Your flock is doubtless laying some eggs—but you are losing money if they're not laying *all* they should, these days when egg-prices are going up.

Molting hens and growing pullets alike need perfect health in order to get to laying steadily and heavily soon. Shorten the molt—hurry the pullets—give your flock—today and every day—

Pratts Poultry Regulator

This is the simple and effective means used by thousands of successful poultry keepers to make hens lay and pay. Popular for fifty years. A natural tonic and health-maker—a digestive that makes feed go farther and prevents feed waste—a scientific all-round conditioner that may be depended on to wake up dormant egg-organs and bring the eggs. And that means dollars to you now and all winter. Pratts Poultry Regulator must please you—remember our guarantee.

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Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

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POULTRY LEGHORNS AND ANCONAS

Yearling Hens and Pullets

This stock is all selected Pure Breed Practical Poultry, late moulters and good layers; 3000 Yearlings; limited number pullets. Guaranteed good practical quality. We will send you description of fowls and egg records. If you want first class paying Leghorns, write to us.

Also limited number R. I. Red and Black Minorcas Pullets; White Wyandottes Yearlings.
STATE FARMS ASSOCIATION
Desk 1, Kalamazoo, Mich.



\$14 a 100 and up.

Postage PAID, 95% live arrival guaranteed. FREE feed with each order. 40 breeds chicks, 4 breeds ducklings. Select and Exhibition grades. A hatch every week all year. Catalogue free. Stamps appreciated.
NABOB HATCHERIES, Gambier, Ohio

CHICKS

Send your order in early for 1922 delivery. Our prices are always reasonable. We give you a square deal.

ROYAL HATCHERY,
R. 2, Zeeland, Mich.

APRIL COCKERELS Winter Laying Pullets

Now over three months old. Anconas, White Leghorns in two grades, Brown Leghorns, Black Leghorns, Buff Leghorns, Rocks Reds, Wyandottes and Black Minorcas. Write for prices.
Crescent Egg Company, Allegan, Mich.

Barred Rock Cockerels

Parks 200-egg strain. From stock direct from Parks best pedigreed pens. \$3 each. R. G. KIRBY, Route 1, East Lansing, Mich.

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\$16.00 per 100 and up. Hatching eggs, \$2.00 to \$15.00 per setting and \$9.00 to \$15.00 per 100, from 25 varieties of pure bred, farm raised fowls: Chickens, Geese, Ducks, Turkeys and Guinea. Price list and circular free. Plenty of nice breeding stock. Book now for early spring delivery.
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Barred Rocks, W. Wyandottes, R. I. Red stock. HOWARD GRANT, Marshall, Mich.

Barred Plymouth Rock Cockerels, large birds from prize-winning heavy-laying strain \$5.00 each. J. A. Barnum, Union City, Mich.

English S.C.W. Leghorns. Early hatched pullets and prices. Robt. Christophel, R. 4, Holland, Mich.

Top Quality Cockerels Minorcas, Houdans, Spanish, Tyron Poultry Farm, Fenton, Mich.

WHITE LEGHORNS June and July chicks. Lay 265 to 301 eggs per year. "Winners at 50 shows." Chicks, eggs, pullets, hens and males shipped C.O.D. \$3.50 per fifty. Hogan tested, beauty and utility combined. Specialty breeder S. C. Mottled Anconas. Send for booklet. (Useful facts about Useful Anconas). It is free. College View Farm, R. 3, Hillsdale, Mich.

USEFUL ANCONAS June and July chicks. Lay before cold weather. Eggs half price \$6.50 per 100, \$3.50 per fifty. Hogan tested, beauty and utility combined. Specialty breeder S. C. Mottled Anconas. Send for booklet. (Useful facts about Useful Anconas). It is free. College View Farm, R. 3, Hillsdale, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

Pullets and Breeding Stock 8 varieties, also ducks and geese. Send for prices. BECKMAN, 26 E. Lyon, Grand Rapids, Mich.

WHITE WYANDOTTES 207 egg average; cockerels \$5 each, 3 for \$14, 6 for \$25. FRANK DELONG, R. 3, Three Rivers, Mich.

Single Comb Buff Leghorn cockerels, April and May hatched. Large lively fellows. Noted laying strain. Willard Webster, Bath, Mich.

Whittaker's R. I. Reds

Michigan's Greatest Color and Egg strain Both Rose and Single Combs. Get your cockerels early and save money. Write for free catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

W. Chinese Geese, Pekin Ducks, R. C. MRS. CLAUDIA BETTS, Hillsdale, Mich.

For Sale Mammoth Pekin Ducks. Fine breeding stock. J. W. Drake Farm, R. 4, Pontiac, Michigan.

A County of Diversified Farming

(Continued from page 325).

Reds of both the single and rose comb types. In a season they sell about 25,000 day-old chicks, five or six thousand eggs for hatching, three to five hundred breeding males and the same number of pullets and hens. Their aim is to produce quality, not quantity. They have shipped to seventy-nine counties in Michigan and nearly five hundred Michigan towns, and they say that about three-fourths of these points were reached through their ads in the Michigan Farmer.

J. J. Lyle is one of the prominent farmers near Decatur who has been successful with stock, grain and potatoes. His farm is in the noted Lyle district in which the soil contains more phosphorus per acre than any upland soil in the county.

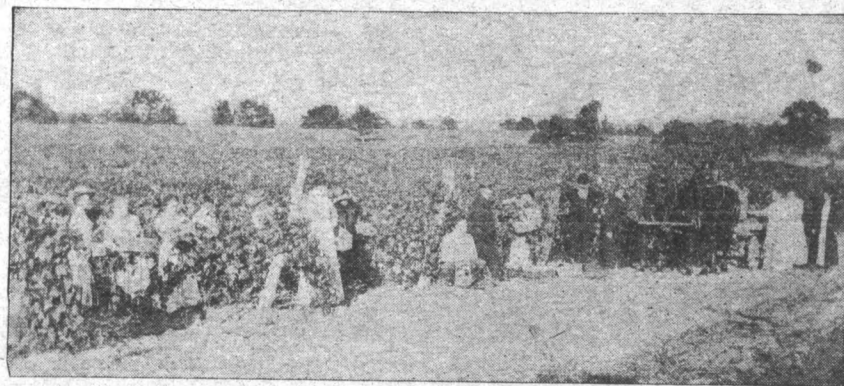
W. E. Phillips also lives near Decatur. On his two hundred acre farm he grows grain, stock, potatoes and alfalfa. He is president of the County Farm Bureau, manager of the Decatur Cooperative Association, member of the executive committee of the State Farm Bureau, member of the board of control of the State Elevator Exchange and vice-president of the same.

In the northeastern part of the county, the A. M. Todd Company has one of the biggest mint farms in the coun-

ty. More about Mr. Keister's orchard methods will be given in our columns at another time. He has bred Rose Comb Minorcas for twenty years and has won his share of blue ribbons at Chicago, Boston, New York and other big shows. He is also a breeder of White Wyandottes and has a pen which ranks third in the egg-laying contest at Hamonton, New Jersey.

Near Bangor is also the D. M. F. Farm which is managed by Miller Overton. The letters D. M. F. refer to dairy, mint and fruit. They have over a hundred acres in mint, a large acreage of fruit and their dairy herd consists of fifty head of pure-bred Jerseys. The farm contains four hundred and sixty acres, of which three hundred and twenty are farmed. Mr. Miller prefers married men to single for farm help, and he endeavors to keep his help busy throughout the season. The farm contains ten acres of wood lot which consists of black locust, white ash and sugar maples. He has especially found that black locust is profitable, and thinks that every farmer ought to grow at least a few acres of it.

The Avalon Dairy Farm is milking twenty-nine head of registered Jerseys and supplies sweet cream to the Marshall Field Company in Chicago. This



Buskirk's Vineyard, One of the Best in the Paw Paw-Lawton Grape District.

try. It owns the town of Mentha which is in the center of their twenty-one hundred acre farm, eighteen hundred acres of which is cultivated. Their chief crops are peppermint, spearmint, wormwood and tansey. This year they have in about six hundred acres of peppermint and eight hundred acres of spearmint. They have a large still on the place which can distill forty acres of mint a day. During the busy season they employ one hundred and fifty men. One notable fact is that they have found profitable use of tractors on muck soil.

At Gobleville we found Charles Giddings farming two hundred and eighty acres, and specializing in pure-bred Holstein cattle. At present he has forty-six head of King Segis—King of the Pontiacs, and May Echo, Sylvia breeding. His herd is headed by King Zerma Alcartra Pontiac, No. 143461, whose sire is King Segis Pontiac Alcartra, famous as the \$50,000 bull. Mr. Giddings began to breed Holsteins eleven years ago, starting with two cows. From one of these cows, he has sold to date \$1,500 worth of descendants and still has in the herd three of her daughters and five of her granddaughters.

At Bangor we found H. A. Keister, noted for his Rose Comb Minorca chickens and fancy apples. Mr. Keister bought his farm sixteen years ago at which time he set out his first apple orchard of five acres. This orchard was kept well cultivated until six years of age and since then has been kept in sod. Each year the orchard received an application of nitrate of soda or sulphate of ammonia in addition to what poultry manure he has on hand. At six years of age the orchard paid \$68 per acre, and since then has never produced less than \$100 per acre per

year. It is done by using jacketed cans in which they put an ice core. The cream is shipped by express.

One of the young fellows who has come to the front in Van Buren agriculture is Robert Anderson, of Covert. Mr. Anderson's hobby is peaches and fertilizers. He has a piece of ground containing eighty-three trees which have been in peaches continuously for thirty-five years. This orchard produced nearly seven hundred bushels of peaches last year. He also has a piece of ground that has been in corn for nine consecutive years, which produced one hundred and forty crates per acre last year. His practice with this piece has been to sow vetch at the last corn cultivation and in addition give the ground three hundred pounds of acid phosphate annually. He has long been an advocate of the use of nitrogenous fertilizers in peach orchards, and has fertilized sufficiently heavily that he intercropped them successfully for several years. Mr. Anderson's favorite variety of peach is the Lemon Free, some of his trees of that variety having borne full crops since they were three years old. He has fifty Lemon Free trees that have netted him three times as much as the same number of Elbertas which were set at the same time.

Among the many progressive fruit growers in the vicinity of South Haven is Frank E. Warner. For many years Mr. Warner has been very successful in the growing of strawberries and other fruits. Recently he purchased the farm which was the birthplace of Dr. L. H. Bailey, and has brought it into a high state of productivity. Mr. Warner is one of the safe, sane and industrious farmers who is noted more for what he has done than what he has said. He is president of the South

Haven Fruit Exchange, member of the executive committee of the County Farm Bureau, and also manages the affairs of the South Haven Fruit Growing Corporation.

This corporation was formed by local farmers and other people in industries dependent on fruit growing. The purpose of the corporation is to apply efficiency methods to fruit growing. It now owns four hundred acres of orchard land, a great share of it being in bearing orchards. Last year they set ten thousand trees with very small loss. This order of ten thousand was the largest single order ever given a Michigan nursery.

Van Buren county has been one of the leaders in the development of cooperative work. It now has twelve farmers' cooperative associations, which last year did a total of nearly four million dollars' worth of business. The Southern Michigan Grape Association at Lawton, which is a consolidation of several grape associations that have been in existence for several years, did a business of a million and a half dollars in 1920. The South Haven Fruit Exchange, which has been the model for a lot of successful cooperative organizations in the western part of the state, did a business of four hundred thousand dollars last year. The Paw Paw Cooperative Association, organized in 1920, did enough business six months after it was organized to amount to over three hundred and thirty-five thousand dollars. In South Haven a cooperative store has done a business of two hundred and ten thousand dollars, and one in Bangor, one hundred and thirty-six thousand dollars worth of business in 1920. Other successful cooperative associations in the county are those at Lawrence, Grand Junction and Decatur. Fruit exchanges at Hartford and Bangor are doing well, as is also the Gleaners' Elevator at Hartford and the cooperative creamery at Lawrence.

Van Buren has a strong farm bureau organization. It was one of the first counties to take up the farm bureau membership drive, and now has 1,696 members. The executive committee of the farm bureau organization consists of W. E. Phillips, Decatur, who is also president; Frank Warner, of South Haven; R. V. Dille, Lacota; J. T. Wilkinson, Hartford; C. M. Kingsley, of Kendall; C. E. Buskirk, of Paw Paw, who is secretary-treasurer. Messrs. Phillips, Buskirk and Warner have been referred to previously in this article.

Mr. Dille operates a one hundred and twenty acre farm on which he grows fruit and does general farming. He has made a great success of growing vetch seed, and is using vetch as a cover crop in his orchard.

Mr. Wilkinson runs an eighty-acre farm, of which thirty-five acres are in an orchard. He is on the board of directors of the Hartford Fruit Exchange, and also a director of the Van Buren County Agricultural and Horticultural Society, which operates the County Fair.

C. M. Kingsley farms two hundred and fifteen acres, specializing in potatoes, grain, alfalfa and live stock. One five-acre piece of alfalfa on his farm produced in two cuttings in this year, more than twenty-five tons of hay. Some of the alfalfa stood forty-two inches high at cutting time.

BITS OF WISDOM.

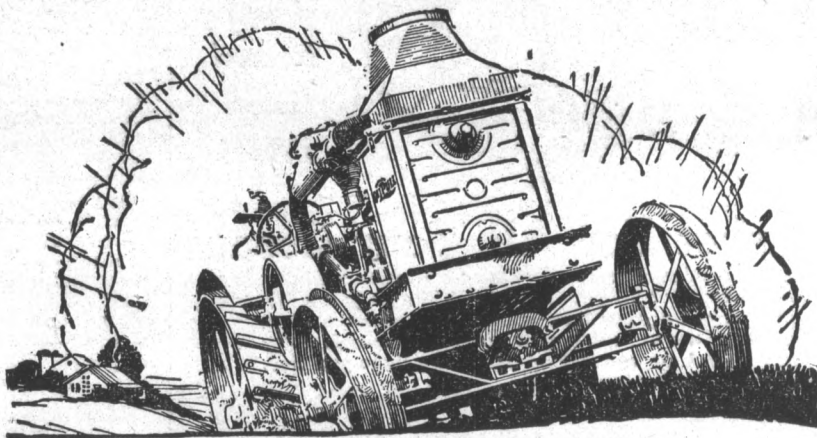
Says Sam: The most expensive type of fence is the one over which neighbors quarrel.

The man who thinks any stock that is pure-bred is all right should read up on the history of certain European royalties. Pedigree means nothing unless backed by performance.

Soy-beans are soil builders.

Ever notice that the fellow who doesn't want to see the county agent is the one who never has seen him?

OilPull Tractor Victorious at Fargo Demonstrations



Cheapest Power for the Farm

Under a blistering sun, at the recent Fargo demonstrations an OilPull perfected kerosene-burning tractor again triumphed in the great national fuel economy tests. This OilPull used only 23-10 gallons of kerosene per acre plowed. At 10c per gallon this means less than 25c per acre. That was 7% less than the average of the six lowest scores. It was practically 30% less than the average of all tractors. For preparing the seed bed, which included double discing, dragging and seeding, the OilPull used only .85 gallon of kerosene per acre—approximately 8½¢ worth.

For years an OilPull has held the world's championship in fuel economy. For years these low cost records have been duplicated for OilPull owners.

Triple Heat Control

The most important single feature is Triple Heat Control—the OilPull perfected system of oil cooling which positively controls temperatures. By this system the powerful twin cylinder motor is kept at the exact temper-

ature necessary to get maximum power and mileage from kerosene, *under all conditions*. The motor actually gets cooler as the load grows heavier. Overheating is unheard of. Freezing is impossible. OilPull records could never be made without this system. Because of it the OilPull is the only tractor guaranteed in writing to burn kerosene successfully under all conditions at all loads up to its full rated horsepower.

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OilPull long life is proverbial. Hundreds are in the 7th, 8th, 9th and even 11th year of service. A recent investigation of nearly 500 OilPulls of all ages disclosed an average repair cost of only \$16.92 per year. This means that the OilPull is the cheapest tractor to operate from every point of view.

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Irish Cobblers for sale. Two hundred bushels certified Irish Cobbler Seed Potatoes. Morley E. Osborne, Sun Haven Farm, Standish, Mich.

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This proves the value of advertising. Neither advertiser nor publisher can prosper without *your* patronage. Therefore, it is to their advantage to cater to you. They do it, too.

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Detroit



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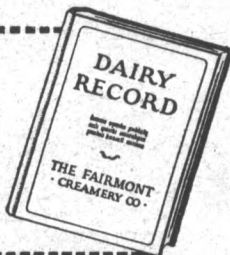
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Sired by SEGIS KORNDYKE DENIJLANDER, a 32
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No. 1 Segis Moonlight Pletertje King, No. 307708,
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Reg. Holstein Bulls ready for service sired by a 42 lb.
ves. bull. Priced to sell, also a few heifers and cal-
ves. B. B. REAVY, Akron, Mich.

Live Stock Awards at State Fair

(Continued from last week.)

Breeder's young herd:—1st, Beam;
2nd, Alt; 3rd, Alt.
Get of boar:—First, Alt; 2nd, Beam;
3rd, Beam.
Produce of sow:—First, Beam; 2nd
and 3rd, Alt.

Hampshire.

Boar two years or over:—First, Zene
G. Hadley, Wilmington, Ohio, on The
Peer; 2nd, Depew Head, Marion, Ohio,
on Messenger Masterpiece; 3rd, C. M.
Case, Adrian, Mich., on Linwood Chief
2nd.

Boar 18 months and under two
years:—First, Head on Sensation
Edge; 2nd, Hadley on Billie; 3d, Maw-
er Bros. on Cornucopia Big Bone.

Boar 12 months and under 18
months:—First, Head on Deoka Trav-
eller; 2nd, Hadley on Monie Mike; 3d,
Head on Mammoth Edge.

Boar six months and under 12
months:—First, Hadley on Haiden's
Bill; 2nd, Hadley on Haiden's Roxy;
3rd, Mawer Bros. on Cornucopia
Banker.

Boar under six months:—1st, Head
on Brilliant Edge; 2nd, Hadley on
Monie Getter H; 3rd, Hadley on Look-
out Bill H.

Sow two years or over:—First, Had-
ley on Messenger Lady H; 2nd, Head
on Edgewood Queendodo; 3rd, Head
on Edgewood Countess.

Sow 18 months and under two
years:—First, Head on Edgewood
Queendodo; 2nd, Hadley on Lillian;
3rd, Mawer Bros. on Jessie Messenger.

Sow 12 months and under 18
months:—First, Head on Edgewood
Queendodo; 2nd, Hadley on Betty; 3d,
Head on Edgewood Mabel.

Sow six months and under 12
months:—First, Head on Edgewood
Queendodo; 2nd, Hadley on Haidee's
Queen; 3d, Head on Edgewood Queen-
dora.

Sow under six months:—First, Head
on Edgewood Queentava; 2d, Head on
Edgewood Queentaro; 3rd, Hadley on
Cozy's ridget.

Senior champion boar:—Hadley; re-
serve, Head.

Senior champion sow:—Hadley; re-
serve, Head.

Junior champion boar:—Hadley; re-
serve, Head.

Junior champion sow:—Head; re-
serve, Head.

Grand champion boar:—Hadley, re-
serve, Head.

Grand champion sow:—Hadley; re-
serve, Head.

Exhibitor's herd:—First, Head; 2nd,
Hadley; 3rd, Mawer Bros.

Breeder's young herd:—First, Had-
ley; 2nd, Head; 3rd, Mawer Bros.

Get of boar:—1st, Head; 2nd, Had-
ley; 3rd, Mawer Bros.

Produce of sow:—First, Head; 2nd,
Hadley; 3rd, Mawer Bros. on Produce
of Cornucopia Gem.

Large Yorkshire.

Boar two years or over:—First, Rav-
endale Farm, Yellow Springs, Ohio, on
Deercreek Sardis 2nd.

Boar 18 months and under two
years:—First, Newton Barnhart, St.
Johns, Mich.

Boar 12 months and under 18
months:—Barnhart.

Boar six months and under 12
months:—First, Ravendale Farm on
Oak Lodge Prince; 2nd, Barnhart; 3d,
Barnhart.

Boar under six months:—1st, Barn-
hart; 2nd, Barnhart; 3rd, Ravendale
Farm on Ravendale Lardie.

Sow two years or over:—First, Rav-
endale Farm on Ohio State Lady E;
2nd, Barnhart; 3rd, Barnhart.

Sow 18 months and under two
years:—First, Ravendale Farm; 2nd,
Barnhart.

Sow 12 months and under 18
months:—First, Ravendale Farm on
College Y 24; 2nd, Barnhart; 3d, Barn-
hart.

Sow six months and under 12
months:—First, Ravendale Farm on
Oak Lodge Princess 459; 2nd, Raven-
dale Farm on Oak Lodge Princess 40;
3rd, Ravendale Farm on Oak Lodge
Princess 41.

Sow under six months:—First, Rav-
endale Farm on Ravendale Rena; 2nd,
Ravendale Farm on Ravendale Rena
2nd; 3rd, Barnhart.

Senior champion boar:—Ravendale
Farm; reserve, Barnhart.

Senior champion sow:—Ravendale
Farm; reserve, Farm.

Junior champion boar:—Ravendale
Farm; reserve, Barnhart.

Junior champion sow:—Ravendale
Farm; reserve, Ravendale Farm.

Grand champion boar:—Ravendale
Farm; reserve, Ravendale Farm.

Grand champion sow and reserve:—
Ravendale Farm.

Exhibitor's herd:—First, Ravendale
Farm; 2nd, Barnhart.

Breeder's young herd:—First, Rav-
endale Farm; 2nd, Barnhart.
Get of boar:—1st, Ravendale Farm;
2nd, Barnhart.

Produce of sow:—First, Ravendale
Farm; 2nd, Barnhart.

Tamworth.

Boar two years or over:—First, Har-
ry Fonts, West Hilton, Ohio, on King
Siege.

Boar 18 months and under two
years:—First, W. S. Adams, Litch-
field, Mich., on Bess Elms Lad; 2nd,
Harry Fonts, West Milton, Ohio, on
Kessler's Boy 1st.

Boar 12 months and under 18
months:—First, Adams on Village
View Elmo; 2nd, Fonts on Harry's
King.

Boar six months and under 12
months:—First, Fonts on Maple Grove
Harvey; 2nd, Adams on Village View
Dick; 3rd, Adams on Village View
Long Bby.

Boar under six months:—1st, Adams
on Village View Bob; 2nd, Adams on
Just Right; 3rd, Fonts on Vernet Har-
vey 1st.

Sow two years or over:—1st, Fonts
on Vernet Queen; 2nd, Adams on
Woodrows Bess; 3rd, Fonts on Markle
Ann.

Sow 18 months and under two
years:—First, Fonts on Kessler's Belle
2nd; 2nd, Fonts on Kessler's Belle 5th;
3rd, Adams on Elmos Jack's Bess.

Sow 12 months and under 18
months:—First, Adams on Village
View Blossom; 2nd, Adams on Lady
Elmo; 3d, Fonts on Harry's Queen 3rd.

Sow six months and under 12
months:—First, Adams on Village
View Lassie; 2nd, Fonts on Maple
Grove Ann 1st; 3rd, Fonts on Maple
Grove Ann 2nd.

Sow under six months:—1st, Adams
on Village View Princess II; 2nd,
Adams on Fancy I; 3rd, Adams on
Fancy II.

Senior champion sow:—Fonts; re-
serve, Adams.

Junior champion boar:—Adams; re-
serve, Fonts.

Junior champion sow and reserve:—
Adams.

Grand champion boar and reserve:—
Adams.

Grand champion sow:—Fonts; re-
serve, Adams.

Exhibitor's herd:—First, Adams;
2nd, Fonts.

Breeder's young herd:—1st, Adams;
2nd, Fonts.

Get of boar:—First, Adams; 2nd,
Fonts.

Produce of sow:—First, Adams; 2d,
Fonts.

O. I. C.

Boar two years or over:—First, A.
J. Adams on Just Right; 2nd, Harry
T. Crandell, Cass City, Mich.; 3rd, Al-
bert Newman, Marlette, Mich., on
Michigan Boy.

Boar 12 months and under 18
months:—First, Detroit Creamery Co.,
Mt. Clemens, Michigan, on R. O. Big
Prince III; 2nd, Newman on Michigan
Jumbo; 3rd, Adams on Rival Prince.

Boar six months and under 12
months:—First, Adams on Big Bob;
2nd, Gibson on Saginaw Rival; 3rd,
Gibson on Michigan Equal.

Boar under six months:—First, De-
troit Creamery Company on Elvetrand
Sultan; 2nd, Crandell; 3rd, Adams on
Longfellow A.

Sow two years or over:—1st, Cran-
dell; 2nd, Newman on Fancy 10th; 3d,
Gibson on Triumph Perfection.

Sow 18 months and under two
years:—First, Crandell; 2nd, Adams;
3rd, Gibson on Miss Mable.

Sow 12 months and under 18
months:—First, Adams on Lady Girl;
2nd, Newman on Model Girl 2nd; 3rd,
Crandell.

Sow six months and under 12
months:—First, Adams on Lady; 2nd,
Adams on Lady A; 3rd, Adams on
Lady B.

Sow under six months:—1st, Adams
on Long Lady; 2nd, Adams on Long
Lady A; 3rd, Adams on Long Lady B.

Senior champion boar:—Adams; re-
serve, Detroit Creamery.

Senior champion sow:—Adams; re-
serve, Crandell.

Junior champion boar:—Adams; re-
serve, Detroit Creamery Co.

Junior champion sow and reserve:—
Adams.

Grand champion boar and reserve:—
Adams.

Grand champion sow and reserve:—
Adams.

Exhibitor's herd:—First, Adams;
2nd, Crandell; 3rd, Newman.

Breeder's young herd:—1st, Adams;
2nd, Crandell; 3rd, Gibson.

Get of boar:—First, Adams; 2nd,
Crandell; 3rd, Gibson.

Produce of sow:—First, Adams; 2nd, Gibson; 3rd, Newman.

Duroc-Jersey.

Boar two years or over:—First, Zale Borton, West Unity, Ohio, on Masterpiece King; 2nd, H. E. Livermore & Son, Romeo, Mich., on Brookwater Demonstrator 27th; 3rd, Inwood Bros., Romeo, Mich., on Peach Hill Orion King.

Boar 18 months and under two years:—First, F. Heims & Son, Davison, Mich., on Walts Master Col.; 2nd, Newton Barnhart, St. Johns, Mich.; 3rd, Michigan Farm, Ltd., Pavillion, Mich., on Michigan Special XV.

Boar 12 months and under 18 months:—First, Borton on Orions Masterpiece Model; 2nd, Barnhart; 3rd, Herbert W. Mumford, Ann Arbor, Mich., on Brookwater Sensation.

*Boar six months and under 12 months:—First, Borton; 2nd, Inwood Bros.; 3rd, Mumford on Brookwater Principal.

Boar under six months:—First, Borton; 2nd, Mumford on Big Bone Giant Sensation 5th; 3rd, Borton.

Sow two years or over:—First, Fouts on Orioness Goldie; 2nd, Mumford on Brookwater Wajax; 3rd, Taylor on Cherry Wonder Maid 2nd.

Sow 18 months and under two years:—First, Heims & Son on Hillshade Crimson Model 2nd; 2nd, Davis; 3rd, Borton on Masterpiece Model 2nd.

Sow 12 months and under 18 months:—First, Borton on Orions Choice 17th; 2nd, Borton on Wonder Advancer 2nd; 3rd, Heims & Son on Hillshade Prim Lady.

Sow six months and under 12 months:—First, Borton; 2nd, Borton; 3rd, Michigan Farm, Ltd., on Michigan Willetts XV.

Sow under six months:—1st, Heims & Son on Hillshade Lady Walt 1st; 2nd, Heims & Son on Hillshade Lady Walt 2nd; 3rd, Borton.

Senior champion boar:—Borton; reserve, Heims & Son.

Senior champion sow:—Borton; reserve, Heims & Son.

Junior champion boar:—Heims & Son; reserve, Borton.

Junior champion sow:—Borton; reserve, Heims & Son.

Grand champion boar:—Heims & Son; reserve, Borton.

Grand champion sow:—Borton; reserve, Heims & Son.

Exhibitor's herd:—First, Heims & Son; 2nd, Borton; 3rd, Fouts.

Breeder's young herd:—First, Heims & Son; 2nd, Borton; 3rd, Heims & Son.

Get of boar:—First, Borton; 2nd, Heims & Son; 3rd, Mumford.

Produce of sow:—First, Heims & Son; 2nd, Heims & Son; 3rd, Mumford.

American Duroc-Jersey Association.

Boars:—First, Herbert W. Mumford, Brookwater Farm, Ann Arbor, Mich., on Big Bone Giant Sensation 5th; 2nd, Mumford on Big Bone Giant Sensation th; 3rd, Heims & Son.

ws:—First, Heims & Son; 2nd and Sows:—First, 2nd and 3rd, Heims & Son.

Litter of four:—First, Himes & Son; 2nd, Mumford; 3rd, Heims.

Fat Sheep.

Middlewool wether over two years:—First, A. M. Welch & Sons, Ionia, Mich.; 2nd, L. C. Kelly & Son, Plymouth, Mich.; on Middlewool Wether.

Middlewool wether one year and under two:—First, H. E. Powell & Son, Ionia, Mich.; 2nd, Kelly & Son; on Middlewool Wether.

Middlewool wether under one year:—First, Adam A. Armstrong, Fergus, Ont.; 2nd, Kelly & Son.

Champion middlewool wether:—First, Powell & Son.

Longwool wether one year and under two:—First, Angus N. McLean, of Kerwood, Ont.; 2nd, A. H. McLean & Sons, Kerrwood, Ont.

Longwool wether under one year:—First and 2nd, McLean.

Champion longwool wether:—First, McLean.

Merino wether over two years:—First and 2nd, Moeckel.

Merino wether one year old and under two:—First, Moeckel.

Merino wether under one year:—First and 2nd, Moeckel.

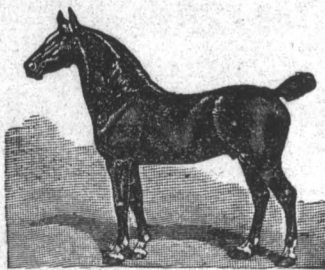
Champion Merino wether:—Moeckel

Grand champion wether of show, open to first prize winners in Class 49:—First, Powell & Son; 2nd, McLean.

POTATO EXPOSITION.

THE Annual Potato Exposition arranged by the Wisconsin potato organizations will be held at Milwaukee on December 5-10. A conflict of dates with other meetings made necessary a change from an earlier date which was announced some time ago.

Keeping Your Horse In Perfect Condition



NO horse with a Spavin, Splint, Ringbone, Curb, Bony Growth, Capped Hock, Wind Puff, Strained Tendon or Sweeny can compete with his physically perfect mates, either in achievements or endurance. Splendid looking horses—otherwise sound—often fail because of some blemish that could be quickly removed with

Gombault's Caustic Balsam

Whether you are the owner of race-horses or work-horses, you can prolong their usefulness by the use of this time-tested remedy.

Every stable should have GOMBAULT'S CAUSTIC BALSAM always on hand.

Supersedes all Cautery or Firing. Never leaves a scar or discoloration of hair.

A Reliable Liniment for External Human Use



Has no equal as a Liniment and counter-irritant for HUMAN USE. For treatment of Inflammatory and Muscular Rheumatism, Sore Throat and Chest Colds, Growths and Stiff Joints.

GOMBAULT'S CAUSTIC BALSAM if applied immediately to Burns, Bruises or Cuts, is a perfect antiseptic—soothing and healing. An absolutely safe external remedy for human and veterinary uses. Its fame is Nation-Wide.

Every bottle of Caustic Balsam will give satisfaction.

Sold by druggists, or sent by parcel post on receipt of price. \$1.50 per bottle. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio

MICHIGAN STATE GUERNSEY SALE October 19th 1921 East Lansing, Michigan Sale Pavilion, Michigan Agricultural College First Annual Consignment Sale

Sixty-Seven Registered Guernseys Males and Females

!!! HERE ARE SOME OF THE FINE OFFERINGS !!!

TWO DAUGHTERS OF MAY KING'S LADDIE OF CHILMARK A.R. he by Itchen Daisy's May King of Langwater A.R. (Sold for \$20,000).

IMP. CHRISTINE OF ST. SAMPSONS A.R. 3106, Milk 8527.10 lbs., B. fat 498.9 lbs. at 2 yrs; re-entry, milk 11645.1 lbs., B. fat 608.0 lbs. at 7 yrs. (2 daughters in sale).

JUMBO OF BRIARBANK 64998, dam's record, 772.23 lbs. B. fat (9th Class C)

VENUS OF NELCROFT A.R. 3894, Milk 10061.35 lbs. B. fat 496.2 lbs. at 2 yrs., re-entry, M. 11446.10 lbs., B. fat 584.69 lbs. at 3 yrs.

TAN TIVY OF MAPLECREST A.R. 5961, Milk 10139.7 lbs., B. Fat 507.25 lbs. at 3 yrs.

ST. AUSTELL DIRECT No. 57081 (2 daughters, 1 son in sale). Sired by Don Diavolo of Linda Vista A.R. (Sold for \$10,000) and out of Richesse of Linda Vista A.R. 5339, Milk 10567.9 lbs., B. fat 502.2 lbs.

SIX SONS AND FIVE DAUGHTERS OF BELLWOOD DIMPLE BASS No. 48941, sired by Jethro BASS A.R. sire of 22 A.R. daughters, and out of Lily of Grasslands A.R. 2919, Milk 11512.7 lbs., B. fat 540.75 lbs. at 4 yrs.

LILA OF CHESNEY FARMS A.R. 9538, Milk 7079.0 lbs. B. fat 364.50 lbs. Class EE.

MONARCH OF CAPITOL VIEW 63711, 1st. prize Michigan State Fair, 1920. Daughters of such great bulls as: Governor of the Chene (A.R.), Imp. Galaxy's Sequel (A.R.) Modena's Yeoman of Langwater (A.R.), Langwater Crusader (A.R.).

Granddaughters of such splendid sires as: Langwater Frederick (A.R.), Don Diavolo of Linda Vista (A.R.), Langwater Dictator (A.R.), Langwater Demonstrator (A.R.), Bob Riima (A.R.)

Remember the Date.

Attend the Sale.

Auctioneers: Love and Benjamin

Send in your name for catalog to

F. E. Fox, Sales Manager, Waukesha, Wis.

CATTLE

Registered Guernsey bulls for sale: one two years old, dam making good A. R. record, May Rose, Dolly Dimple breeding. One a year old, great grandson of Murne Cowan, and grandson of Masher's Sequel. One six months old, grandson of Murne Cowan and great grandson of Spotswood Daisy Pearl. Dam making good A. R. record. Reasonable prices. M. HOMPE, R. 5, Grand Rapids, Mich.

GUERNSEYS

Bull calves for sale. Sired by Anton's May King that sold for \$7,000. Farmers prices and guaranteed to please. GILMORE BROTHERS, Camden, Mich.

Guernsey Females of superior breeding, at reduced prices. Tuberculin tested. Send for sale list to day. G. A. Wigent, Watervliet, Mich.

The Traverse Herd

We have what you want in BULL CALVES, the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

Bull Bargain. \$100 gets a light colored bull ready for service born Apr. 11, 1920, from 21.51 lb. dam, and sire whose six nearest dams av. 33.34 lbs. butter 7 days. Herd under state and Federal supervision. Oscar Wallin, Wisconsin Farm, Unionville, Mich.

Cluny Stock Farm

Offers the 10 mos. old bull.

Cluny Maplecrest Colantha Silver
No. 326204, Born Mar. 22, 1920

Sire—Maplecrest Application Pontiac
Sire's dam, 35 lb. butter 7 days, 1344 lbs. butter, 23421.2 lbs. milk in year. Maplecrest's 24 A. R. O. daughters average 20.2 lbs. butter, average 420.3 lbs. milk at 2 y. 11 m. 8 s. o. daughters average 14136.8 lbs. milk and 630.44 lbs. butter at 2 y. 7 m. 6 of these 10 months records.

Dam—a 22 lb. Jr. 4 yr. old granddaughter of Colantha Johanna Lad.

Dam's Dam—milked over 145,000 lbs. in 14 milking periods.

He means increased production for the herd he heads.

Price \$150.00

R. B. McPHERSON, Howell, Mich.

A BLUE RIBBON WINNER YOUNG BULL

On the 1921 Show Circuit For Sale at a low price. Out of an A. R. O. granddaughter of Pontiac Kordyke. Sired by our SENIOR SHOW BULL, Model King Segis Glista 32 37 lbs.

GRAND RIVER STOCK FARMS,

Coray J. Spencer, Owner
111 E. Main Street, Jackson, Michigan.
Herd Under State and Federal Supervision

Herefords

Repeaters, Beau Donalds, Fairfaxes, and Farmers represented in our herd. Repeater 173rd, a son of old Repeater, at head of herd. Both sexes and all ages for sale.

ALLEN BROS.,

(Farm at Paw Paw, Mich.)

Office 616 So. West St., Kalamazoo, Mich.

Lakewood Herefords

For quick action, will make attractive prices on two big boned, husky bull calves, 10 and 11 months old, registered. E. J. TAYLOR, Fremont, Mich.

CHIKASAGE Jerseys—I am offering for sale two bulls. One dropped Jan. 28-20. The other Feb. 20-21. From high testing A. A. R. of M. dams of Majesty and Eminent breeding. I also have two heifers. One a year old, the other seven mos. old of the same breeding. Priced right for quick sale. My herd is Tuberculin tested under Federal Supervision. H. S. WELBORN, R. 1, Kalamazoo, Mich.

Jersey Thoroughbreds

Few cows and bull calves. Best breeding line. Guaranteed. Tuberculin tested twice a year. If you have no money will take bankable note. E. W. VASARY, 411 Free Press Building, Detroit, Mich., Main 1267.

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

The Wildwood Farm

Jersey Cattle, Majesty strain. Herd on State accredited list. R. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

Lillie Farmstead Jerseys Bull calves from R. of M. cows. COLOM C. LILLIE, Coopersville, Mich.

JERSEY BULLS For Sale bulls ready for service. Raleigh, Majesty, Oxford Lad breeding. WATERMAN & WATERMAN, Ann Arbor, Mich.

Jersey Bulls For Sale ready for service from R. of M. dams. T. B. tested. Will give time. SMITH & PARKER, R. 4, Howell, Mich.

BIDWELL SHORTHORNS BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,

Box D, Tecumseh, Michigan

Richland Shorthorns

We offer a few choice Scotch heifers with calves at foot. This is good foundation stock and the calves are all from top sires. Prices reasonable. Write your wants and see the cattle.

C. H. PRESCOTT & SONS,

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

The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford Welfare, in service. Stock for sale.

J. V. WISE, Gobleville, Mich.

Shorthorns. Bull calves for sale from the best milking blood obtainable. ROSEMARY FARMS, Williamston, Mich.

BUY SHORTHORNS of Central Michigan Breeders' Association at farmers' prices. Write for sale list to M. E. Miller, Sec'y, Greenville, Mich.

FIVE BRED HEIFERS

that we will sell cheap if taken at once. Inquire about them or better come and see them. CARR BROS. & CO., Bad Axe, Mich.

Milking Shorthorns, accredited herds, males and females, low prices. Davidson and Hall, Beland and Beland, Tecumseh, Mich.

Francisco Farm Shorthorns

and BIG TYPE POLAND CHINAS. Now offering 3 heifers, 2 bulls, all Scotch. Sows to farrow in Aug. and Sept. Spring pigs. 60 head to choose from. POPE BROS. CO., Mt. Pleasant, Mich.

Beef-Milking Shorthorns. A few young bulls, heifers, and cows. Sired by General Claymore and Walgrove Star. J. J. Foster & Sons, Niles, Mich.

Shorthorn Bull For sale. Fames Pride 72492. 3 yrs. old; roan. Very gentle and a fine specimen of the breed. Price \$200. W. E. Bartley, Alma, Mich.

Reg. Red Polled Cattle, our herd headed by Famous Reg. Charming Grand Champion Michigan State Fair. Under State and Federal supervision, no cattle for sale at present. Westbrook Bros., Ionia, Mich.

Roystan Red Polls, some choice young bulls and heifers for sale. Prices right. Roystan Stock Farm, Will Cottle, R. 1, West Branch, Mich.

HOGS

FAREWELL LAKE FARM

Breeder of the Real Large Type

POLAND CHINA HOGS

W. B. RAMSDELL,
R. F. D., HANOVER, MICH.

SALE, Wed., Nov. 9

Write for Catalog and watch for Latter Ads.

(Wm. H. Lind holds sale at Alto,
OCT. 21st.)(Loughlin, Sherk and Adams hold
sale at Caledonia, Oct. 22.)Berkshire spring pigs, either sex, \$10, \$12 and \$15
according to age. Also fall gilts and yearling sows.
CHASE STOCK FARM, Arlette, Mich.Duroc Jerseys A few extra good fall boars, and
a choice lot of spring boars of the heavy
boned type popular blood lines at reasonable prices.
DRODT & BERNIS, Monroe, Mich.

Brookwater Duroc Jerseys

SPRING BOARS sired by Panama Special 55th,
Big Bone Giant Sensation and Brookwater
Demonstrator. The best of the breed. Order
one by mail or come to the farm. You will like
them when you see them. Prices reasonable.BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner J. B. Andrews, Mgr.DUROC JERSEYS: A few choice
bred gilts for
sale. CAREY U. EDMONDS, Hastings, Mich.Spring pigs by Walt's
Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919

Phillips Bros, Riga, Mich.

Duroc Jersey Swine

Breeding stock for sale at all times at reasonable
prices. If in need of a high class boar, or sow
any age write, or better, come to farm. Best of
Blood line and we guarantee you satisfaction.
Herd boars, Panama Special 11th and Home
Farm Wonder. Booking order for fall pigs at \$15
each.
Thos. Underhill & Son, Salem, Mich.Woodlawn Farm Duroc hogs are from select breed-
ing stock, well mated for size, type and color.
Herd boars, sows and pigs, will ship C.O.D. and furn-
ish Reg. certificate. W. E. Bartley, Alma, Mich.

PEACH HILL FARM

Offers gilts sired by or bred to
Peach Hill Orion King 152489
INWOOD BROS., Romeo, MichiganDUROC SOWS and gilts bred to
Jacks Cherry
Orion King No. 169259 Son of the \$10,000 boar owned
by Longview Farm, Le Summit, Mo. also young boars
ready for service out of good sows. Apply
THE JENNINGS FARM, Bailey, Mich.Duroc Have some choice spring boars sired by Great
King Orion Col. No. 15045, double immune,
priced reasonable. HARRY FOWLER, Sturgis, Mich.Sows Bred to Michigan Orion Sensation (a
great son of Great Orion's Sen-
sation) and Michigan Demonstration (one of largest
and best boars in Michigan) for sale at conservative
prices. Also grown strong boars and gilts.
Michigan Farm, Pavilion Mich., Kalamazoo, Co.O.I.C.'s Choice gilts for April and May farrow, also
fall pigs. Booking orders for spring pigs.
A. J. BARKER & SON, Belmont, Mich.

DUROC JERSEYS

spring boars that will improve your hogs, of Orion
Cherry King, Col., and Pathfinder breeding, at rea-
sonable prices. Write us your wants. Bred sows and
gilts all sold. W. C. TAYLOR, Milan, Mich.

DUROC JERSEYS

Bred gilts all sold. Choice spring boars by Brook-
water Demonstrator.
RUSH BROS., Oakwood Farm, Romeo, Mich.DUROC JERSEYS Am booking or-
ders for fall
pigs. E. D. HEYDENBERG, Wayland, Mich.Chester Whites quality March boars and fall
pigs at a very low price, satisfac-
tion guaranteed. F. W. Alexander, Vassar, Mich.FOR SALE Big heavy bone Duroc boars,
Mar. farrow, shipped on ap-
proval. CHAS. BRAY, Okemos, Mich.Duroc Jerseys Best of breeding, good size and type,
weanling pigs to breeding age. Priced
to sell. A. W. HOWE, Mason, Mich.Chester Whites fall pigs only for sale, blood lines of
Wildwood Prince and Big Sensation.
GEORGE D. SPRINGER, R. 6, Grand Rapids, Mich.

Raise Chester Whites?
Like This
the original big producers

I HAVE started thousands of breeders on the road to
success. I can help you. I want to place one hog from
my great herd in every community where I am not already rep-
resented 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

Oct. 21st

Oct. 21st

Fri. Oct. 21 at 10 o'clock

Howell Sales Co., of Livingston County

The oldest Sales Co. of Livingston County will
hold their

8th ANNUAL SALE

of 90 head of

Reg. Holstein Cattle

at the sale pavilion on the fair grounds at Howell,
Michigan.This sale consists of young cows and heifers
due to freshen this fall and early winter. Sired by
and bred to bulls from dams with records from 30 lb.
to 45 lb. Several with good A. R. O. records. Cata-
logs Oct. 10th.

Auc. J. E. Mack. S. T. Wood in the Box

Wm. I. Griffin, Sec'y.
Howell, Mich.DETROIT FAIR GROUNDS
CONSIGNMENT SALE
OCTOBER 18, 1921

Seventy Head of high class Registered Holsteins

Among them a 33 lb. bull by a 31 lb. sire. The best bull ever bred by
Wabeek Farms, also 8 wonderful yearling heifers sired by Maplecrest
DeKol, full brother to Daisy Grace DeKol. A out 12 young heifers
consigned by John F. Ohara. All being from good sires and, dams some
sired by a son of King of the Pontiacs All are from Tuberculin
Tested herds and will be sold with a 60 to 90 days guarantee.

Write to

E. A. HARDY, Rochester, Mich.
for catalogues.

FIRST ANNUAL SALE

Large Type Poland China

45—HEAD—45

Tried Yearlings, Sows, Gilts and Boars
ALL IMMUNIZED

At Livery Barn, Caledonia

SATURDAY, OCTOBER 22

Sale Under Cover Write for Catalog

Loughlin, Sherk & Adams, Caledonia, Mich.

N. C. Thomas, Auctioneer. Wesley Hile, Fieldman, Ionia, Mich.
W. H. Lind, Record Man. J. C. Proctor, Clerk.

Mail bids to Fieldman

(Wm. H. Lind, holds sale at Alto, Oct. 21st.)
(W. B. Ramsdell, Hanover, Mich., Sale Nov. 9.)

O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C.
Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant
Buster. Write your wants, all stock shipped on approval.

CRANDELL'S PRIZE HOGS,

Cass City, Mich.

OUR SUGAR BEET CROP.

OF the 978,500 acres of land devoted
to sugar beets in the United
States, 158,569 acres are to be found
in Michigan. The Michigan tonnage
is placed at 1,118,360 tons. While the
growth has been rapid since the mid-
dle of August when the drought was
broken there has been some blight in
some districts. There is reported to
be 1,806,048 bags of last year's sugar
on hand at this time, or nine per cent
of the total output of a year ago, ac-
cording to the United States Sugar
Manufacturers' Association.

NOTICE OF DAIRY MEETING.

A MEETING of the members of the
National Dairy Union is called at
the Frederick Hotel, St. Paul, Minne-
sota, on Friday October 14, 1921, at
11:00 a. m., for the purpose of electing
directors and transacting such other
business as may properly come before
the meeting. Furthermore, a meeting
of the board of directors is called to
assemble at the same place immedi-
ately following the adjournment of the
foregoing meeting. The National
Dairy Show will be in session at the
Minnesota Fair Grounds October 8-15,
thus making it convenient for the de-
legates to assemble at this place on
the above date. N. P. Huhl, of Michi-
gan, who is president of this organiza-
tion, issues the above call.

THE CONDENSED MILK MARKET.

MANUFACTURERS of condensed
milk products were inclined to
feel optimistic during a portion of last
month because it seemed that an ac-
celerated demand for their products
was developing. While no real boom
was expected, conditions were such
that a greater feeling of confidence
was generally apparent. However, of
late the condensed milk market has
been very quiet and the confident feel-
ing that was in evidence has been dis-
sipated.

While up until July 1, stocks in the
hands of the manufacturers showed a
material increase, there being an in-
crease of fully twenty-five per cent
during the month of June, the later
months have shown a slight decrease
in production, if anything. However,
the decrease is insufficient to have any
effect on the general market. During
July and August there was a fair ex-
port demand, the aggregate quantity
exported during the month of July ex-
ceeding 11,500,000 pounds, the greater
part of which went to the United King-
dom. Exporters have continued to
show a marked interest in both con-
densed and evaporated but there has
been a slowing down of export busi-
ness. There has been a continued de-
mand for powdered skim-milk for ex-
port shipment and values have had a
slightly upward tendency. Domestic
demand for all classes has been at the
minimum of late.—W. B. L.

MERINO BREEDERS MEET.

FOR several years there has been a
desire on the part of some mem-
bers of the Improved Black Top Mer-
ino Sheep Breeders' Association to in-
troduce new blood in the flocks owned
by the members. At this year's meet-
ing, which was held at the pleasant
home of Mr. and Mrs. George Haist,
near Chelsea, rule 728 was changed to
read as follows: "That all American
Delaine Merinos, National Delaine and
Black Top Spanish Merino sheep being
properly recorded in their respective
registers and approved by the secre-
tary of our own association shall be
admitted by the owners upon the pay-
ment of the transfer fee and be trans-
ferred in our association, their pro-
geny to be known as the Improved
Black Top Delaine Merinos."

An ideal day brought out a good
attendance despite the necessity of
many being elsewhere on account of
fairs. A little surprise was planned
for Mr. and Mrs. O. M. Robertson who,
on July 25, was to have celebrated
their fiftieth wedding anniversary, but
on account of sickness the party was
called off; however, a purse of fifty
dollars was presented to them by the
members of the association.

Officers elected for the coming year
are as follows: President, O. C. Burk-
hart, Chelsea; vice-president, G. E.
Marshall, Stockbridge; secretary-
treasurer, O. M. Robertson, Eaton Rap-
ids. Six new members were voted in.

Dispersion Sale Friday, Oct. 21, 1921

28 Big Type Poland Chinas 5 Jersey Cattle (Registered)

3 herd boars including Mammoth Ben's Chief a grandson of Giant Ben (Pfanders) Michigan Orange by Orange Model by Wisconsin Orange out of Iowa Lady Timm a granddaughter of Big Joe 2nd. Long Boy Jr. by Long Boy by Orange Boy out of Miss Columbia (litter mate to The Yankee) by Mc's Big Orange.

Five young boars.

Several tried sows and gilts including Prospect Giantess with litter by Mich. Orange by side. Iowa Lady Timm with litter by Mammoth Ben's Chief and Mollie Alto by Monster Big Bob with litter by Mich. Orange by side.

5 Registered Jersey Cattle

including 2 yr. old herd bull Belle's Majesty Lad 189242 by Great Edison's Successor out of Edison's Belle of Springhill by Majesty's Gamboge Lad.

Plan to attend our sale. Stay over night at our expense and attend the Loughlin, Sherk and Adams at Caledonia next day (only 8 miles).

Bids sent Clerk or Auc't will be handled honestly and to interest of bidder.

Auct. Col. N. C. Thomas, Caledonia, Mich.
Clerk J. C. Proctor, Caledonia, Mich.

W. H. LIND, Prop., Alto, Mich.



MINERAL HEAVE COMPOUND
FOR HEAVES
Booklet Free
\$1.25 Box guaranteed to give satisfaction or money back.
\$1.10 Box Sufficient for ordinary cases (includes War Tax).
MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

HOGS

O. I. C.'s choice boars and spring pigs at farmers prices.
CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. and Chester White Swine. Strictly Big Type with Quality. I am sold out of everything but Spring pigs. Have the finest lot I ever bred. Meet me at the State Fair and other leading fairs of the State. And see a sample of our hogs and pigs.
NEWMAN'S STOCK FARM, R. 4, Marlette, Mich.

O. I. C.'s Special prices on spring stock. Must be sold to make room. WEBER BROS. Phone R. O. 408, 10 mile Rd. W., Royal Oak, Mich.

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES,
Sales Mgr. Coral, Mich.

O. I. C.'s one yearling boar and last spring pigs, either sex not akin. Big growthy stock, 1/4 mile west of Depot, Citiz Phone. OTTO B. SCHULZE, Nashville, Mich.

O. I. C.'s One yearling boar left, April and August pigs. MILO H. PETERSON, R. 2, Ionia, Mich. Elmhurst Farm.

Registered O. I. C. Stock. Low prices all times.
SUNNY PLACE, No. 19, R. 1, Washington, Mich.

FOR SALE:

Registered Spotted Poland China Boar and Gilts ready for service, from Spotted Lucile the First, No. 48748, first prize winner at Detroit in 1920, sired by one of Michigan's greatest boars, Michigan Giant, No. 16165, owned by Greuber of Frankenmuth, Michigan. Prices reasonable. Address W. I. BEAROE or CHAS. BABCOCK, Ovid, Michigan.

L.T.P.C. \$15, \$20 & \$25

Our top notch stretchy boar pigs are weaned and ready to ship. They are sired by such boars as Harts Block Price Cline's Big Bob, Right Kind Clan and Leonard's Big Bob. HART, FULCHER AND CLINE, Address F. T. Hart, St. Louis, Mich.

LARGE TYPE POLAND CHINAS

Spring pigs of either sex. Sired by F's Clansman Grand Champion Boar 1920 and by Smooth Buster 1st. Jr. yearling 1920. Priced to sell. Write or see them. A. A. Feldkamp, R. 2, Manchester, Mich.

Big Type Poland China Boars Ready for stretchy fellows. Grandsons of Gertsdale Timm, weighing better than 300 lbs., also spring pigs. Grandsons of Leonard Bib Bob. Satisfaction guaranteed. Call or write. DORUS HOVER, Akron, Michigan

L. T. P. C. The best blood of the breed. Write for description of my yearling sows and six pigs \$75.00. Spring boars \$40.00, fall pigs both sex. J. J. JEFFERY, Kingston, Mich.

Big Type P. C. some very choice boars double immune. out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big type Poland China boars and gilts of April farrow. also one yearling boar that is hard to beat. Prices right. OLYDE FISHER, R. 3, St. Louis, Mich.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Remedy for Canine and Feline Mange.—Every time my Collie dog or kittens have sore ears I use Iodex and it relieves them and cleanses their ears. I put it on with end of finger and the animal seems to enjoy the effect, for it prevents itching. I first applied peroxide of hydrogen, but this was rather harsh. Iodex can be purchased at nearly every drug store.—M. E. B., Dansville Mich.—In "Canine Medicine and Surgery," Dr. Charles G. Saunders has the following to say regarding Follicular Mange: He says Follicular Mange is one of the most serious skin diseases from which our patients suffer, the parasite being so deeply situated that parasiticides have no permanent effect and bacterin treatment is effective in only a few cases.—Editor.

Depraved Appetite (Pica).—One of my neighbors has a cow that chews wood, paper, and bones every chance she has and I would like to know what to give her? A. K., Boltin, Mich.—Feed her plenty of sound and wholesome food. Mix carbonate of iron, one part, powdered gentian one part, powdered fenugreek one part, two parts of salt, and four parts of bone flour together, give her a tablespoonful at a dose in feed three times a day. In my practice I usually prescribe full doses of powdered wood charcoal.

Splint—Spavin.—I have a driving horse seven years old that has shown some lameness in hind leg for several months. The only blemish I can find on this lame leg is a small hard bunch on inside of leg high up on shin close to hock. Have been applying camphor as I disliked to apply a blister. The lameness is so slight that most people overlook it. A. T. P., Stanton, Mich.—Clip off hair and apply one part red iodide of mercury and eight parts of fresh lard to bunch once a week. If possible give him a rest.

Fistula of Face.—I purchased a four-year-old mare last spring. She had an open sore on face which the owner said was caused by a blow. Showed her to veterinary, who said to pull out the fourth upper molar tooth and she will get well; however, I have done nothing, but had her examined by another veterinary, who called it fistula and gave me a black-colored salve to pack into hole. I applied it for eight weeks then a chunk sloughed out, presumably the pipe. It left a big hole in head which has not healed, and another pipe fills the opening, but, of course, pus runs out. What had I better do? F. A. P., Harbor Beach, Mich.—A chronic case of this kind, especially if the bones are diseased, is very often incurable. You have had the opinion of two veterinarians, followed the instructions of one, his prescriptions have failed to effect a cure; now the next move to make is to either continue on with one of the veterinarians, or employ still another. The writer believes that in order to effect a cure some surgical work must be done. This case should not be treated by mail.

Infected Udders.—Have seven cows. Every few days one or the other of them are troubled with sore udder, affecting the hind quarter, but after giving thick milk for two days she gets all right. The cows have been in this condition all summer. The cows run on pasture, are fed ear corn and oat chop. F. B., Imlay City, Mich.—Apply one part of fluid extract of phyto-lacca and eight parts of lanolin to bruised or infected quarter twice a day. A strange or peculiar thing about their ailment is that the hind quarters are affected, perhaps one of your cows hooks and injure them; better try to ascertain what is causing their ailment; if infected, the udder would not become normal so quickly.

Rickets.—We have some spring pigs that are weak in their hind parts, and instead of walking they drag their hind parts. Please tell me what to do for them. W. D., Kingsley, Mich.—Feeding pigs too much corn and fat-producing food is a common cause of partial loss of power. Either market them to butcher, or feed more oats, oil meal, tankage and grass. Keep them dry and rub back with mustard and water three times a week. Perhaps you have failed to exercise them, which, of course, is a benefit to growing pigs.

Consignment Sale

of West Michigan's Healthy Cattle, at the
**West Michigan State Fair Grounds,
GRAND RAPIDS, MICHIGAN**

on Wednesday, October 19th, 1921

117 head selected from 28 good West Michigan herds where some of Michigan's best 30 lb. bulls are in service.

Several carloads of good cows, most of them fresh milch at time of sale, or due to freshen within from two to six weeks from date of sale. Choice heifer calves of good breeding, and a considerable number of desirable yearling and two year old heifers safe in calf to 30 lb. bulls.

Two 30 lb. bulls and 10 other well bred young bulls from high record sires and good A. R. O. dams.

Good A. R. O. cows, some with records up to 29 lb. and safe in calf to 30 lb. bulls.

This is the buyers opportunity to get anything he desires, from a 30 lb. bull, a well bred heifer calf, or a yearling heifer, to a car load or more of good fresh milch cows or cows nearly ready to freshen at time of sale.

Remember Michigan is one of the States where the Percentage of tubercular cattle is very low, and most of these cattle come from herds that are under State and Federal Supervision, and a considerable number of these herds are fully State and Government Accredited.

Sale Catalogs will be out on or about October 1st.

If interested, write for Sale Catalog.

W. R. HARPER, Sales Manager, Middleville, Mich.

L. S. P. C. a few choice boars bred gilts all sold. Also a grandson of The Clansman and Harrison Big Bob.
H. O. SWARTZ, Schoolcraft, Mich.

Big Type Poland Chinas. A great litter by Checkers; dam a grand-daughter of Giant Buster, are for sale now. They were farrowed Mar. 11, and were purchased of Jim Bloemendaal, Alton, Ia. in dam. Do you want the best the breed produces? Come over and see them.
Wesley Hile, Ionia, Mich.

FOR SALE:—A wonderful yearling boar fine spring boars, fall pigs. Can satisfy your wants in any thing from suckling pigs to Mature Herd boars and sows. Public Sale November 10th.
YOUNG BROS., Niles, Mich.

Leonard's Big Type P. C. the kind that make good. Spring boars, fall pigs, at private sale. Public sale October 27, write for catalogue.
E. R. LEONARD, St. Louis, Mich.

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

P. C. swine, large type, March and Apr. pigs. Sired by "King Wonder", for sale, sent out on approval.
R. W. MILLS, Saline, Mich.

Poland Chinas 3 high class boars 4 mo. sold from daughter of Big Bob Mastodon. \$15 registered.
FERNWOOD FARM, Ewart, Mich.

L. T. P. C. Model spring boars and gilts now ready to ship. Something good at a right price.
W. J. HAGELSHAW, Augusta, Mich.

Hampshire hogs should be on your farm. Only a few spring pigs left, open gilts and fall pigs for sale.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

Hampshire boars at a bargain on monthly payments. Gilts and tried sows, Sept. pig at \$10. All registered. Guar. Dr. Cribbs & Son, R. 1, Three Rivers, Mich.

MULE FOOT PIGS from undefeated show stock at your own price. Registered. Send order. Satisfaction guaranteed.
Harold Pickett, Knowlesville, N. Y.

SHEEP

INGLESIDE SHROPSHIRE

During the past 30 years Ingleside Farm has produced over a 1000 Shropshires of sustained excellence, but never before have we been able to present to our ever-widening circle of satisfied customers such an attractive offering of Shropshires of all ages.

In rams we have a strong assortment of lambs, yearlings and aged rams—splendid individuals of the choicest breeding obtainable. We have young ewes of quality for exhibition or foundation stock. We can supply 2 or 3 fitted flocks for show at county fairs.

Write your wants—or better yet, come and inspect this stock personally.
H. E. POWELL & SON, IONIA, MICH

60 Head Registered Shropshire ewe and ram lambs also yearling rams good size and type. Priced to sell. Established 1890.
C. LEMEN, Dexter, Mich.

Idlewild Stock Farms offer for sale thirty Shropshire and Leicester rams. See our exhibit at Detroit, Jackson, Adrian, and Hillsdale Fairs.
C. J. MIDDLETON, Proprietor, Clayton, Mich.

Maple Lawn Farm Shropshires, rams and ram lambs of choice breeding. Woolled from nose to toes.
A. E. BACON & SON, Sheridan, Mich.

A Real Bargain at Kope Kon Farms

We offer 40 big healthy yearling Shropshire and Hampshire Rams all registered at \$25.00 each. Come or write while the picking is good.
S. L. WING, Coldwater, Mich.

The Maples Shropshires

For Sale. Extra well bred yearling Rams, also 2 yr. old stock ram sired by a Broughton Ram. Will sell a few good ewes and several Duroc Jersey spring boars. Brookwater bred. Write your wants early.

C. R. LELAND,
R. 5, Ann Arbor, Mich.

The Michigan Agricultural College

offers for sale rams and ewes of the Shropshire, Hampshire, Oxford and Rambouillet breeds of sheep. For information write Department of Animal Husbandry, East Lansing, Michigan.

Shropshires 7 yearling rams also ram and ewe lambs. Buttar and Senator Bids. by breeding.
C. J. Thompson, Rockford, Mich.

Shropshires—Yearling and lamb rams with quality. Sired by an imported Winton ram. Write for prices and description.
W. B. McQuillan, Howell, Mich.

Registered Shropshire Rams Priced to sell.
Dan Bocher, R. 4, Ewart, Mich.

Shropshire Rams for sale. Also yearling Short-horn bull.
V. E. Morrish, R. 5, Flint, Mich.

Shropshire Rams and Ram lambs, some good stock. Priced right. Reg. in buyers name.
A. W. HOWE, Mason, Mich.

Straight Brook Hampshire Downs

For Sale: 30 yearling rams, 30 ram lambs including real flock headers. We also have to offer ewes of all ages.
J. B. Welsh, Mgr., STRAIGHT BROOK STOCK FARM, R. 1, Ionia, Mich.

Reg. Hampshire Rams all ages. Bred and priced right. Also reg. ewes all ages.
W. W. CASLER, Ovid, Mich.

For Sale Oxford rams and ewes all ages priced to sell. Write your wants.
GEO. T. ABBOTT, R. 2, Palms, Mich. Tel. Deckerville 78-3.

For Sale Oxford rams and ewe lambs. Stock registered. Priced right.
H. W. MANN, Dansville, Mich.

OXFORD RAMS

Any age, priced right Earl O. McCarty, Bad Axe, Mich.

FOR SALE 30 yearling Delaine Rams; at farmers prices.
CALHOON BROS., Bronson, Mich.

Rambouillet Rams. None better bred at farmers price.
J. M. EAGER, R. 6, Howell, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, October 4.

Wheat.

Detroit.—Cash No. 2 red \$1.26; No. 2 mixed and No. 2 white \$1.23.
Chicago.—No. 1 hard \$1.20½; No. 2 hard \$1.19¼; September \$1.15¼.
Toledo.—Cash No. 2 red \$1.25; December \$1.27½.

Corn.

Detroit.—Cash No. 2 yellow 52½c; No. 3 yellow 51½c; No. 4, 48½c.
Chicago.—No. 2 mixed 48¼@49c; No. 2 yellow 48½@49¼c.

Oats.

Detroit.—Cash No. 2 white 38½c; No. 3 white 36c; No. 4 30@32c.
Chicago.—No. 2 white 35½@36¼c; No. 3 white 33@35c.

Beans.

Detroit.—Immediate and prompt shipment \$4.20 per cwt.
Chicago.—Choice to fancy hand-picked Michigan beans \$5.10@5.25; red kidney beans \$11.
New York.—The market is steady
Choice pea \$5@5.25; do medium \$5.25; kidney \$11.75@12.

Rye.

Detroit.—Cash No. 2 98c.
Chicago.—No. 2 94½c.
Toledo.—Cash 94c.

Seeds.

Detroit.—Prime red clover, cash and October \$12.75; alsike \$10.50; timothy \$2.75.

Toledo.—Prime red clover \$13.05; alsike \$10.75; timothy \$2.65.

Hay.

Detroit.—No. 1 timothy at \$20@21; standard and light mixed at \$18@20; No. 2 timothy \$18@19; No. 1 clover mixed \$15@16; No. 1 clover \$14@15; rye straw \$13.50@14; wheat and oat straw \$12@12.50 per ton in carlots at Detroit.

Feeds.

Detroit.—Bran \$20.50; standard middlings \$22; fine middlings \$28; cracked corn \$27; coarse cornmeal \$25; chop \$20 per ton in 100-lb. sacks.

WHEAT

The uncertainty in the wheat market which appeared two weeks ago has persisted. Foreign demand remains inactive as exporters undoubtedly overbought early in the season. The visible supply in United States and Canada is now 51,159,000 bushels, which is above the average for recent years. This showing is being built up at the expense of the reserves at interior points. Reports upon the Argentine and Australian crops are highly favorable but Manchuria, Japan and China and India have been asking for offers of both American and Canadian wheat. Price movements during the rest of the crop year will depend to a considerable extent upon the outcome in Australia and Argentina. The situation on the whole, however, seems to favor the holders of wheat in the United States.

CORN

Predictions that corn would sell in the forties at Chicago this fall were made good during the past week. At Kansas City, the price dropped below forty cents. The movement of old corn remains heavy and the slump in German exchange caused that country to withdraw as a buyer, removing one of the principal supports to the market. Prices reached the lowest point for this season of the year in the last eighteen years. Although primary receipts are still large all reports indicate that the supply of old corn has been greatly reduced and that shipments on this scale cannot continue much longer. Corn prices may weaken a little more but it is safe to assume that they are near the bottom, although only a dragging market can be expected until after the winter movement of new corn has passed its climax.

BEANS

New beans are being sold rapidly by Michigan growers and as a result values have worked lower. Prices f. o. b. Michigan shipping points are about \$4.45@4.50 per 100 pounds for choice hand-picked stock, while growers are receiving \$3.75@4 for beans in the dirt. Red beans are bringing \$8.50 at shipping points against \$12 at the season's high point. Demand is slow as the weather has been too warm to stimu-

late consumption. The quality as well as yield of the bean crop is below the average. The Michigan crop is estimated at only 2,295,000 bushels, compared with 3,575,000 bushels last year. An advancing market looks highly probable as soon as the flood of supplies immediately following the harvest dries up.

OATS

Oats markets are carrying an immense load of grain at terminals, but receipts are gradually falling off and shipments increasing so that this burden has practically reached its maximum. Export demand is small as European countries dropped out when foreign exchanges declined.

SEEDS

Underlying supply and demand conditions in cloverseed seem to point toward higher prices later on. A moderate advance was scored last week but not all of it was maintained. The receipts are liberal as the producers are selling freely. Toledo, the leading market, has already received 5,770 bags compared with an average to the same date during the four previous years of only 400 bags.

FEEDS

Feed markets, especially the wheat by-products, remain dull and inactive. Cottonseed meal has declined slightly as a result of larger offerings. Corn industries are operating at about 80 per cent of capacity so that gluten feed production is relatively large. Demand for all feed remains light.

POTATOES

Potatoes are moving rapidly from producing sections and all points have been liberally supplied. Prices generally are lower as the demand is slow. Northern round whites are quoted at \$1.60@1.90 at shipping points, and at Chicago declined to \$1.65@1.85 per 100 pound sack. Eastern consuming mar-

kets range from \$1.75@2.10 per 100 pound sack.

HAY

Demand for hay is limited mostly to local requirements and is confined to the best grades but prices were firm last week, due primarily to the light receipts.

WOOL

Demand for wool declined moderately last week, although there is still a fairly large total passing into the hands of mills. The shift of demand toward medium and low grades was still more noticeable. Foreign wool markets are still strong. The woolen goods market shows some hesitation as dealers do not believe that consumers will pay prevailing prices but it is generally agreed that concessions must come from the mills rather than through further reductions in raw material. Boston quotations follow:

Ohio and Pennsylvania fleeces:—Delaine unwashed 34@35c; fine unwashed 28@29c; half-blood combing at 29@30c; three-eighth blood-combing at 26@27c.

Michigan and New York fleeces:—Delaine unwashed at 31@33c; fine unwashed 26@27c; half-blood unwashed 28@29c; three-eighth blood unwashed 26c; quarter-blood 23@24c; half-blood 22@23c.

FRUITS & VEGETABLES

Apple shipments are increasing but demand thus far is only moderate in most consuming sections. A 2½ Baldwin is quoted firm at \$6.00 per barrel f. o. b. New York shipping points and \$6.50@8 in eastern consuming markets. Fall varieties reached \$10@11 per barrel on middlewestern markets but declined later to \$8@9.

BUTTER

Butter markets advanced last week about one cent on all scores above 86. The top grades are in strongest de-

mand. Under-grades are selling at big discounts but have been cleaned up fairly well except at New York. A shipment of 140,000 pounds of Danish butter arrived at New York last week and sold at 44¼@45½c for best lots. Other shipments totalling 200,000 to 250,000 pounds are on the way. Receipts at the four leading cities declined last week and the movement out of storage was rather large. Reports from creameries, however, indicate that production is considerably larger than a year ago. Prices for 92-score fresh butter were: Chicago 44c; New York 44½c. Prices in Detroit for the fresh creamery in tubs 36@37c.

POULTRY AND EGGS

Although cold storage eggs are rather large, and receipts are running considerably larger than at this time last year, prices have advanced about 30 per cent in the last few weeks. Nearly white eggs have gone to a premium over California white eggs in eastern markets for the first time in two years. Receipts of dressed poultry during the last two weeks at the four leading cities were about 75 per cent larger than in the same period last year. Prices have declined under the weight of these offerings along with liberal supplies of live poultry and values are likely to sink still further during the next month or two.

Chicago.—Eggs fresh firsts 37@39c; ordinary firsts 33@34c. Poultry, spring chickens 20c; hens general run 22½c; roosters 14c; ducks 22c; geese 18c; turkeys 36c.

Detroit.—Eggs fresh candled 35@39c. Poultry spring chickens at 22c; hens general run 24@26c; roosters at 15c; ducks 22@24c; geese 15c; turkeys 30c.

DETROIT CITY MARKET

A combination of rainy weather over the week-end and the start of a long list of Jewish holidays caused light offerings on the farmers' markets and a general slow movement of produce. The potato market was fairly active with most stock moving at \$1.30@1.40 a bushel.

Apples, best \$2.50@4; beans, green \$1@2.50; wax 75c@2 bu; cauliflower \$1@2.25 bu; cabbage 75c@1 bu; carrots 75c@1.25 bu; celery, local, all sizes 20@75c bunch; cucumbers, large size 75c@3 bu; eggs, wholesale and retail 45@50c dozen; leaf lettuce 50@75c bu; onions dry \$1.50@2.50 bu; potatoes at \$1.25@1.50 bu; pears at \$1.50@4 bu; radishes 50c@1 bu; spinach 50c@1 bu; squash, summer at 40@50c bu; squash, hubbard 75c@1.50 bu; tomatoes, Nos. 1 and 2 75c@2.50 bu.

GRAND RAPIDS

Heavy receipts of potatoes over a period of two weeks has steadily dragged prices down on the Grand Rapids market until this week they began at slightly above the \$1 mark. Remembering their sad experience of a year ago when they held their tubers for higher prices, farmers this year are rushing their potatoes to market almost as soon as dug. Buyers point out that if the movement is not checked until consumers begin laying in their winter supplies, the price may go below a dollar a bushel. The apple movement also is heavy with the bulk of the offerings of inferior grades which is having a tendency to weaken the market on fancy, hand-picked stocks. The apple harvest is well advanced throughout the fruit belt. Prices are as follows:

Vegetables.—Potatoes \$1.15@1.25 a bu; dry onions \$2@3.50 per cwt; cabbage 75c@1 bu; carrots, turnips and squash \$1 bu; celery \$1.50 per box.

Fruit.—Apples, hand-picked, grading A-1 \$1.75@2.50 bu; seconds, hand-picked \$1.50 bu; windfalls, ciders and culls 50c@1.25 bu; pears \$1.05@1.25 bu; cantaloupes \$1@2 bu; tomatoes 50@80c bu.

Grain.—Wheat No. 1 red \$1.13 bu; No. 1 white \$1.10 bu; rye 75c bu; barley 70c bu; oats 44c bu; corn 68c bu; buckwheat \$1.75 cwt; beans, white pea \$3.50 cwt; red kidney \$7 cwt; clover seed \$11 bu.

GREENVILLE POTATO MARKET.

Potatoes No. 1 white \$1.25@1.30 per cwt.

Live Stock Market Service

Wednesday, October 5.

DETROIT

Cattle.

Canners and bulls steady; others 25c higher.
Best heavy steers\$ 7.75
Best handy wt bu steers 7.50@ 8.00
Mixed steers and heifers 5.50@ 6.35
Handy light butchers 4.75@ 5.25
Light butchers 4.00@ 4.75
Best cows 4.75@ 5.75
Butcher cows 3.75@ 4.25
Common cows 2.50@ 3.00
Canners 1.50@ 2.50
Best light weight bulls... 4.75@ 5.00
Bologna bulls 4.00@ 4.25
Stock bulls 3.00@ 3.75
Feeders 5.25@ 6.50
Stocker 4.25@ 5.75
Milkers and springers....\$ 40@ 80

Veal Calves.

Market 50c higher.
Best\$13.00@14.00
Others 5.00@12.50

Hogs.

Market 15@25c higher.
Mixed hogs\$ 8.65@ 8.75
Pigs 8.50

Sheep and Lambs.

Sheep and lambs are dull.
Best lambs\$ 8.00@ 8.50
Fair lambs 6.75@ 7.50
Light to common 4.00@ 5.75
Fair to good sheep 3.00@ 4.00
Culls and common 1.00@ 2.00

CHICAGO

Hogs.

Estimated receipts today are 13,000; holdover 6,966. Market 10@15c higher. Bulk of sales \$6.75@8.50; tops at \$8.65; heavy 250 lbs up medium, good and choice \$7.75@8.50; medium 200 to 250 lbs medium, good and choice \$8.30@8.65; light 150 to 200 lbs common, medium, good and choice at \$8@8.60; light lights 130 to 150 lbs common, medium, good and choice \$7.75@8.20; heavy packing sows 250 lbs up smooth \$6.75@7.35; packing sows 200 lbs up rough \$6.35@6.75; pigs 130 lbs down medium, good and choice \$7.25@8.

Cattle.

Estimated receipts today are 9,000. Market is steady to 25c higher. Beef steers medium and heavyweight 1100 lbs up choice and prime at \$9@11.10; do medium and good \$6.15@9.35; do common \$5@6.15; light weight 1100 lbs down good and choice \$9@11.15; do common and medium at \$4.75@9; butcher cattle heifers common, medium, good and choice \$4@9.50; cows common, medium, good and choice at \$3.50@6.75; bulls, bologna and beef \$3.50@6.35; canners and cutters cows and heifers at \$2.60@3.50; do canner steers \$3@3.50; veal calves light and heavyweight medium, good and choice \$7.50@11.50; feeder steers common, medium, good and choice \$4.85@6.85; stocker steers common, medium, good and choice \$3.75@6.60; stocker cows and heifers common, medium, good and choice \$3.25@4.75.

Sheep and Lambs.

Estimated receipts today are 41,000. The market is steady to a trifle higher. Lambs 84 lbs down medium, good choice and prime \$7.25@9.25; do culls and common \$4.75@7.25; spring lambs medium, good, choice and prime \$5@7; ewes medium, good and choice at \$3@5; ewes cull and common \$1.50@2.75; breeding ewes full mouths to yearlings \$3.25@6.25; yearling wethers medium, good and choice \$6@7.50.

BUFFALO

Cattle.

Receipts 10 cars; market slow; shipping steers 25@40c lower; others 25@50c lower; shipping steers \$7.75@9; butchers \$7.50@8.25; yearlings \$9@10; heifers \$4.75@7.25; cows \$1.50@5.25; bulls \$3@5.25; stockers and feeders at \$5@5.50; fresh cows and springers \$45@135. Calves, receipts 1,700 steady at \$5@14.

Hogs.

Receipts 10 cars; heavy \$8.85@9; mixed yorkers, light do and pigs \$8.75; roughs \$6.50; stags \$4@4.25.

Sheep and Lambs.

Receipts 5 cars; market is strong; lambs \$9; yearlings \$6@6.50; wethers \$5.25@5.50; ewes at \$4.50@5; mixed sheep \$5@5.25.

THE CORN EAR-WORM.

THE present season is marked by the presence of great numbers of corn ear-worms, known in the south as the cotton boll worm. The worms are found boring into the tips of the ears of corn and in the case of sweet corn the entire ear is usually spoiled.

These worms come from eggs laid by the moth on the fresh green silk just as it is being pushed out by the ear earlier in the season. The worms that escape death now will burrow in the soil, and pass the winter there to come out as moths next spring, but the worms can be killed by dusting with sixty per cent arsenate of lead just as the silk is pushed out.

Coming at a time when we are expecting the European corn borer to appear, it has caused more than usual interest. It is really an old enemy in Michigan, having been here since early times, although ordinarily it is not so plentiful.

Many Michigan Farmer readers have written regarding the insect which was attacking their corn. The above is Prof. R. H. Pettit's suggestions regarding its control. Many will be glad to know that the insect is not the European corn borer which is causing so much trouble in other parts of the country.—The Editors.

APPOINTS REPRESENTATIVES TO DAIRY SHOW.

GOVERNOR GROESBECK has appointed fourteen leading dairymen of the state as official representatives for the state of Michigan. They are: Lauren Read and Ray Ballard, of Copenish; Fred Jotey, Kaleva; Max Lutz and Maurice Jones, Bear Lake; Steven Lautner and William Hemigforth, both of Traverse City; Lowell Sours and David Newcomb, Williamsburg; Clinton Smith and E. E. Owen, Lapeer; George Caldwell, Imlay City; Arthur Lilly, of Hunters Creek; L. C. Pierson, Hadley. Many others are said to be planning on the trip. Reduced rates to the dairy show are in effect on Michigan railroads, it is reported.

SPECIAL TRAIN TO NATIONAL DAIRY SHOW.

ARRANGEMENTS are under way for Michigan producers of milk, manufacturers of milk products, and others who will attend the National Dairy Show at the Minnesota State Fair Grounds, Minneapolis, October 8-15, to travel together on a special train out of Chicago, says H. D. Wendt, acting director of the State Bureau of Dairying, who is in charge of the accommodations for the Michigan delegation.

The Michigan train will leave Chicago at 10:10 a. m., Sunday morning, October 9, over the Chicago, Milwaukee & St. Paul Railway, says Mr. Wendt, who suggests that Michigan dairymen planning to attend the show get in touch with him at his office in Lansing before that time.

WOULD CONSOLIDATION REMEDY THIS?

A RED CROSS nurse of Chippewa county has reported on rural schools in the east end of the peninsula, according to the Sault Ste. Marie News. "Strenuous remedies must be applied to bring many, if not most, of the rural schools up to standards." Her list of defects include "dirt, generally poor sanitation, bad lighting, improper heating, over-crowding, lack of application of fundamental rules of health and hygiene." Lack of interest on the part of parents is blamed for the situation. In one school only three pupils were enrolled. Another school used a common cup and pail, while one pupil had an active case of tuberculosis. Only two schools had sanitary towels. Whitefish township had a very creditable showing as to its schools, while

the Piskford schools were praised. Yet the schools of the city of Sault Ste. Marie are among the best in the state. Chippewa is a good average Michigan county. It is believed that the amendments to the consolidated school act recently enacted by the state legislature will greatly promote consolidation of schools in Chippewa, which is the most important remedy, it is held locally, for the present situation.

L. A. C.

CROP CONDITIONS IN MICHIGAN.

RECENT conditions have been exceptionally favorable for the maturing of all fall crops, there having been no frosts of any material extent or severity during September. With the exception of some potatoes that were late, all crops are past the danger of damage by frost. The weather has been favorable for seeding operations and for the germination of fall-sown grains, and for the harvesting of fall crops in general.

The corn crop is fully matured and cutting and silo-filling is practically completed. Husking is under way and the quality and yield of the grain is excellent, except in occasional localities where some fields were injured by heat and drought which lowered the yield. Complaints of damage by the worms are being received from various sections.

Wheat and rye seeding is nearly finished. A good acreage has been sown under favorable moisture and soil conditions. Germination has been rapid and good growth has been made in the central and northern districts where seeding commenced early. Some reports of the prevalence of Hessian fly in wheat have been received.

The weather has favored the growth of potatoes and some improvement is noticeable in many sections. Digging has commenced, the yields varying widely according to local conditions. There are some very good fields among the late planted ones, but the early plantings are generally yielding very light and some are an entire failure. A frost that would kill the tops and hasten maturity would be welcomed by many growers at this time. Early blight has damaged many of the fields throughout the state, but late blight has been reported in only a few instances.

The harvesting of beans is nearly completed. Only a few have been threshed to date. The yield is fair in the main producing sections and is quite light elsewhere. Some have been weather damaged while being harvested but, on the whole, the quality is good.

Winter apples are being harvested and marketed at good prices. The crop has matured fully three weeks earlier than usual. High winds have blown many from the trees in some localities. There is nearly a full crop in some northern and northwestern counties, the percentage of a crop decreasing as one travels southward through the western Michigan fruit belt. There are very few in the central and eastern districts. The apples are about normal in size and remarkably free from scab, but a late infestation of codling moth has made many wormy apples in orchards where spraying was not continued up to picking time. All other fruits have been harvested except some late pears.—V. H. Church.

COMING LIVE STOCK SALES.

Aberdeen-Angus.—October 12, Indiana Aberdeen-Angus Breeders' Association Sale, Indianapolis, Ind. Prof. C. F. Gobble, Lafayette, Indiana.
Guernseys.—October 19, Michigan State Sale, Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Holsteins.—October 21, Howell Sales Co., Eighth Annual Sale at Howell, Mich. Wm. Griffin, Secretary.
Poland-China.—Oct. 25, Charles Wetzel & Son, Ithaca, Mich.
Poland-China.—Oct. 26, F. W. Hart, St. Louis, Mich.
Poland-China.—Oct. 27, E. R. Leonard, St. Louis, Mich.
Poland-China.—Oct. 28, P. P. Pope, Mt. Pleasant, Mich.
Cattle Sale.—Oct. 19, West Michigan Fair Grounds, Grand Rapids, Mich. W. R. Harper, Sales Manager, Mid-Deville, Mich.
Holstein.—Oct. 17, State Fair Grounds, Detroit, Mich. Consignment Sale. E. A. Hardy, Rochester, Mich.
Poland-China.—Oct. 22, Livery Barn, Caledonia, Mich. Loughlin, Sherk & Adams. Wesley Hile, fieldman, Ionia, Mich.
Holsteins.—Uov. 16, Saginaw Valley Holstein-Friesian Breeders' Association, Saginaw County Fair Grounds.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF AUGUST 24, 1912,

of The Michigan Farmer, published Weekly at Detroit, Michigan, for October 1, 1921.

State of Michigan,
County of Wayne.

Before me a Notary Public in and for the state and county aforesaid personally appeared I. R. Waterbury, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the Michigan Farmer, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, The Lawrence Publishing Co, Detroit, Michigan.

Editor, Burt Wermuth, Detroit, Mich.
Managing Editor, I. R. Waterbury, Detroit, Mich.

Business Manager, I. R. Waterbury, Detroit, Mich.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding one per cent or more of the total amount of stock).

M. J. Lawrence, 2131 Wyoming Ave. Washington, D. C.

Carrie J. Lawrence, 2131 Wyoming Ave., Washington, D. C.

Paul Lawrence, 2759 Hampshire Rd., Euclid Heights, Ohio.

Olive M. Lawrence, 1677 Magnolia Drive, Cleveland, Ohio.

Citizens' Savings & Trust Co., Trustee for Mary and Mortimer Lawrence, Cleveland, Ohio.

Nellie B. Christopher, Guardian of Gaius J. Lawrence, 2903 Washington Blvd., Cleveland Heights, Ohio.

Mrs. G. B. Rogers, 13519 Lake Shore Blvd., Cleveland, Ohio.

Lillian Cotton, 9400 Euclid Ave., Cleveland, Ohio.

E. D. Pope, 11255 Belleflower Ave., Cleveland, Ohio.

R. M. McConville, 1539 East 82nd St., Cleveland, Ohio.

Kate E. Munsell, 180 East Grand Blvd., Detroit, Mich.

F. H. Nance, 16727 Clifton Blvd., Lakewood, Ohio.

Neff Laing, 261 South Third Street, Philadelphia, Pa.

J. F. Cunningham, 1224 Belle Ave., Lakewood, Ohio.

I. R. Waterbury, 1632 Lafayette Blvd., Detroit, Mich.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state).

Maria E. Dunk, Detroit, Mich.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above it. (This information is required from daily publications only).

(Signed)

I. R. WATERBURY,
Business Manager.

Sworn to and subscribed before me this First Day of October, 1921.

CLARENCE E. HAMLIN,
Notary Public.

My commission expires October 12, 1921.



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