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Home Comforts an Aid to Farm Work

THAT there is certain to be a labor shortage on Michigan farms next year, and every year until the close of the war, is a fact so generally appreciated as to require no argument. This being true, it is the part of wisdom for every farmer to make such preparation as he may to make his own labor and that of his available helpers go as far as possible in keeping production at the necessary high point, and to reduce the hardship of increased effort in this direction to the minimum. The average reader will say to this that he is already doing all that it is humanly possible for him to do, yet when the necessity arises he is certain to live and work still more strenuously, if by any means he is able to further increase his power of endurance to meet the emergency. It is the purpose of this article to point out how this may, in a measure, be accomplished, without an unwise sacrifice of health or otherwise "taking all the joy out of life."

That there is a very direct relation between creature comforts and efficient work is well known to every man. Every good farmer applies the principle in the care given his work horses and his dairy cows, yet too many, because of long habit forced on them and their ancestors by stress of circumstances, do not apply the same principle in the equipment of their homes to the extent which they should and profitably might do. Of this fact, the average farm housewife has a better appreciation than has the farmer himself, because she spends nearly all of her time in the home and because her work is largely done there, too often with few, if any, of the modern labor-saving helps which the farmer has found indispensable in his work. With the increased scarcity of farm help the farm women will volunteer to assume more outdoor duties to help out in the emergency, for which reason their need of labor-saving helps in doing the housework will be still greater. But let us for the moment defer the consideration of this phase of the problem to consider some of the little things which will prove a saving, a help and an enjoyment to every member of the farm family.

The Water Supply.

One of the most absolutely essential things used in both house and barn is water. On the average farm some sort of convenient facilities for supplying water at the barn have already been installed, although in some cases the water for the stock still has to be pumped by hand and is supplied intermittently, as it ever must be under these conditions. In all such cases early provision should be made for an automatic water supply at the barn, either through the use of a windmill or a small gas engine. The regular supply of water which will thus be insured to the stock will make the investment a profitable one, to say nothing of its other economic phases which are even more important. With the shortage of labor which now obtains, man power

Creature Comforts are an Important Factor in the Present Emergency

is too valuable to be used in the pumping of water for live stock, and where mechanical power is used for this purpose, it should also be made to pump the water to the house.

The simplest method is to purchase a thirty-gallon crock, mount it on a level with the kitchen sink—or better

er himself after the fall work is completed. The saving in labor for every member of the family, and particularly the housewife, will be very great, and out of all proportion to the cost of installing this simple equipment.

Where still more efficient, convenient equipment for the provision of an

where the best kind seems unattainable, even a temporary or less convenient arrangement will be found a much appreciated improvement.

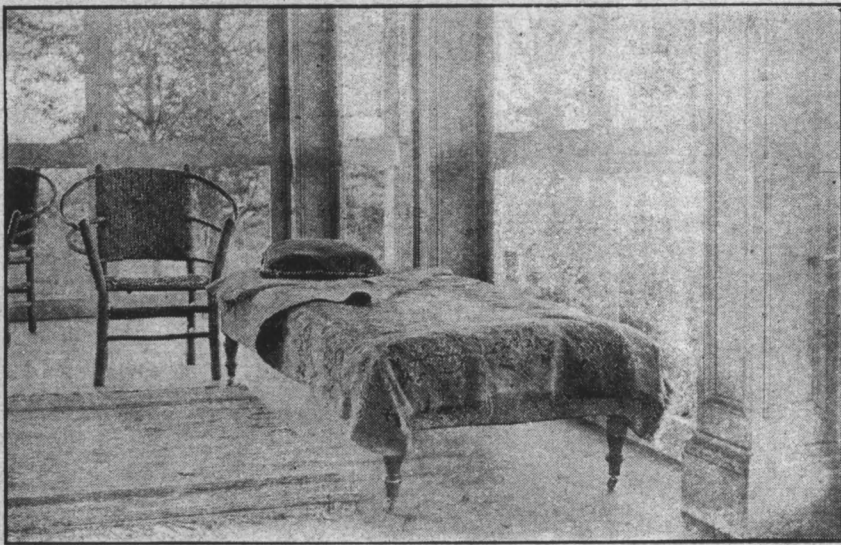
Where the owner's circumstances at all warrant it, provision should also be made for a permanent supply of hot water, and for convenient bathing and sanitary facilities. Even the humble homes of city workingmen are now almost universally provided with these facilities which are rightly considered one of the essential home comforts, and every farmer who is financially able should lose no time in putting a well equipped bathroom in his home. If this is impractical at the present time, provision should be made for some simple form of permanent or portable shower bath, the equipment for which can be easily improvised by almost anyone. These are among the most essential of home comforts which will compensate in a measure for the excessive labor which must often be performed upon the farm, and a prime requisite for the preservation of the health of every member of the farm family, particularly when all are obliged to do more than their ordinary tasks in meeting the present emergency.

A Rest Spot.

Another important home comfort which is a matter of rather modern development so far as its general use is concerned, yet simply provided and within the reach of practically every farm family, is a screened porch where the housewife can rest temporarily from her strenuous labors, and the tired men folks spend a comfortable noon hour or cool evening during the heated period. The cost of screening a good-sized porch is very little, and this work can also be done during the winter season, all ready for use with the coming of hot weather next year, if sectional screens are built which can simply be hooked in place when needed. The protection afforded from flies and mosquitoes will make the porch the most appreciated room in the house next summer.

A few inexpensive easy chairs, a hammock and perhaps a sanitary cot will complete the equipment for the added day comfort which the screened porch will afford next summer. Special attention regarding the comfort of the bed occupied by the hired man, as well as every member of the farm family will also pay. Good springs and mattresses do much to restore tired bodies and increase their capacity for effective work in the field or elsewhere.

Another comfort which, while perhaps not next in importance, merits early attention, is the providing of ice for next summer's use in the home. A cheaply and roughly constructed ice house, or perhaps the utilization of some building already on the farm, and the putting up of an ample supply of ice during the coming winter will be neither costly or difficult for the average Michigan farmer, since Michigan is blessed with an abundant supply of
(Continued on page 376).



The Screened Porch is a Much-Appreciated Summer Comfort Wherever Used.

yet, in the garret above the kitchen—and pipe the water so that it is pumped directly into this receptacle, flowing from there by gravity to the stock water tank, with a service faucet suitably arranged at the kitchen sink. The material required will not be expensive, and the work can be done by the farm-

automatic, permanent water supply in the home is desired, this can be supplied through the installation of a modern pressure system, of which there are several types on the market at reasonable cost. Any kind of mechanical water supply is a great improvement over the back door pump, and

The Biggest Pig Conserved Human Labor and Won



IT wasn't much of a race between these two insofar as labor saved was concerned—the solid-colored bigger pig on the left fed himself on corn and meat product, separate feeders on bluegrass, but the other was hand-fed all he would eat twice a day. The bigger pig reached 225 pounds in 212 days but the smaller one took two weeks longer, or 225 days. The most efficient way to full-feed corn is to self-feed it, keeping it before the hogs always, day and night. Let the pigs do most of the work in these days of high-priced, scarce labor. J. M. Evvard, Iowa Ex.Station.

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DETROIT, OCTOBER 27, 1917



CURRENT COMMENT.

At the annual meeting of the Michigan Milk Producers' Association held at the Agricultural College on October 19, steps were taken looking toward a better solution of some of the factors entering into the market milk problem.

Field Secretary Reed in his annual address recommended among other things the establishment of cheese factories in the area contributing market milk to Detroit and other large centers of population so as to obviate the difficulty arising from the surplus of market milk at certain seasons of the year, which plan was favored by the organization. Without doubt, if some method could be adopted whereby the supply of market milk could be stabilized, one of the chief difficulties in the problem of distribution would be overcome, and much better contracts could be secured from distributors.

On the other hand, at present market values for cheese, surplus milk diverted for use in cheese-making would not bring producers anything like the price which they would receive for market milk delivered for city distribution. While the plan would be an excellent one if feasible, the practical difficulties are such that it could only be worked out through a comprehensive organization embracing all, or practically all, of the dairymen contributing to the supply.

The value of an organization like the Michigan Milk Producers' Association is perhaps more evident when applied to the solution of vexed problems like this than even in the making of equitable contracts for the product of its members. The study of problems of this kind and the other recommendations of the organization, such as the broadening of the extent of its field work and the increasing of the membership fee to meet the expense, together with the recommendation of a still more comprehensive plan for financing the activities of the organization speak volumes for its future usefulness to the milk producers of the state.

No tentative price figures for next year's contracts were made at the meeting, owing to the investigation

into costs of production being undertaken by the Food Administration and the desire of the members to loyally cooperate with the Food Administration. As expressive of this desire, the following resolution was adopted and addressed to Food Administrator Hoover by the officers of the organization:

The Milk Producers of Michigan, through their five hundred representatives from local organizations, in annual convention assembled this day at Lansing, do hereby respectfully pledge to you and to the government of the United States their unswerving loyalty and support.

We realize the burdens carried by yourself in the stress of a great war, and desire to place ourselves voluntarily under the rules which you have laid down, and which the government adopts in fixing and regulating prices of the great necessities of the people and of the government, the actual cost of production plus such reasonable profit, as the government deems just.

We therefore pray that you urge the committee of eminent persons selected and appointed by you, having under investigation the cost of milk production, to make known to us and to the milk producers of the country at the earliest possible day, their report of findings, that we may have the same for guidance in making our future contracts.

We invite the most searching investigation into any and all the conditions and factors entering into our great business, a business requiring the grinding toil and the unremitting care of six millions of people.

The Association is living up to its slogan of "Education, Legislation, Cooperation," in a most commendable manner. In the campaign of legislation Secretary Reed noted the law passed by the present legislature increasing the compensation of owners for cattle condemned for the purpose of eradicating disease. The educational value of the field work accomplished through the Association is undoubtedly great, while the spirit of cooperation is clearly shown by the above resolution as well as by cooperative effort toward the establishment of compensatory prices.

Food Administration Economy.

The economic benefits of food administration are so obvious that it seems probable that there will be a general demand for a continuation of government control of the distribution of food products or at least a measure of government restriction with regard to their handling after the present emergency has passed.

Efficient food administration requires a degree of cooperation between all the agencies involved which is not easily secured under ordinary trade conditions. Apparently food administration as it is being worked out in this country is designed to effect that desirable degree of cooperation with a minimum of disturbance of established trade machinery or normal natural movements of food products. While a good many producers, particularly the wheat growers, feel that the rigid control of this great bread stuff and its distribution at a fixed price is unjust to them, and while a great many consumers feel that food administration is not having the immediate effect of making food stuffs cheaper to the ultimate consumer, yet all will agree that the elimination of speculation is beneficial to both producers and consumers. Likewise, all will readily agree that a scheme of distribution which reduces handling and transportation to the minimum, directing the products of each section to its nearest logical market is an economic move of benefit to both producers and consumers. In fact, any degree of regulation which tends to eliminate speculation or unnecessary expense in handling with a minimum of disturbance to the ordinary channels of trade cannot help but serve the interests of both producers and consumers.

The value of this sort of food control as demonstrated in the present emergency will undoubtedly be demonstrated in a manner which will bring about a better understanding between not only the producer and the consum-

er, but the distributors and the railroads or other carriers as well.

Live Stock Opportunities.

In traveling through almost any section of Michigan, one cannot but be impressed with the meager supply of live stock seen upon the farms of the state. Even where dairying is followed, the number of cows kept is generally far below the capacity of the farm, and little if any young stock is raised. On a great many farms two or three ordinary cows and their progeny will be found. In very few yards are there to be seen any quantity of young cattle being prepared for later marketing. Flocks of sheep are so rare as to cause remark when even a small flock is observed grazing in the field. If the casual observations of a traveler are to be relied upon, the number of hogs upon the average farm is far below normal.

There are so many reasons for this condition that they need not be reiterated here. The high price which live stock of all kinds has brought in the open market, and the high cost of feed for growing or finishing young animals are both contributing factors of the first importance. With a good average hay crop, a bumper oat crop and an increased acreage of corn planted this year, it has been hoped by those who have carefully studied the future possibilities of live stock on Michigan farms that there would be an early trend in the opposite direction, and a general inclination on the part of farmers to increase their live stock holdings. Unfortunately, the early frost which injured the corn over a wide area of the state has had the effect of causing even closer marketing of young animals, and present indications are that less stock will be fed and less produced upon the farms of this state next year than at any time in the past decade.

This is the more regrettable because of the undoubted business opportunity which is being neglected along this line. High-priced feeds may prevail for some time, but feeds will become cheap long before live stock again becomes plentiful upon our farms, and the man who has a good supply of live stock on hand or a good foundation for producing same when this inevitable result of the re-establishment of normal conditions is realized will be in a position to reap a profitable reward for his foresight, and in the meantime the live stock will prove a good investment, not alone because of the market afforded for the coarse feeds produced upon the farm, but because of the desirability of conserving the fertility of the soil by this means.

The heavy marketings of live stock which are the weekly rule at the present time because of this general inclination of farmers to get rid of every animal possible in order to save feed affords a good opportunity to stock up for winter feeding or with store animals to be utilized for grazing purposes next season. The difficult labor situation with which the farmers of Michigan are now confronted is an added reason for increasing the live stock on their farms. From every standpoint an increase in our live stock production is good business.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Interest was transferred to the eastern war theatre last week when the German naval and army forces opened their successful campaign against the large islands at the entrance of the Gulf of Finland. They succeeded first in capturing Oesel island, then Dago and Schildau islands. During the naval operation the Russian fleet was bottled in Moon Sound, which lies between the first two islands named and the Russian mainland. Later the fleet steamed out of the Sound, either to meet the superior German ships or to seek cover, but with what results, we are not informed. It is generally believed, however, that the battleships will proceed to Reval for the protection of the Russian fortress situated there. In minor

field engagements Russian troops have been successful at other points along the eastern front.—On the west, British vessels have heavily bombarded the port of Ostend, Belgium, which is being used by the Germans as a submarine base. The Germans delivered heavy infantry attacks against the French near Champagne, but were repulsed. In German East Africa there has been a renewal of intensive fighting between British and German troops in which the latter were defeated.—Emperor William has just made an extended trip to Sofia and Constantinople where conferences were held with Germany's allies. Reports coming through Switzerland are to the effect that peace proposals will in all probability follow the return of the Kaiser to Berlin.—The German campaign against northern Russian ports and naval bases has caused the Russian government to transfer the capitol from Petrograd to Moscow. This move had been contemplated aside from the military necessity, because the new government believes that it can command a more united front from the old capitol town than from the spy-infested seaport of the north.—The German casualty list is now figured to total 8,250,000 persons who have been killed, wounded, made prisoners, or are missing.

The allies have at last decided upon a reprisal campaign against Germany for the latter's persistent air craft operations against unprotected cities and towns and non-combatant inhabitants of England and northern France. Already German towns have been bombarded but no report on the results has been made.

Canadian letter carriers threaten to go on strike unless relief in the way of better salaries is allowed by the Dominion government.

The Brazilian government is taking over all German vessels interned in the ports of that country when the European war opened.

National.

The American army transport Antilles was torpedoed and sunk by a German submarine in the war zone last Wednesday. About seventy men are missing and probably lost.

There is reason to believe that the threatened strike of coal miners in the Mississippi valley may be averted. It is reported that the government will provide for an increased wage of ten cents per ton by authorizing an advance in the price recently established by the fuel administrator.

In an automobile accident at Washington, N. J., six persons out of a family of eight were killed. The accident occurred when the driver lost control of the car.

One person was killed and four injured last Sunday when an automobile skidded and overturned on the road three miles east of Lapeer.

On Tuesday of the present week Camp Custer at Battle Creek will be dedicated. A comprehensive program for the celebration has been arranged.

A dearth of one cent coins is said to be threatening Chicago and many other central western cities. The drain is partly attributed to the charging of odd cents for different units of goods and service to cover war taxes.

United States Senator Hustung, of Wisconsin, was accidentally shot and killed while hunting with his brother near Oshkosh, Wis.

LIVE STOCK SPECIAL.

A "Live Stock Special" institute train, run by Michigan Central Railroad in cooperation with the Michigan Agricultural College and the North-eastern Michigan Development Bureau, made stops on the Mackinac division last week. The same train with the same corps of speakers will also be run over the D. & M. line. The schedule of the train for the ensuing dates is as follows:

Grayling, Oct. 27, 9:00 a. m. to 12:00 noon.
Lewiston, Oct. 27, 2:30 p. m. to 5:30 p. m.
Frederick, Oct. 29, 8:00 a. m. to 3:00 p. m.
Gaylord, Oct. 29, 12:00 noon to 3:00 p. m.
Vanderbilt, Oct. 29, 3:30 p. m. to 6:00 p. m.
Wolverine, Oct. 30, 9:00 a. m. to 12:00 noon.
Cheboygan, Oct. 30, 2:00 p. m. to 5:00 p. m.
On the D. & M. line the schedule of dates is as follows:
Onaway, Millersburg and Rogers, Oct. 31.
Posen, Hillman, LaChene, and Alpena, Nov. 1.
Alpena, Harrisville and East Tawas, Nov. 2.
East Tawas, Makado, Lincoln and Tawas City, Nov. 3.
Hale, Rose City, Prescott and East Tawas, Nov. 5.
Turner, Omer and Bay City, Nov. 6.

The Storage of Potatoes

By LOU D. SWEET

Head of Potato Division, U. S. Food Administration

IT is of great importance that all the potatoes raised this year should be stored under proper conditions. Even when every precaution is taken the wastage of potatoes during the winter is considerable; under bad conditions of storage it is very great indeed.

In order that the best methods may be adopted by the small growers those who have not had the experience in the storage of potatoes, should know the chief causes of the wastage. These causes are:

1. Sweating, heating and consequent rot, often due to insufficient ventilation.

2. Rotting, due to potatoes getting wet at the time of putting them in storage.

3. Injury from frost.

4. Decay, owing to disease in the tubers at the time of storage.

5. Sprouting of tubers in the spring.

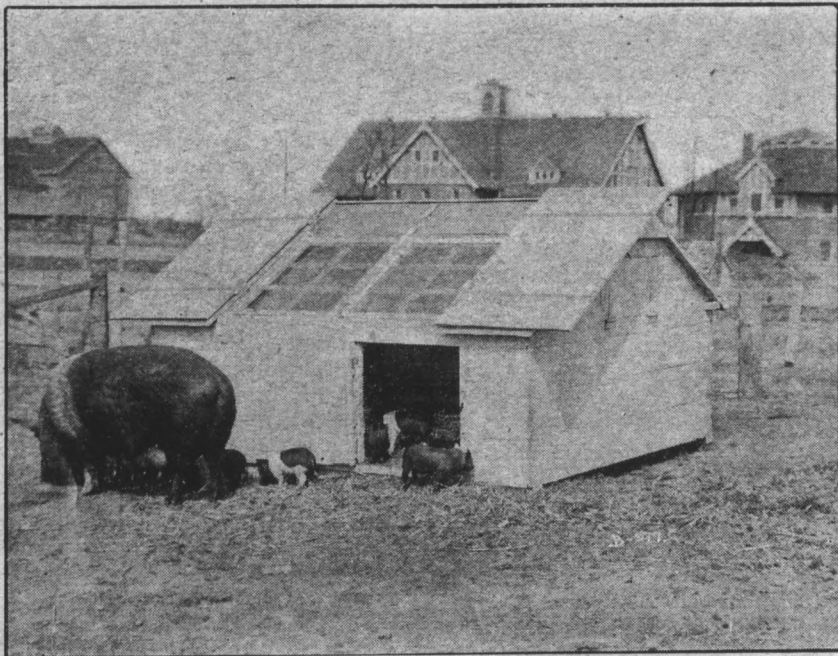
It is not possible to prevent altogether losses from these causes, but by using the best methods of storage, it is

eases of the potato which destroy the tuber, and if diseased tubers are mixed with the sound ones, the disease will spread very rapidly; therefore, it is necessary to sort the potatoes carefully, eliminating all of the disease, the cuts, culls, and dirt before placing them into permanent storage for the winter. All of the cuts, culls, misshapen and diseased tubers should be fed to the poultry and live stock, but should be steamed or boiled before being fed, as in this way you increase the food value, and also destroy the germs of the disease, so that it will not get into the manure and thence into the land.

5. By proper ventilation of the cellar or storage room, and by holding the temperature as near 35 degrees F. as possible, you can keep the potatoes from sprouting.

Selection of Seed. Seed for next year's planting should be selected from hills that produce all nice, true to type potatoes. These should be selected at

The Iowa Movable Sunlit Hog House



THE little fellows are happy in this snugly built, warm, movable hog house, and so is their mother. This house is splendid, providing warmth, dryness, abundant direct and indirect sunlight, shade in summer by lifting the far side and one end, and closing roof doors, ventilation through the peak ends, sanitation through easily cleaned solid wooden floors and plenty of space to work inside, safety, comfort, convenience, serviceability, durability, as some of these houses built at Iowa station in 1907 look like they will stand ten and maybe fifteen years more service, structure of reasonably low first cost; low cost of maintenance, and pleasing appearance. It is good for the brood sow, the little pig, the suckling sow, the fattening shote, the heavy fat hogs, and the herd boar—all are contented within its walls. And it costs not more than one-half the present value of a 250-pound hog. Build one and enjoy it with the swine.—J. M. Evvard, Iowa Ex. Sta.

possible to reduce them very materially.

This may be done by taking care to guard against losses from each of these causes:

1. Sweating and heating occur if the freshly dug potatoes are piled in too large piles, so that the air cannot circulate between the tubers. The risk of loss from this cause is greatest in the fall, immediately after the tubers have been dug, and it is, therefore, important that potatoes when dug should not be put in unnecessarily large piles, nor kept in an ill-ventilated room.

2. Rotting from getting the potatoes wet. If the potatoes at the time of digging are allowed to get wet and to go into storage in that condition, rotting is sure to occur. Be careful to have your potatoes dry before storing.

3. Injury from frost. Potatoes are easily damaged by frost. If they become frozen, their market value is destroyed. Therefore, take every precaution to protect the tubers from frost before and after digging.

4. Disease. There are several dis-

digging time, and stored separately in crates or boxes, and by storing them in a well-lighted room where the temperature can be held at from 34 to 40 degrees, with a little ventilation and this seed planted next spring, the grower will make a start toward improving the quality of his potatoes, instead of as in the past, simply planting the culls or runouts.

CEMENT BLOCK WATER TANK.

I read Mr. Lillie's recent article concerning a cement block water tank. I am planning to make one this fall of silo blocks, ten feet in diameter. It should be reinforced, as Mr. Lillie says, with two strands of No. 9 wire and should have a silo hoop around the top course of blocks.

Hoops should be put in place as soon as blocks are in place, before plastering is done.

Round tanks do not collapse from the outside pressure, nor expand from freezing, as bad as square ones.

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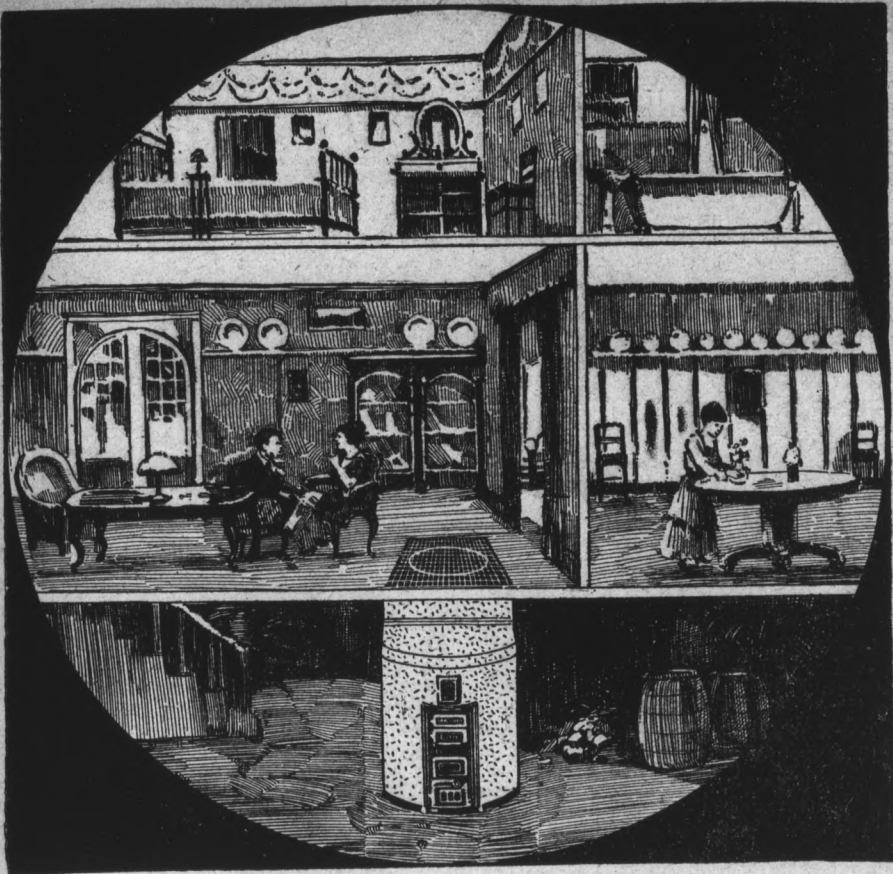
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DESTROYING QUACK GRASS.

Eradicating Quack Grass.

My own experience of eradicating quack grass confirms Mr. Henry Kahn's as given in the last issue of the Michigan Farmer, that is, by plowing shallow late in the fall, and deep again in the spring. We had an eight-acre field on the farm, almost completely set with quack, it having been an orchard for many years. The grass roots were perhaps in the tree roots when planted. I plowed this field very deep in the spring of 1914, double-disked it several times up to the first of July when it was planted to potatoes. Being a very wet year the quack was soon as thick as ever. With four men I hand-hoed the field three times thoroughly, but in the fall when the potatoes were dug there was still plenty of quack, so I decided to drill rye on the field to turn down the next year for potatoes and thus give the grass another rattle. The vines were heavy and I found it a big job to remove them so I could drill the rye. So, to get them out of the way I plowed the field just deep enough to turn them under (about three inches), drilled the rye, which made a very heavy growth, the next spring, where the quack had always been thickest. This rye was turned under (about ten inches deep), and again put to potatoes. I, of course, expected to have a lot of disking and hoeing to do again, but to my surprise not a spear of quack appeared in the potatoes, nor has there been any since. There are farmers who will say that it is absolutely impossible to eradicate this weed, but I can furnish ample proof of the above statements by my neighbors, who witnessed my operations.

Macomb Co.

D. N.

There isn't any question but what thorough tillage will destroy quack grass or any other obnoxious plant that infests our fields. A farmer need not be afraid and feel like giving up because his land is infested with any and all kinds of weeds. It is only just a question of thorough tillage. No plant can live if it isn't allowed to grow above the ground. Even Canada thistles and quack grass with their underground root stalks containing a sufficient amount of life to live for a considerable length of time, can be killed simply by thoroughly cultivating the surface and destroying the plants. A plant must have air to live and it breathes through its leaves. If these are kept cut off all one summer, that is the end of the plant, I don't care what it is. My experience is that there is no worse plant in the world than the common mallow that infests our garden or horse radish or any of those persistent growers, and yet, if you will hoe your garden every week during one season and cut off every leaf below the surface, they will be exterminated. It is absolutely impossible for them to live.

Your system of plowing shallow in the fall, allowing the winter frost to have its effect and then by plowing deep in the spring, there was not life enough left in the plant to force itself through the surface even though it was not all killed by the frost. Undoubtedly, the most of it was killed by the frosts. I think your plan a most excellent one for killing obnoxious weeds or grasses. **COLON C. LILLIE**

FARM NOTES.

Pasturing Alfalfa.

I would like to hear from your paper in regard to pasturing my alfalfa this fall. I have cut two crops for hay and could cut another one this fall, but am afraid it would not cure, as the season is getting late for curing hay. I have seven acres and would like to know if the cattle would injure it by pasturing it this fall? Please let me hear from you.

Barry Co.

F. M. D.

Late fall pasturing of alfalfa is very injurious to the stand. If cattle are turned into an alfalfa field on a frosty morning, their line of travel can be followed days afterward in the injured appearance of the plants. A good growth of alfalfa can be lightly pastured without serious results, provided weather and soil conditions are favorable. The tramping of the field when it has been softened by late fall rains, however, is also injurious, and from

the standpoint of the future production of the stand, it is the writer's experience and observation that it does not pay to pasture a good stand of alfalfa at this season of the year. It is also pretty late to cut it for hay, although we have several times cut alfalfa during the first part of October without apparent serious results, yet some growth to protect the crowns over winter is desirable.

HOME COMFORTS AN AID TO FARM LABOR.

(Continued from first page.)

inland water within easy reach of almost every locality. The possession of such a supply next summer will constitute a home comfort which is not fully appreciated by any family who have not been accustomed to it.

Heat and Light.

Good heating and lighting facilities are also home comforts of the first importance. They also have a very direct influence on the health and well being of the occupants of the home. The small, well-heated house is becoming increasingly popular everywhere. The method of heating must, of course, be determined by the circumstances in each individual case. There is no question about the superiority of furnace heat where it can be provided, but in any event all the living-rooms should be sufficiently well heated to make them comfortable, with adequate ventilation to insure the health and comfort of the occupants.

Good light is another advantage which is enjoyed in too few homes, although lighting conditions have vastly improved in recent years with the development of various types of lighting facilities at a cost within the reach of all. The farm unit electric lighting plant, with the added advantage of power available for use in house and barn, or the acetylene gas plant which will afford the most efficient and convenient possible fuel for the kitchen range are the most desirable types of equipment. But where these are considered too costly for present installation, there are many types of lighting equipment which can be purchased at small cost, and will add greatly to the comfort and attractiveness of the home.

Mechanical Helps.

Mechanical helps in the accomplishment of the housework which are too numerous to permit of enumeration are also entitled to consideration in the matter of home comfort, particularly in its relation to the present and impending labor crisis. Every device which can be successfully introduced to lighten the labor in the home is of just as great economic importance under present conditions as are similar devices for lightening outdoor tasks.

The future financial outlook for the farmers of Michigan and the country was never so good as at the present time. The only handicap which is most likely to hamper them from increasingly profitable incomes is the difficult labor situation. No course can be taken which will reduce the effect of this handicap to a greater extent than will the provision of the home with every creature comfort within the ability of the reader to procure.

The wise farmer will readily concede this point, and take steps to reduce the handicap so far as possible by this means. The wise housewife will take early thought regarding the home comforts most needed in every household. The wise family will at the earliest possible date, begin to enjoy that greater degree of home comfort which will go far to lighten the more strenuous tasks of the coming year's campaign, and reduce the risk of impairing the health of any of its members through the very real danger of over-work, by providing the fullest share of those creature comforts which will in a large measure compensate for the necessity of strenuous labor.

ROAD BUILDING IN MICHIGAN.

Kent county has ten miles of concrete road finished and twelve additional miles under construction. The consent of property owners living just east of Grand Rapids on Fulton street has been secured to build six and five-eighths more miles of concrete road and this work will start in the spring.

Berrien county commissioners have recommended road construction work to cost about \$75,000, also a two mill tax to pay for same.

The attorney-general rules that Saginaw county can secure no state or federal money for good roads work under any local road act. This applies both to the road law under which the county system has operated and to the new act passed by the legislature, which has not yet been submitted to the people for ratification. In other words, any county must be organized under the general state road law in order to draw state or national good roads' money or even state auto tax money.

Bay county has decided on a portion of its new road work for 1918. The Saginaw road will be surfaced to the county line, two miles of stone will be added to the Fisherville road and a mile and a quarter to the Auburn road, and the Linwood and Finney roads will be improved for distances of two and one mile respectively.

An enthusiastic good roads meeting was held at Boyne Falls and it was voted to ask the supervisors of Charlevoix county to submit a bond issue of \$350,000 to the people at a special election, the money to be distributed as follows: \$100,000 each in the territory around Charlevoix, East Jordan and Boyne City, and \$50,000 to be used in the east end of the county. The county road commissioner was also asked to give aid in improving the roads of the Beaver islands.

The Ottawa county road commission will recommend to the supervisors that \$92,000 be voted for good roads the coming year, largely for concrete work. The members feel that money is largely wasted in building gravel or macadam roads today. Ottawa has eleven miles of concrete roads and is building this type of road for \$10,000 to \$12,000 a mile.

Ellsworth township, Lake county, has voted a bond issue of \$8,000 to build a trunk line road from the east county line west to the gravel road.

A complete stretch of good concrete road is now open from Detroit city limits to Pontiac.

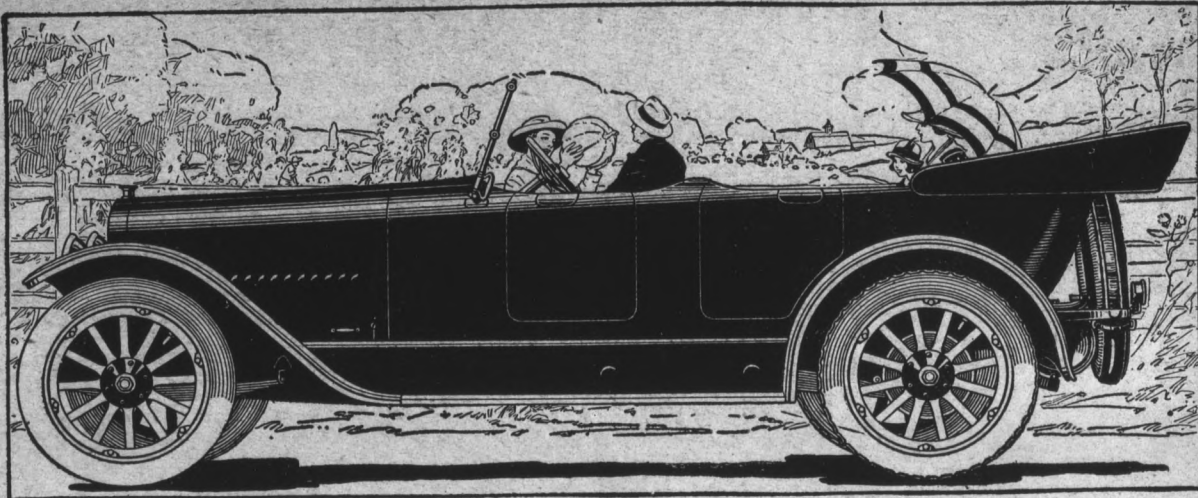
Contracts have been let to Johnson & Flodin for \$67,900 to build eleven and one-half miles of trunk line road through Hillsdale, Cambria and Woodbridge townships in Hillsdale county, the work to be finished next year.

Bay county is adding another half-mile of concrete on the Kawkawlin road. It is Bay's first concrete road and carries the county's heaviest traffic. The first mile of this road was built in 1914 and cost \$9,573.72. The next year half a mile was added at a cost of \$5,063.53 and in 1916 another half mile cost \$5,202.40. This year's half mile costs \$7,299.06, or about forty per cent increase over a year ago.

State Highway Commissioner Rogers says: "Michigan now sees the urgent need of good roads as a war measure. We have already helped Uncle Sam to build concrete roads at Camp Custer and the aviation field at Mt. Clemens and we will assist in completing the road that is being built from Monroe to Detroit. Materials used in making munitions of war will be sent from Ohio cities to Detroit over this road. A firm in Akron, Ohio, is now sending a fleet of four-ton trucks loaded with automobile tires to Boston and bringing back cotton fabric for use in its plant. Each truck hauls a trailer loaded with four tons of tires and the fleet makes the round trip from Akron to Boston in a week."

Kent Co.

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Yet Mitchells are built to the standard of 100 per cent over-strength. That is twice the usual margin of safety.

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John W. Bate, the efficiency expert, built and equipped this plant. It was built and equipped to produce this one type economically, in enormous quantities, at minimum labor cost.

The entire car—chassis and body—is built under these Bate methods. The making cost is half what it used to be. That saving pays for this extra strength, these extra features and this added beauty.

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Three-Passenger Roadster, \$1490
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TWO SIZES

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Mitchell Junior—a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.

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A 50-gallon barrel of Scalecide free to any one who will suggest a fairer guarantee than that given below.

"SCALECID"®

As proof of our confidence and to strengthen yours, we will make the following proposition to any fruit grower of average honesty and veracity: Divide your orchard in half, no matter how large or small. Spray one-half with "SCALECID", and the other with Lime-Sulfur for three years, everything else being equal. If at the end of that time, three disinterested fruit growers say that the part sprayed with "SCALECID" is not in every way better than that sprayed with Lime-Sulfur, we will return you the money you paid us for the "SCALECID".

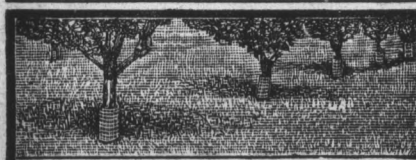
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You get best Results with our
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Quick work, fuel saving, durability and
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Pulverized lime/rock for "sour" soils. Write for LOW PRICES DIRECT TO YOU and we will send sample and full particulars. Write to office nearest you.

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Vegetable Growers Discuss Problems

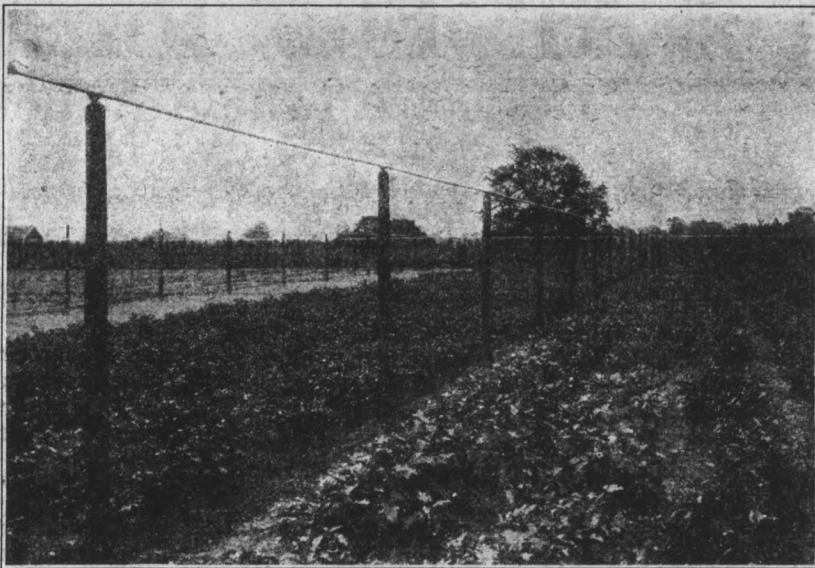
Do you know that fifteen per cent of the American diet is made up of vegetables, and only ten per cent of fruits? Perhaps you did not know that the vegetable growers of this country had such an "edge" on the fruit growers. Quoting President Selby, "the ordinary horticultural society meeting finds the fruit men occupying the main auditorium and the vegetable growers stuck off in an ante-room." The proportions thus indicated are due to organization rather than to actual proportions of the two industries. And if the Vegetable Growers' Association of America succeeds in developing present plans it will soon take the position in organization that it now occupies in actual production.

The Vegetable Growers' Association is a "live wire" bunch, although limited

First, need of more local organizations and a stronger national association. When the federal department undertook the development of its market news service, it asked where service should be rendered. The logical answer was in those sections having strong local organizations to co-operate with and make effective the service offered. Local communities must organize if they expect to participate in outside service. And that is as true of other branches of farming as of market gardening.

Second, the most progressive gardening sections are those that have associated with and felt the influence of the national body. There is need of a stronger membership campaign by the National Association.

Third, it is time for the National As-



Intensive Vegetable Growing is Profitable.

in members. Its meeting at Springfield, Mass., October 10-13 was the tenth in its history and was as marked in its progressive plans for the future as in advance over past years.

President's Address.

Upon the outbreak of the war Mr. Selby became associated with the Bureau of Markets of the U. S. Department of Agriculture. In this work he traveled over a greater part of the country and visited every active vegetable growers' association east of the Rocky Mountains. Many timely and practical suggestions were drawn from his observations in this valuable work.

sociation to employ a paid secretary to give his entire time to association work. Such a man might properly spend a part of his time visiting local associations and developing membership; a part to development of market and supply reports to be put at service of local organizations and a part to advertising and propaganda work developing the uses of staple vegetables. He could also act as advance convention agent and prepare for convention meetings now held in new locations each year.

Fourth, government statistics show that the American diet is made up of about thirty-nine per cent meats, thirty-one per cent cereals, fifteen per cent vegetables, ten per cent fruits and five per cent sugars and condiments. Meat and cereal manufacturers have won their high position through judicious advertising. The same methods could increase vegetables to thirty per cent of the diet and save money to the consumers.

Fifth, home gardening has been a disturbing factor in certain sections this year, but they will prove the best piece of advertising for vegetable growers in the end. There will likely be less home gardening another year, but the amateur growers know what it costs in money and labor to grow vegetables and they have developed a wider demand for fresh vegetables.

Six, in summary every prospect demands more and better organization.

Growing Vegetables Without Manures.

The discussion on "Can Vegetables be Grown Commercially Without Animal Manures?" conducted by Sidney B. Haskell, of the Soil Improvement Committee, touched a question of general interest. Mr. Haskell pointed out that cities were producing just about the same quantity of manure available to market gardeners now as twenty years ago. But (and this is a most significant "but"), the production of manure is not keeping pace with demand. Seventeen years ago there was one draft horse to every twenty-five people in Chicago. Today there is one

draft horse to every thirty-seven people. Prices of manure are advancing until in some sections of New Jersey the gardeners are paying \$4.00 per ton. This makes the question of means of curtailment most important.

Soil Fertility with Manure.

Mr. Haskell quoted examples of methods used in various sections of the country where manure has not been used for periods as long as twenty years. Typical cases cited were those of George H. Roberts and Horace Roberts, of New Jersey, and Abram Hosteter, of Pennsylvania. George Roberts has brought up poor land by use of vetch and rye as cover crops, turning such a crop down at least once every two years, and continues to produce splendid crops of vegetables without manures. Mr. Horace Roberts bought a run-down farm twenty-eight years ago. He sold off practically all of his stock and has never bought manure. He now operates 2,600 acres. His method has been to bring the soil up with cowpeas grown with commercial fertilizer and turned down. Then he continues to turn under green cover crops as often as possible in his regular cropping plan. He uses lime and fertilizers for cover crops as well as for commercial crops. Mr. Hosteter has a regular cropping system without manure. He grows a crop of truck and sows wheat in the fall. He seeds grass and clover in the wheat and turns the clover under and plants truck again.

Humus Result of Good Farming.

In summary, Mr. Haskell presented these conclusions: Humus is the result and not the cause of good farming. If manure is short, fertility can be maintained by cover crops. Second, when manure is short, light applications of manure have a wonderful effect in increasing growth of cover crops. Third, the profits of any business system must govern the system. Prices of manures and prices of the crop are the governing factors. Fourth, answering the question of possibility of commercial growing without manure, for the man growing vegetables for the cannery, yes; for the trucker, yes; for the intensive market gardener, yes, if he has plenty of water available.

In discussion of these conclusions it appeared to be unanimous that the intensive grower cannot succeed without manure. He can not afford to grow cover crops on \$1,000 per acre land. When manure gets too short, he had better take more land or cheaper land and garden less intensively.

Nation's Food Supply.

Dr. T. N. Carver, of Harvard University, discussed "The Nation's Food Supply and the Market Gardener," from a standpoint of all producers and consumers. He predicted what the present war should mean to all of us, and is likely to mean in the near future, when "we begin to feel the war in a way that will hurt." It is and will be a war of food, and food and land and labor and household economy are all associated. To supply men for the army and for necessary industries we must draw them from unnecessary industries, and to destroy unnecessary industries we must change habits of consumption. As examples of unnecessary industry, figures given in the Government Crop Report for May, 1917, show that foods used in the manufacture of alcoholic drinks per year amount to 7,333,000,000 pounds. It is estimated that about one-sixth of this may be necessary in manufacture of denatured or commercial alcohol. Physiologists have determined that the remaining five-sixths would furnish rations for 6,000,000 men for a year. Is this worth while?

Another saving resulting from the change in habits of consumption is in substitution of unusual foods for those in the regular diet. Reducing the foods to calories, it has been determined that the product of one acre of potatoes in a balanced ration is equal to the pro-



Boys & Girls THRIVE

on the easily digested wheat and barley food

Grape-Nuts

"There's a Reason"

duct of 2.6 acres of wheat, with wheat yielding thirty bushels per acre and weighing sixty pounds to the bushel. In the same way, and always with the foods properly balanced in the ration, the product of one acre of sweet potatoes is equal to the product of 4.8 acres of wheat; beets, carrots and turnips, one acre to three of wheat; cabbage, one acre to one and a half of wheat; parsnips, one acre to three and a half of wheat. These are all bulky products and not readily shipped; hence we can all help in the food problem by keeping these at home and leaving the concentrates to be shipped to our allies and our armies. Mr. Carver suggested that campaigns of education be conducted by defense boards, state and district food administrators and newspapers to instruct housewives in food equivalents of different commodities.

Saving Half a Billion Dollars.

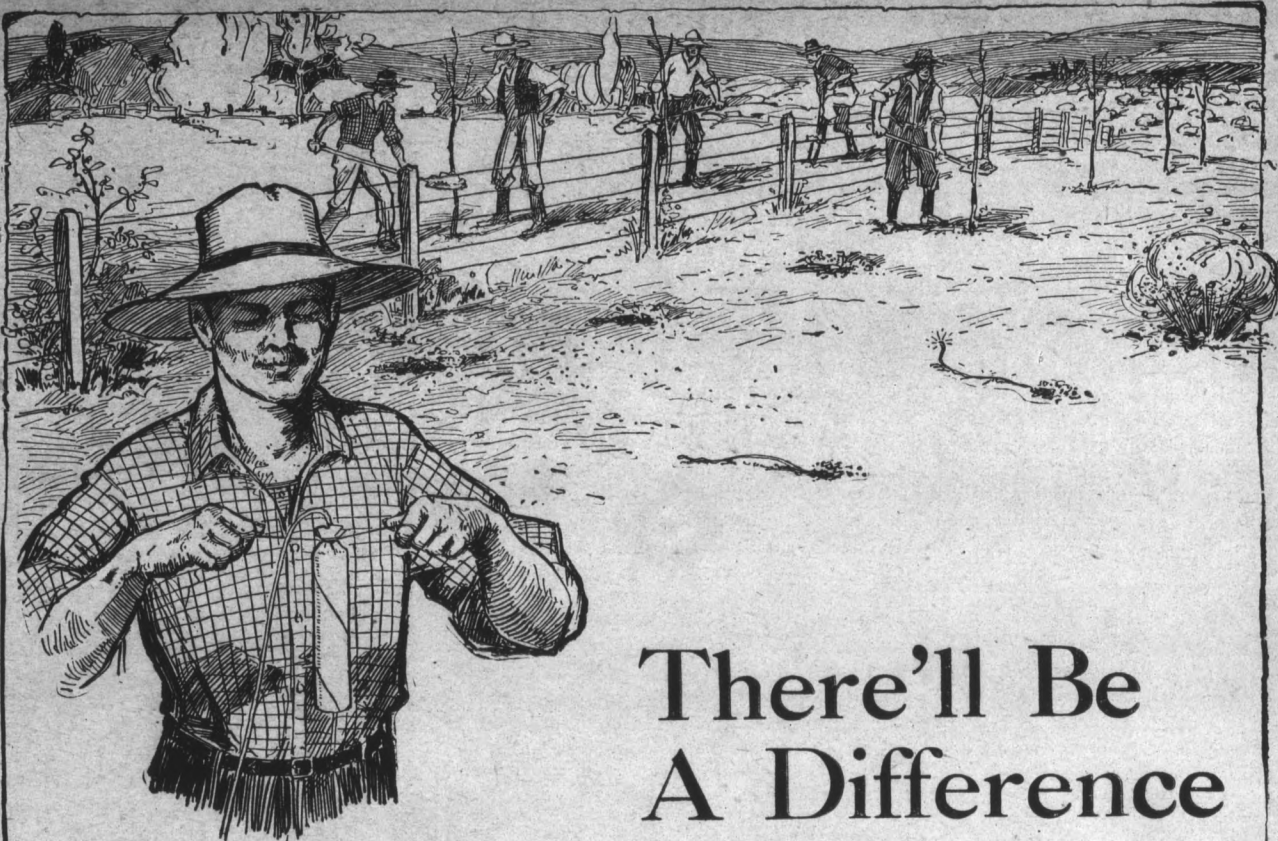
President Howard W. Selby undertook to show how we could save half a billion dollars annually in the nation's food bill. He succeeded and had \$160,000,000 to allow for inaccuracies. Three years ago, in southern California a grocer inaugurated what he called the "three-way" system of selling. It should be called the "four-square" system. To patrons paying cash and carrying purchases home, he sold at cost plus a regular margin of profit. To patrons paying cash but asking delivery he charges ten cents for delivery, whether it is a pair of shoe laces or five bushels of potatoes. If a patron asks credit, he charges one per cent extra for credit. Applying customary charges to the various items in modern business methods, Mr. Selby made the following computations:

The total farm value of all farm crops produced in the United States in 1916 was placed by the U. S. Department of Agriculture at \$9,400,000,000. But one-third of this was used at home, leaving \$6,266,666,000 worth to be sold. Jobbing, wholesaling and retailing costs made the final retail price on these commodities amount to \$13,000,000,000. The Harvard School of Business Administration has determined that deliveries cost about three per cent of the retail price. Charging three per cent on the \$13,000,000,000 worth delivered would amount to \$390,000,000. The carrying of charge accounts makes necessary a staff of book-keepers costing one per cent of retail cost. One per cent on the \$13,000,000,000 is \$130,000,000. It is claimed that losses due to bad bills mean a further loss of 0.5 per cent. One-half of one per cent on the \$13,000,000,000 means \$65,000,000. Here is a total of \$585,000,000 loss due to delivery and credit service.

Further, statistics show that there are \$5,000,000,000 worth of grocery products sold in this country every year. On a strictly cash basis, every grocer can discount his bills two per cent for cash. Two per cent discount on the full value would be \$100,000,000. But granting that only three-fourths of the grocers availed themselves of the opportunity to discount bills, there would still be \$75,000,000 saved. This added to the savings enumerated in the above paragraphs would make a grand total of \$660,000,000 lost by deliveries, bad bills, extra office labor and failure to discount.

THE EUROPEAN WAR AND THE WALNUT TREE.

Out in St. Louis last summer a whole city block was covered over with black walnut logs waiting to go to Europe to be made into gun stocks. Let us hope that none of those logs happened to be from that best nut-bearing tree we need so badly. Somewhere in this country there are some black walnuts that come out of the shell in whole quarters or whole halves, and bear well. If we could just find one such tree and raise orchards from it, they would make their owners rich.



There'll Be A Difference

IF your neighbor plants an orchard in holes dug with a spade, and *you* plant in holes made with Hercules Dynamite, there will always be a difference in your favor.

The difference will show in the first cost in time and labor; in the size and strength of the trees a year from now; in the quantity and quality of the fruit obtained four and five years hence; and lastly, in the profits deposited in the bank. Eventually your neighbor will follow your method of tree planting. The difference will make him.

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not only makes holes more quickly and cheaply but it makes *better* holes. The soil is loosened and broken up. Roots have a chance to spread as they should. The tree has nothing to do but live and grow and prosper.

When planted in a spade-dug hole it

has to fight for life. The difference always shows.

Find out more about the use of Hercules Dynamite on your farm. Write today for the 64 page book, "Progressive Cultivation." It is sent free on request. The coupon below is ready for your signature.



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common kerosene (coal oil), no odor, smoke or noise, simple, clean, won't explode. Over three million people already enjoying this powerful, white, steady light, nearest to sunlight. Won Gold Medal at Panama Exposition. Greatest invention of the age. Guaranteed.

\$1000 Reward will be given to the person who shows us an oil lamp equal to the new Aladdin in every way (details of offer given in our circular). We want one user in each locality to whom we can refer customers. To that person we will give a special introductory offer to make, under which one lamp is given free. Write quick for our 10-Day Free Trial Offer and learn how to get one free, all charges prepaid.

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Mention The Michigan Farmer When Writing Advertisers

More Live Stock for Two States

By ALMOND GRIFFEN

A MOST important conference of sixty representative men of Michigan's upper peninsula and northern Wisconsin, was held October 10 at Menominee, under the auspices of the Upper Peninsula Development Bureau and the Wisconsin Advancement Association. The keynote of the gathering was sounded by Frank J. Hagenbarth, of Salt Lake City, president of the National Wool Growers' Association, who said in part: "You have 16,000,000 acres suitable for grazing. Nature designed this upper country for live stock. If at the start you put in one and a half sheep to the acre on only half of your available land, with cattle in the low-lying tamarack swamps which are ideal for this purpose, you can easily take care of 8,000,000 sheep and 1,000,000 head of cattle. This would create for you an asset worth at least \$150,000,000 where there is nothing today. It would return an annual gross earning of \$25,000,000 of wool, \$40,000,000 of lamb and mutton, \$20,000,000 worth of baby beef and the fertilizer value would add \$15,000,000 to this estimate. Figure out what this means per capita to your 350,000 inhabitants.

"Live stock is the salvation of agricultural countries. It has built up the British Isles. It has made Germany powerful. One of the lessons of the war is to teach us our duty and opportunity to make America so great that no nation or set of nations will ever again attempt to attack us. You men of upper Michigan and Wisconsin have it in your power to clinch the future of your section and to erect an everlasting memorial to your patriotism by taking advantage of the present hour. The time is ripe now.

"Texas has been ruined by drought and thousands of cattle and sheep have been taken from that state. The trouble with the cattle and sheep countries of the great west is not that the homestead law has brought in settlers to drive away the cattle men, but it has permitted valuable holdings to come under control of land sharks and speculators who are driving the cattlemen to seek new fields. This fact has decreased the stock raising thirty-five per cent and has made for you the greatest opportunity that has ever come to any section of the United States.

"The vital question is ways and means. You need an effective organization in your cut-over areas. Do not talk, but do. Go to it as you did in the flying football wedge of school days. Get right up close to the United States Department of Agriculture, you men of Michigan and Wisconsin, after you have formed a solid and harmonious organization. You can quickly put in 10,000,000 sheep with the aid of the government departments, for our country has awakened to the tremendous importance of the live stock industry. Form an organization that will do business. Raise fifty or sixty thousand dollars a year for five years. The wool manufacturers will help, the packers will help, the lumber and land companies will help and so will the railroads, the bankers and everybody. Proceed on strictly business lines, and for Heaven's sake, cut out all jealousies among land companies, communities and states. Now men, get together for the common good of your favored north. Let it be all for one and one for all.

"I suggest the creation of a development committee. Send two or three competent men into the west with power to do business. Offer the breeders and ranchmen free use of your land for three years, charge them only the taxes for the next two years and after that let them begin to pay you the principal and interest on their purchase. The inducements that you offer

newcomers must be on the square, and every successful pioneer will bring in a score of others. The new settler is doing more for you than he is for himself. He is making all the rest of the land more valuable. Organize live stock loan companies and advance the honest settler money for cattle and sheep, taking a chattel mortgage for your protection. The federal loan banks are handling an ever-increasing amount of this sort of business and live stock paper is now being rediscounted the same as other commercial paper by the banks of this country. Create a live stock committee to secure options on and to guarantee the settler a sufficient supply of winter hay at a fair price. This committee should also take pioneers personally in charge on arrival and assist them in finding locations, in securing fair freight rates, banking connections, etc. Sheep raising, I repeat, is a safe investment and a stable industry. Every acre must produce annually 2,250 pounds of forage. Eight million sheep on sixteen million acres would be a fine beginning. You have the greatest sheep and live stock country in the United States if not in the world. Figuring on a basis your cost per head per year at \$7 and your income at a minimum of \$8.80, you have an investment which speaks eloquently for itself, to say nothing of the side values to every foot of your country. The opportunity is yours. What are you going to do about it today?"

The address was received with great enthusiasm and the talks that followed by other growers, by bankers, railroad men and others were in favor of speedy action along the lines suggested. President Harmon, of the Michigan Association, appointed a committee composed of Messrs. Bissell, Killen and Skidmore of Wisconsin, and Messrs. Longyear, Townsend and Howell, of Michigan, and the report of these men as unanimously adopted was in brief as follows:

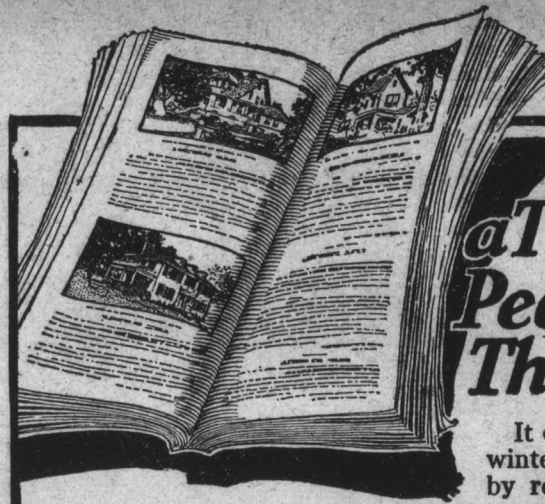
That the next meeting of live stock interests of the two states be held at the Pfeister Hotel, Milwaukee, November 22. That two representatives be sent to Washington to secure government cooperation in the live stock industry of this section. That bankers and land men be organized so that proper inducement may be held out to sheep and cattle men to locate in this territory.

UTILIZE THE STRAW.

We are going through a period of enforced economy in foods, so far as humans are concerned. Owing to the large yield of grain crops and hay, stockmen may be tempted to let down the bars of caution in utilizing the various home-grown food stuffs. The English farmer makes very satisfactory returns from chaffing his straw, mixing it with pulped roots and feeding it to his steers and sheep. In this country much of it will be wasted simply because the owner says he does not need it. What about utilizing it to make the corn crop go farther. Ensilage and cut straw mixed together and allowed to stand for a few days makes a very palatable roughage for cattle. The late T. B. Terry, of Ohio, used to have an ingenious method to make his stock eat wheat straw. He figured that what feeding value it had was of a carbonaceous nature. That bran and oil cake went to the other extreme and were valuable nitrogenous materials. He started in to feed his animals on the latter until they craved the straw to balance up the diet. As the result, this combination made a good feed, a good fertilizer, and the animals did well on it.

Canada.

J. H. MCKENNEY.



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It contains a rare story of winter discomfort succeeded by real comfort; of big fuel expenditures cut down from

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They put in this furnace because of these remarkable guaranteed advantages:

1. Only one register is needed; no pipes in walls or basement.
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3. The cellar will be cool enough to store fruits and vegetables all winter.
4. It will save you 35% of your fuel bill--some say more.
5. The firepot is guaranteed for five years.
6. It will burn any fuel.
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The Monitor Stove & Range Co.

2035 Gest St.

Cincinnati, Ohio



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Adrian, Mich.



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Tank Heaters, Hog Troughs, etc.
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For Auto Tyres. Double mileage, prevent blowouts and punctures. Easily applied in any tire. Used over and over in several tires. Thousands sold. Details free. Agents wanted.
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As specialists of 30 years' experience we have perfected a comfortable, sure relief from hernia in the Brooks Rupture Appliance. Endorsed by thousands of physicians. Sent on trial to prove its worth. Made to your measure. Durable--cheap. Write today for measure blanks. BROOKS APPLIANCE CO. 494 State St. Marshall, Mich.

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Magazine Section

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

The Present Food Situation In France

ARTICLE I.

By FRED B. PITNEY

I HAVE kept house in Paris during the war. I can speak from experience on the food situation in France as it affects the individual. One learns a great deal when keeping house, of which one gets no inkling, when living in a hotel and eating in restaurants. One can always go to a restaurant and order a meal and get it. I have heard many visiting Americans, who lived in France in that way, pooh-pooh the idea that there was a food shortage in the country. If those same persons had had to search the markets before they had their meals, they would have gained a very different

idea of the food situation in France. Sugar offers an excellent concrete example. In a restaurant one is fairly certain of sugar for one's coffee. Three lumps to a person is the rule. Formerly, the sugar was put on the table in a bowl and one helped himself. Now, the ration is served to each person separately. Still, one is fairly sure of being able to get sugar in a restaurant. But if one is keeping house, he finds that he must have a "sugar card,"

permitting him to buy a stipulated amount of sugar in a month. The allowance is one and one-half pounds of sugar a month, if three meals a day are taken at home, one pound if two meals are taken at home, and half a pound if only one meal is taken at home. This means for the person who takes three meals a day at home, eighteen pounds of sugar a year. The annual sugar consumption per person in America is eighty-five pounds.

One would not be likely to find this out, if one were living in restaurants in France, but one finds it out very soon, if one is keeping house.

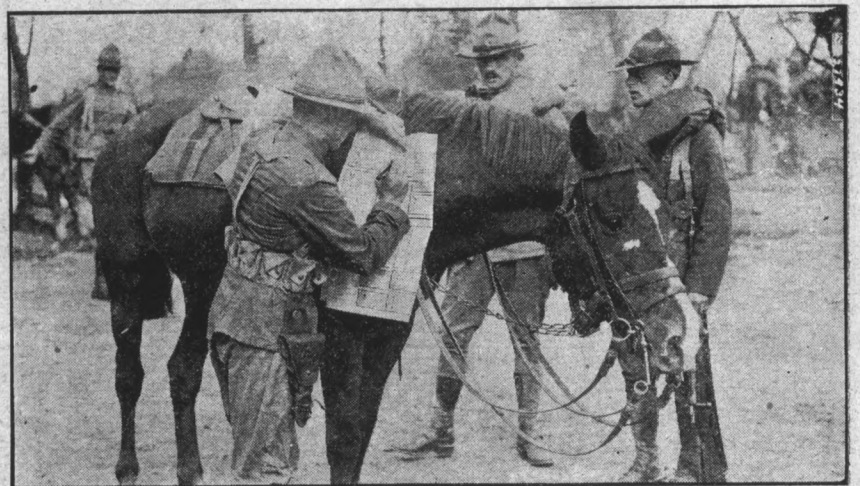
It is soon learned, also, that the "sugar card" does not mean that one can demand a pound and a half of sugar a month, but only that one is permitted to buy that much, provided a dealer can be found who has it to sell. A dealer who has sugar will not sell it to anyone who comes in. He sells only to his own regular customers.

We paid last winter in Paris eleven cents apiece for eggs and \$2 a pound for butter, and there was frequently

WORLD EVENTS IN PICTURES



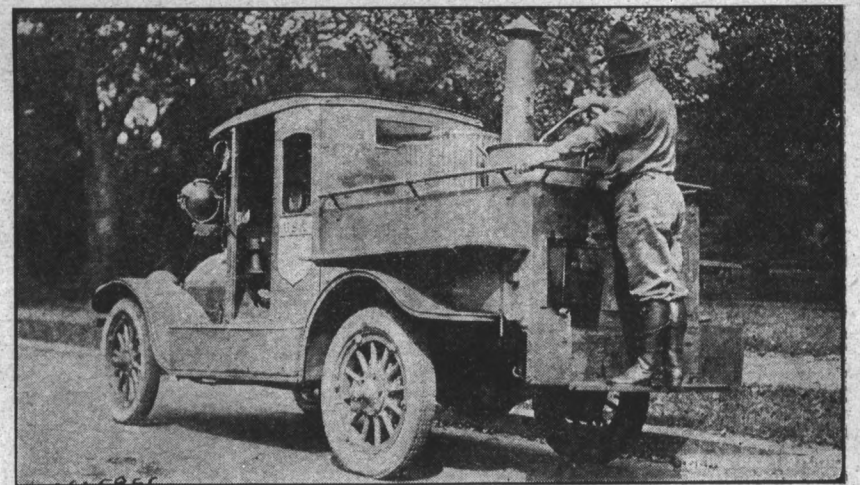
Critical Play in Series which Made Chicago American League World Champs.



Soldiers from Some States will be Entitled to Vote at Regular Elections.



Seas of Mud Hamper the British Advance on the Flanders Front.



Rolling Military Kitchen Now Part of Regular Equipment of the U. S. Army.



French Children Have Become Great Pals of the American Soldiers.



Big Air-craft Gun Mounted on Railroad Trucks Defends English Coast.

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Behind This Scene A Pilot Carbide Lighting and Cooking Plant

works without a sound. Silently and automatically it supplies lights for the whole place and—feeds the fire in the gas cooking range in the kitchen as well. The lights, equipped to turn on without matches are the most brilliant and beautiful known—while the gas range is the one perfect cooking appliance now in universal use.

The Pilot has brought these two city conveniences to thousands of country homes in every state. Our hundreds of representatives are permanently located in the districts they serve.

Write us for the names of neighbors who can show you plants in action.

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**Built to last
most a life-
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**Quick Action Brings Best Results! Write for
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Banner Tailoring Co., Dept. 738, Chicago, Ill.

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**300 Acre Farm \$6,500
With 75 Tons Hay, Crops.
4 horses, 20 Cows and**

Heifers, 2 bulls, 2 colts, 7 calves, 16 sheep, 8 hogs, 150 poultry, turkeys, mowers, horse rake, plows, harrows, cultivators, new manure spreader, corn planter, horse hoe, wagons, cart, carriage, sleighs, 5 sets harnesses, 100 bu. potatoes, 100 bu. apples, oats, corn, beans, vegetables, dry wood and cream separator. Nearby creamery buys cream, skim milk fed hogs. Estimated 1000 cords wood, 500,000 ft. Spruce and Pine, 5000 sugar maples, 500 apple trees. Good 10 room residence, tenant house, barns, 75 ton silo. Aged owner includes everything as above for \$6,500 on easy terms if taken soon. For details see page 9 Strout's Catalogue of 321 bargains. Copy free. E. A. STROUT FARM AGENCY, Dept. 101, 150 Nassau St., New York, N. Y.

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TO Centralize our farming operations will sell some of the detached farms we are working. These soils heavily fertilized through sheep feeding. Bearing orchard and berry lands in parcels to suit. Tell us kind of place wanted and will quote. No agents. **FREMONT CANNING CO.**, Fremont, Mich.

HAVE You a farm or property to sell? and will pay 2% after sale is made, or are you looking to buy a farm in any state? Write **GRASSEY FARM AGENCY**, 212 Lewis St., Lynn, Mass.

120 ACRE farm for sale. All fenced; half in cultivation; running water; excellent stock farm; one mile from good town on railroad in northeastern Michigan. Particulars write, Box G. 91, Michigan Farmer, Detroit, Mich.

FOR SALE 80 acre farm 5 miles from Gladwin half cleared with buildings, fences, stock, implements, tools, etc. And summers crop. Price \$3200. **MENNO GROSZ**, Gladwin, Mich.

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52 acres only \$500 down, 120 acres bargain \$3500. For farms write **B. STILLSON**, Jackson, Mich.

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MONTHLY PAYMENTS: \$5 down—\$5 per month. Made in 350, 500, 650 and 900 lb. capacities. Write for free catalog. Makers of separators for 16 years **Dairy Cream Separator Co.** 1263 Washington St., Lebanon, Ind.

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OUR TRAPPER'S FRIEND AND GUIDE FREE

Well Pays More Cash for FURS AND HIDES, Remits quicker than any other House. **FREE FREE-OUR TRAPPER'S GUIDE** is as different from other Guides as Aeroplanes are different from Stage Coaches. Write for **PRICE LIST**. Big money for Best Hides. No. 1 cured Hides, 23-24c a pound. Large Horse Hides, \$7 each; cured, No. 1 Calf skins, 30c a pound. Half a Century in Business. Ask your Banker about Us! **WEIL BROS. & CO.**, the Old Square Deal House, Box 117, FT. WAYNE, IND., U. S. A.

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We buy for cash and pay highest market prices for Muskrat, Skunk, Mink, Coon, Oppossum and all other fur bearing animals, also for hides and Ginseng. We pay express and charge no commission. Write today for free price list and shipping tags. **Henry Streiff Fur Company**, Dept. 13, 318-322 W. Racine St., Monroe, Wis.

The Best Farm Land In Central Michigan

Near good market cities. Clear title. Prices and terms right. Buy from the owners.

Stafford Brothers, 15 Merrill Bldg., Saginaw, West Side, Michigan

neither butter nor eggs nor milk to be had. Private families were allowed to buy one-eighth of a pound of flour at a time. The grocers could not sell flour, only the bakers. The flour mills could not choose their own customers, nor could the bakers and restaurants choose the mills they would buy from. Lists were made out, telling each miller to whom he could sell. This was in order that one section should not be able to eat up the stock of flour belonging to another section, or one baker deprive the customers of another, when all were short.

Wheat Situation in France.

Let me give you the official figures on the wheat situation in France, so that there can be no question. It is estimated that there will be a deficit of approximately 5,000,000 tons of wheat in France over the period from September 1, 1917, to September 1, 1918.

The normal annual consumption of wheat in France is from 9,200,000 tons to 9,400,000 tons. France has always been an importer of wheat, her average production for several years before the war being 9,000,000 tons, or slightly less than the consumption. Since the beginning of the war her production has fallen off rapidly. In 1914 it was 7,700,000 tons, in 1915 6,065,000 tons, and in 1916, 5,840,000 tons while for this year the crop is estimated at 4,000,000 tons, with a possibility of rising to 4,500,000 tons, leaving for the period from September, 1917, to September, 1918, a deficit of nearly 5,000,000 tons, which must be made up by imports.

Wheat Must Come From America.

Where can those imports come from except from America? Italy, by reason of her position in the Mediterranean takes the first toll from the wheat of the far east, while England, of whom the far eastern wheat producing countries are colonies, takes the remainder. France can get a little from South Africa. Argentina has stopped the exportation of wheat. This country is the only resource left to France.

I have spoken of the scarcity of flour, resulting from the shortage in wheat. Let us try to see what this means to France. In the first place, it must be realized that there bread is the staple article of food. It is the base of all meals, especially among the working population. Breakfast consists of coffee or chocolate and bread. Luncheon is bread, soup, coffee, and often, though not always, some meat or fish and a vegetable. The big dish is bread. Bread is again the base of dinner or supper, however the meal may be called. Bread and cheese will make an entire meal for a French peasant, with a glass of wine to wash it down.

Bread Allowance and "Bread Cards."

The French soldier's allowance of bread was a trifle over a pound and a half a day. On account of the shortage of wheat it has been necessary to cut this ration to a pound and a third a day. And it is not necessary to say that only dire necessity will count-

nance the cutting of the soldier's ration.

Another thing that has happened is "bread cards" in some localities. There is no national "bread cards" in France as there is a "sugar card," but in some parts of the country it has been necessary to restrict the use of bread by local regulations. I have in mind several letters from my friends among the peasants of Brittany, telling of the privations they were enduring because their bread was cut down so much. Remember that bread is the chief article of diet among these people.

France Suffers in Silence.

Do not think they complained. There is no finer souled, strong or greater people in the world than the French peasants. They are heroes among a nation of heroes. No trial that justice and right could demand could wring a complaint from Josephine Herve, one of the grandest women among a grann race. That simple peasant woman can neither read nor write, but without a word of bitterness she gave her husband to her country, and she is schooling her five sons and raising them for her country. The oldest goes to the army with the next class that is called out. When little Charlot, next to the youngest of her boys, writes for her and tells what they are enduring, there is no complaint, no bitterness. It is a simple statement of facts in plain and homely language, the story of a peasant cottage told to the child she nursed and loved. And one cannot help her. One can send her money, but it is not money she needs, but bread.

(This is the first of a series of three articles by Fred B. Pitney, a noted foreign correspondent, on the food situation in France. The second story will tell how the French people are economizing in the use of their food supplies. Watch for it next week).

HALLOWE'EN.

BY RUTH RAYMOND.

She was a little girl at play
And he a noisy boy,
They kept the Hallowe'en most gay
Its charms their present joy.
They scattered rice from door to door
Bold phantoms in the night
And scurried for their homes once more
Like laughing elves in flight.
He was a lad and she a lass,
And both were wondrous shy,
Alone ere midnight hour should pass
He sought again to try
The winsome charms of Hallowe'en
Beside the crystal mere
And hoped within its silver sheen
To see her face grown dear.
A lone owl called, she stood afraid
He did not look above,
For there he found the timid maid
And told her all his love.
Their troth was plighted and they went
The homeward way, I ween
In all the joys of life content,
This happy Hallowe'en.

THE TELESCOPE.

BY ALONZO RICE.

A grain of sand has wonders there concealed,
And Genius strolling on the shingly bars
Stooped, gathered up a handful, and revealed
To waiting worlds the secrets of the stars!



Hunters Know that Deer will Take to Such a Cover as this to Lie Down.

"Contraband" RANDALL PARRISH

A Day in the Boat.

I TURNED, my fingers gripping the rail. Before then I had had no time to think, to appreciate the full terror of our situation, to realize the horror of the spectacle. In that last instant this burst upon me in all its vivid horror. Between the two hatches the deck was a sheet of flame; already the canvas of the lower yards had caught, and was blazing fiercely. The red writhing serpents, fanned by the wind, were sweeping aft in billows, tipped with black smoke dense and suffocating. All about us the glare of dancing fire, the swirl of shadowy smoke clouds; the air was hot, almost blistering. I saw nothing of McCann.

"He isn't in the boat?"

"No, sir."

"Well, we can't wait—lower away—yes, I'm coming."

They must have unhooked the falls at my first word, for the boat sank just as I swung to the rail. This, and a sight suddenly revealed against the front of the cabin, held me there, clinging to a stay, struck motionless with horror. I heard Vera cry out from below:

"Robert!—Robert! Don't wait—jump!"

But the words seemed to have no meaning, no power to impress me; for an instant the sight I beheld paralyzed my brain. The lashed wheel still held the ship to the wind, and the clouds of smoke belched aft, becoming so dense I could not see across the deck to the port rail. I know not where they came from, nor how they had met in that last death grapple. All I know is, that suddenly, both bodies wrapped in flame, and half shrouded in wreaths of smoke, the glare of fire on their faces, every muscle straining in the intensity of struggle—McCann fighting desperately to escape; Bascom exercising all the mad strength of insanity to retain hold of his victim. If either uttered a sound, I heard it not. It was like a horrid picture projected from out the smoke cloud, and as instantly fading. I saw the men's faces, exultant hatred in one, unspeakable terror in the other; I witnessed the strain of muscle, the awful effort to rend apart arms and limbs. It was a vision of hell, yet almost before I could thus vision it, the two figures were engulfed in a sea of flame; where they went—into the seething caldron, or over the rail into the depths of ocean—I can never tell. They were there, struggling like fiends, a horror unspeakable in a frame of smoke and fire; then that curtain of death and fire dropped—and they were no more.

I may have jumped; I may have released my hold upon the backstay, and fallen. The deck planks were hot to my feet, and serpents of flame crept along the seams as though reaching for me with tongues of fire. I staggered back with hands held before my eyes, half blinded with the glare, still seeing, in crazed memory that awful spectacle of death and horror. From far below a cry reached my ears—a woman's agonized cry shrieking upward through the crackle and roar of flames until it even penetrated my brain, and brought me life again:

"Robert! Robert! Oh, Robert—come to me!"

I turned, and gripped the rail. With one swing I was over it, my body hurtling through the air, down into the black sea. As I came back to the surface, every numbed faculty restored by the plunge, the icy grip of the water, the glow of the flames above me revealed the small boat. Dashing the moisture from my eyes, conscious only of the pleading in her extended arms, I swam toward it. Then behind me

the ship burst into a thousand fragments, rending apart with the report of a mighty gun, and shooting upward in a volcano of flame. I went down—down—down, and knew no more.

If one could be in an instant transferred from the most fantastic depths of an inferno to the heavenly delights of paradise, his experience would not seem stranger, or more impossible than mine. I had sunk to death, about me every horror of noise and sight; the black night, the glare of flame, the roar of explosion, the icy clutch of water; what followed that plunge into the depths was unconsciousness. I awoke with Vera's eyes smiling into mine, her face bent above me, the golden sunlight of a new dawn resting on her hair. I could but stare up at her, unable to comprehend, half believing it all a vision to as quickly dissolve into mist. Yet I was rational, my brain swiftly clearing to the truth. The hand which held mine was of flesh and blood; those were no dream eyes smiling their welcome, and I was lying in a boat, bobbing up and down on the surface of the sea. Words came to my lips, a whispered question:

"You—you picked me up, we are still at sea?"

"Yes, dear; oh, I am so glad! Lie still, you are not strong enough to sit up yet."

"Oh, yes I am, see, I will lean on your shoulder. Why, it is actually morning; the sun is an hour high."

My eyes left her face to survey the others, and the cockleshell in which we floated. I could hardly realize that we were actually all there. I counted them like a boy at school, reciting in class, even speaking each name aloud. The little boat bore up bravely under its load, although White and Olson were both bailing, and my eyes took note of several charred spots along the gunwale showing the touch of fire. Leayord was at the tiller, and seemed to comprehend all that I was most eager to learn.

"Yes, we're still afloat, sir," he said, with a sailor's hopefulness. "But it's God's mercy. By every token we should have been blown out of the water when the Indian Chief exploded, but somehow the gust of it didn't hit us. We were showered with fire, an' hit by a lot of flyin' stuff, but nuthin' to wreck the boat. White had his arm broke by a piece o' timber, and an oar went overboard. But how we ever kept right side up in this little dinky boat when that big iron pot sunk is more than anybody but God could tell. We just couldn't do nothing but just hang on. We was way up there, sir, a scrapin' the clouds, an' then down in a hollow that seemed a mile deep; an' when we come up out o' that, there you was, sir, shootin' out o' the waves straight at us. The girl, she saw you an' screamed; she'd have gone over after yer, if I hadn't grabbed her, an' then Red he got a boat hook into the collar of yer jacket, an' we hauled yer in over the side."

"That must have been hours ago."

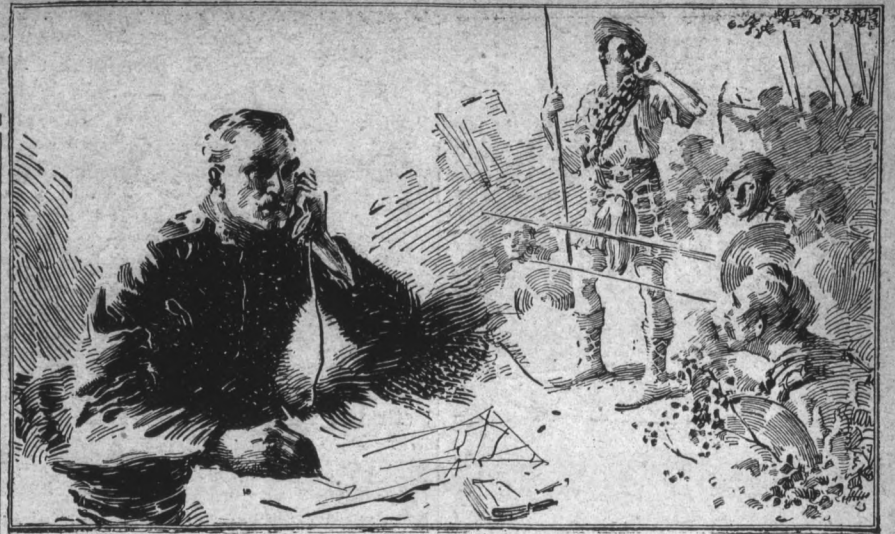
"Quite a spell, sir. Something had hit yer head, an' it bled a bit. The young lady has been a holdin' yer on her lap ever since; she tore her skirt to—"

"Never mind that, Mr. Leayord," she interrupted, "we all of us did what we could. Olson, will you pass back a biscuit and a water bottle; Captain Hollis will regain strength if he has something to eat."

I smiled at her, and accepted the biscuit.

"How are we fixed on food? I only want my share."

"We have had one apiece; there were two bags thrown in; we can



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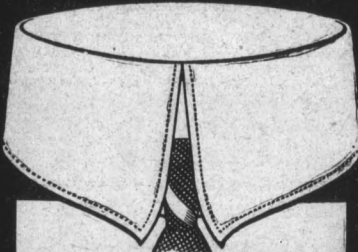
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thank McCann for that, the poor devil."

The memory of that spectacle of horror witnessed on the blazing deck came suddenly back to me, and I hid my eyes, every muscle of my weakened body trembling. I felt Vera's arms hold me tight.

"What is it, Robert? You are in pain?"

"No; the suffering was mental, not physical. I—I saw McCann's death; that was what held me on board so long. Bascom got him; they—they went down together, fighting in each other's arms, in a sheet of flame. No words can picture the horror of it. Let's not talk of that any longer. I—I must keep my mind."

"Yes, dear, we will not talk of it," tenderly. "Our own situation is surely bad enough; you must tell the men what to do."

I lifted myself, strengthened by the appeal, eager to be diverted.

"The boat is taking in water?"

"Not a great deal, sir; she is so deep loaded some splashes over the gunwale. We're all right so long as the sea keeps like it is now."

"Are you steering by compass?"

"No, sir, by sun. I just naturally headed west; that's the nearest coast, I reckon?"

"Yes; it's a matter of guess work. As a rough reckoning I should think we might be seventy miles at sea. We're overloaded, but I imagine many a fisherman's dory has made a worse voyage in these waters."

"Are these fishing seas, sir?"

"The best in the world. I've often read of dory crews being lost in the winter fog, and yet making land in spite of the storm and cold. If they can do it in such weather, there is no call for us to give up while the boat floats. The first job should be to rig a sail; there is one oar left?"

"Aye, sir, and a paddle."

"Good enough. Red, cut a hole in that forward thwart with your sheath knife; not too large now. Any canvas aboard?"

"Only these strips."

"They'll do for stays, and to make secure. The sail will have to be a shirt—Olson, how about yours?"

He peeled it off without a word, and helped me fasten it to the oar blade. It was a rough bit of work, yet served the purpose, and when we had stepped the improvised mast, bracing it as best we could with the paddle, and the outspread garment belled out in the fairly fresh wind, the sight put new heart into all of us. I could but note the fellows staring at it, and then at the rushing green water alongside, as though calculating our progress. No doubt it was small enough, yet the very knowledge that we were moving at all tended to bolster our courage, and arouse hope.

"Isn't there enough left of that painter rope to reach from the top of the oar blade to the bow?" I asked. "Surely there is; run her through the ring bolt. Now who will donate another shirt for a jib?"

Red was the quickest, and in ten minutes the dinghy was fairly lying down to it, the two shirts—one gray, the other mottled blue—bellying out bravely, their empty sleeves flapping like signals of distress, as the laden craft plunged and leaped through the trembling water.

"Ease her a little, Leayord," I said. "Better to ship a bit of water than strain her seams; that's more like it. Why, we must be doing five knots, and that's famous?"

There was nothing more to be done; the boat rode fairly steady, and one man could easily keep her clear of water. The others disposed themselves as best they might, occasionally exchanging a word or two, but mostly staring about at the expanse of sea. Leayord hung on to the tiller, while I held to Vera's hand, and we spoke in low voices for each other alone.

"It is wonderful," I whispered, "how you stand all this hardship; your eyes are tired, but it has not otherwise marked your face."

"I am glad. It is because you are with me. I cannot tell you how I suffered while you remained on board the ship. I cried out for you; I could not help it."

"And it was your voice which saved me," I answered soberly. "The sound of it brought me to myself. I never had so strange an experience. The horror of that sight suddenly revealed in smoke and flame; my inability to aid McCann seemed to completely paralyze every faculty. I had the feeling of a dead man; I could not move hand or foot. Perhaps a bird feels that way in the snare of a snake. It was your cry—your word 'Robert'—which restored me to life, and sent me hurtling over the rail. You saved my life as much as though you had reached out and grasped me."

"Oh, I am so glad; all the love of my heart was in that cry."

"What a mistake we made when we chose this voyage," I said regretfully. "It has brought only hardship and peril."

"I do not regret," and her eyes gazed frankly into mine. "Truly I do not. There was no other way for us to know and love. Robert, if this was the end, I should be glad of my choice. I would rather go down here in these waters clasped in your arms, than to be compelled to live on in the world without you."

"My sweetheart; but I will not imagine such a fate. We have struggled on through too much to have the end come in this desolate ocean. We must win—the Newfoundland coast is not so far away, and these are sailors with us. You trust, and love me?"

"With all my heart."

"Together we will have faith in God."

I do not know how long we talked in such sweet intimacy as we had never known before. I must have been weak, I think, from the wound I had received, and the loss of blood; for, in spite of every effort, I felt an unconquerable drowsiness, my head drooping forward. She was quick to notice this, urging me to rest against her shoulder, but I refused.

"Then I will make you sleep," she said quietly. "Oh, yes I will, for the safety of us all may depend on your wakefulness tonight. Lie down here with your head in my lap. Robert, I insist you must. Please do; oh, thank you. Now don't try to talk—just sleep."

Her hand softly stroked my temples, her shoulders shielding me from the sun; her sweet face bending over me; her eyes smiling confidently into mine my own grew misty, and I finally lost consciousness even of her presence.

She told me later that I lay there motionless for two hours, so still, so softly breathing, as to almost frighten her. Twice she leaned close to assure herself that I did actually breathe, and her fingers felt for the beat of pulse at my wrist. It was the coma of sheer exhaustion. The bull-like roar of a startled voice forward awoke me. I caught no word, only the sound, but there was a note to it like the violence of a blow. I sat up, staring about, the entire scene within the range of vision photographing itself upon my brain.

The ocean heaved in long green billows, crested with foam, the boat rising and falling as steadily as a rocking chair; the sun no longer beat down upon us from a cloudy sky, but appeared as a fiery disk through a cloud of vapor, which swept along the surface of the water obscuring the circle of horizon. Liverpool stood erect in the boat's bow, holding himself firm by gripping the inverted oar, his free hand hollowed to make a trumpet of his voice. Every other face was turned forward, yet for an instant, the flapping shirts, improvised for sails, prevented my seeing

the cause of excitement. Then Leayord, with an oath, jammed down his helm, and the dinghy swept to port, mounting a wave crest like a bird in flight, and there burst out directly ahead the sharp prow of a two-masted schooner, bearing straight down toward us, sailing before the wind.

"Ahoy there! Ahoy!" yelled Red and Olson, almost in one voice. "Port your helm; port your helm!"

It was almost like a vision, that vessel—a grim, menacing spectre, leaping straight on toward us out of the mist, the white foam circling from her sharp cutwater, her spars and ropes silhouetted against the gray fog, her main sheets reefed, but with topsails bellying to the sharp breeze, yet with not a sign of human life visible.

"Put your helm down, Leayord! Hard down, man," I sobbed. "My God! she'll be on us in a minute! Ay! that's better; stand by, forward. If there is any chance lay hold."

CHAPTER XXXVIII.

A Death Ship.

IT was a matter of seconds if we cleared. With drawn-in breath, our hands gripped, eyes staring in a fixed horror, we faced that sharp, murderous stem, as it drove through the green surges straight toward us. Leayord, his full weight on the tiller bar, his lips open with an oath unuttered, was motionless as stone, and the boat shot to one side, a cascade of water pouring over its lowered gunwale, as it sped like a frightened deer for safety. The deadly copper sheathing missed us by barely ten feet, the swift rush of the flying schooner fairly whirling us about, scraping along the side so closely that the paddle which Olson used as a fender was actually torn from his hands, and a great gash made in the dinghy's rail.

It was God's miracle that we lived and kept afloat; that we were not sucked under, or crushed into driftwood. To this day I know not what occurred, or how we held upright. There was a crash, a crunching sound, a mad plunging of the tortured boat under us. My hands gripped vainly at the steel sides slipping past—then suddenly the wild race ended with a jerk, with a leap of the boat through a surge of water drenching us to the skin, and we struck the schooner's side a blow which, it seemed to me must crush every plank into atoms. I held Vera to me ready for the end, but Leayord yelled wildly:

"That's it, Red! make fast there, make fast! Lively now, before we go down. The mizzen chains, Olson! Up you go, my lad—up you go!"

I was on my feet now, understanding it all, realizing the value of each second, knowing that the shattered boat must be sinking under us. I also got grip on the chains, and the three of us held on desperately, Red hauling the single rope end taut, and looping it about the thwart.

"Here, Olson; reach your arms down and take the girl first—there's no time to wait for help. Now Vera—quick, girl; the boat is sinking under us."

She stepped onto my shoulders and grasped the chains to steady herself; then gripped Olson's hand, sprang upward, and was drawn safely in. I turned to the others.

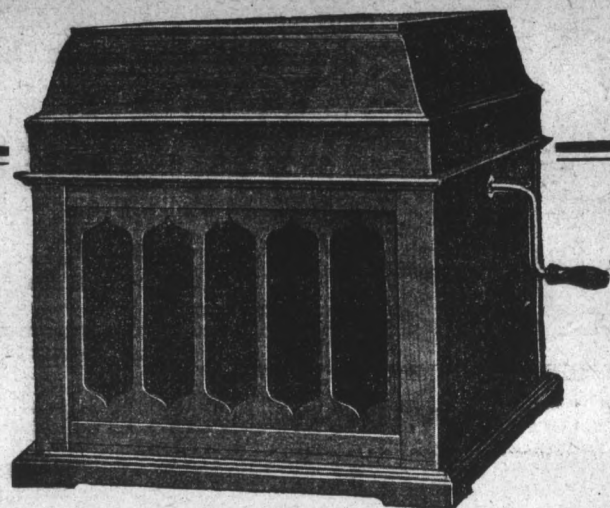
"Make fast Red. There is nothing more to be done, but get out. One at a time now; here White, you're crippled, go first—hoist him up, Masters; now ease in there, Olson—good. You're next Masters."

(Concluded next week.)

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Woman and Her Needs

At Home and Elsewhere



Conservation Day Suggestions

ONE meatless day a week and one wheatless day is the request of the food administration, and the American housewife is pledged to comply. That is, large numbers are through the medium of the pledge cards circulated last summer, and all are bound to fall into line. Meatless day is not so much of a problem, hundreds, yes, thousands, are already observing not one, but many meatless days each week. But how to get through an entire day without resorting to the use of wheat in some form is indeed difficult. Practically every recipe which calls for corn meal, rye, barley, or the other cereals, calls also for at least one cup of wheat flour, since no other cereal has the glutinous property found in wheat, which binds the bread or muffins together. Johnny cake and muffins, made entirely of corn meal, always falls apart, and the recipes for barley scones and rye bread demand white flour. However, there are some things we can make, and if we really want to help we can spread the wheatless day over the seven, going without white bread every day and using a little white flour each day in some of the war breads.

For your next meatless Tuesday try the following, filling out the menu with vegetables and fruit to suit your family:

Breakfast.—Corn flakes with whole milk or half and half; creamed potatoes, toast and cocoa made with skim-milk.

Dinner.—Soy bean loaf, baked potatoes, milk gravy, pie without crust.

Supper.—Creamed codfish, potatoes boiled in jackets, canned fruit, Canadian war cake.

For your wheatless day substitute for bread in the morning buckwheat cakes with bacon or sausage meat. Dinner, Old Virginia batter bread; supper, southern spoon bread.

The meatless day breakfast is one every housewife can prepare, and probably serves often. The soy bean loaf is made as follows: Soak one pint of soy beans at least twelve hours, eighteen would be better. Boil up in cold water, add a half teaspoon of soda, boil five minutes and rinse thoroughly in warm water. Then put on to cook in boiling water and cook slowly until soft enough to force through a strainer. Force the beans through a rather coarse meshed sieve, and mix with two eggs beaten, four crackers rolled, one cup of tomato prepared as for soup, a tablespoon of lemon juice, one teaspoon of salt and a dash of pepper. Pour into a mold and bake a half hour. Place on a platter and pour over it a cup of the tomato soup mixture, heated.

Pie Without Crust.—Line a deep pie tin with any fruit, lay over it very thin slices of buttered bread, sprinkle with brown sugar and place in the oven until the sugar has melted and candied and the bread is toasted a nice brown.

Canadian War Cake.—Two cups of brown sugar, two cups of hot water, four tablespoons of lard, one teaspoon of salt, one teaspoon of ground cinnamon, one teaspoon ground cloves, one cup of raisins. Boil all five minutes after they begin bubbling. When cold add three cups of flour and two teaspoons of soda dissolved in one teaspoon of hot

water. Bake in two loaves in a slow oven for one and a quarter hours.

Buckwheat Cakes.—Two cups buckwheat, one-half cup corn meal, one teaspoon of salt, one-fourth cup molasses, one-half yeast cake, one-fourth cup of lukewarm water, two cups of warm water, one teaspoon of soda. Mix dry ingredients, add yeastcake dissolved in the quarter cup of water, molasses and a pint of water. Beat well, let rise over night, stir in the soda and beat well.

Old Virginia Batter Bread.—One pint of corn meal, one teaspoon of salt, one egg, one quart of scalded milk, one tea-

spoon of sugar. Stir corn meal into scalded milk, stir and cook to mush. Allow to cool, add salt and sugar, beaten yolk of egg, and lastly fold in the beaten white. Melt two tablespoons of shortening in a baking pan, pour in the mixture and bake forty-five minutes.

Southern Spoon Bread.—Pour one cup of boiling water over one-half cup of corn meal. Let cook briskly for five minutes, add one tablespoon of butter, one-half teaspoon of salt, and stir as it cooks. Take from fire, add one-half cup of sweetened milk, one well-beaten egg and one teaspoon of baking powder. Pour into well buttered, shallow dish and bake twenty minutes, letting it brown before removing. Serve from dish in which it is baked.

not stick unless the walls are first given a thin coat of glue.

Corn-Meal-and-Wheat Bread.—One and one-half cups of milk, water, or a mixture of the two, half a cake compressed yeast, (or one and one-fourth cups milk, water or mixture of the two, one-fourth cup liquid yeast), one and one-half teaspoons of salt, one tablespoon of sugar, butter (if used), one tablespoon, one cup of corn meal, two cups of wheat flour. Pour one and one-fourth cupfuls of the water over the corn meal, salt, sugar, and fat, if used, heat the mixture gradually to the boiling point, or nearly to it, and cook for twenty minutes. This cooking can best be done in a double boiler. The water is sufficient only to soften the meal a little. Allow the meal to cool to about the temperature of the room and add the yeast, mixed with the rest of the water, (one-fourth cupful), or the one-fourth cupful of liquid yeast. Mold thoroughly, let rise until it doubles its bulk, make into a loaf, place in a pan of standard size, allow to rise until it nearly fills the pan, and bake for forty-five or fifty minutes.

Of First Importance

MY neighbor has been having trouble with his small son for some time back. For some reason he has lost his hold on the boy, who is just in that betwixt and between age, when he is too old to be led to the woodshed and too young to understand much reason or sarcasm. He is unruly, apt, at certain times to disobey the most reasonable demands, mischievous, sometimes sulky, and sometimes saucy. He regards his father as a cross between an enemy who is to be fought on every occasion and an inferior to be treated with supercilious contempt. The father is of the old school of parents who expected implicit obedience and scorns to answer "Why?"

Last week there was a play at the school. The history class was going to depict La Salle in his trip down the Mississippi and the boy was chosen by his class to play La Salle. The youngsters were to dress up, pastime dear to all hearts, whether young or old. And of course, La Salle, being the central figure, wanted to make a great impression. Toy pistols and home-made bows and arrows furnished accoutrements of war. Mother loaned an old pony coat, grandfather hunted up a peace pipe and the outfit was almost complete. Almost, but not quite. Father owned a hunting cap, a wonderful thing of red corduroy with earlaps that could be turned up and tied on top, or brought down and tied under the chin. The wearing of that cap would make the costume complete. But would father lend it? Father is extremely careful of his things; not at all inclined to lend anything to anyone, especially to boys. After much discussion of the problem with mother, who thought that perhaps for this very particular occasion he might be generous, the boy made his request in fear and trembling.

He met a cold, quick, curt refusal. The glory of being chosen La Salle out of a room full of boys died right then and there. The lad went on and took the part, but without interest. At the supper table that night could not be induced to talk about the affair. His father asked countless questions about how things went, but got no enlightenment. Later he complained bitterly about the boy's sulkiness. Yet he can't see to this day that he was to blame.

Too many parents have the same habit. The hunting cap cost seventy-five cents when it was new. It was five years old and had been worn once.

It probably will not be worn more than once again in the next five years. There was absolutely nothing about it the boy could hurt, and even if some other lad snatched it off his head and used it for a foot ball, the damage done to the cap would have been infinitesimal compared to the damage done to the boy's feelings. The father had a chance to get a hold on the boy, whom he feels is slipping away from him. He lost it for an old cap.

The putting of things above our children is a common fault. A scratch on the furniture, a muddy foot print on a clean floor, a broken dish, a spotted tablecloth, they are maddening. I'll grant you. But they are of no relative importance when compared to the child's happiness or a sense of companionship with him. Better to lose a hundred caps and have all one's furniture marred than to drive a boy away from one by continued scolding and selfish clinging to possessions.

It seems queer that when so many mothers and fathers are sending their boys of twenty and twenty-one away, perhaps forever, that we parents of the boys of ten don't wake up. Yet we still cling to material things, putting them, as always, above the things of the spirit.

DEBORAH.

HOME QUERIES.

Mrs. J. W. N., Holly.—I do not have a recipe for laying down tomatoes with horseradish. The following method of putting them down in salt has been published before in this column: Salted Ripe Tomatoes.—Ripe and perfectly sound tomatoes may be kept for winter use by simply packing them carefully in jars and pouring over them a strong brine. Cover tightly to keep out air. When wanted for use take out the required number, soak for twenty-four hours in clear water, peel and slice and they will taste as though they just came from the vines. Authorities differ as to what causes the crystals in grape jelly. One says over-ripe grapes, a second, too much sugar, and a third too long boiling. It may be a combination of all three, as over-ripe fruit would give more sugar, and crystals do not form in wine until late in the process of wine-making.

Mrs. C. W. K., Pontiac.—See answer to Mrs. J. W. N., Holly, regarding formation of crystals in grape jelly.

Mrs. D. H. M., Lucas.—The paint will

THANKSGIVING HINTS.

When making your Thanksgiving doughnuts, remember that a few whole cloves in the kettle of fat give the doughnuts a fine flavor.

To remove down from your Thanksgiving geese and ducks, after killing the fowl, draw the skin up over the neck bone and tie to keep the blood off the feathers. Hang it up somewhere and pick off all the feathers while still warm. Then sprinkle with powdered rosin, all over the down. Scald quickly with boiling water, after which the rosin adheres to the down and can be rubbed off very easily, leaving a smooth, clear skin. This is the best method I have ever found for this difficult task.—M. A. P.

When making your Thanksgiving mincemeat, after chopping the suet for the mincemeat, cook the suet and raisins with a small quantity of water together about half an hour before adding to the mincemeat. In this way you will avoid the small lumps of suet sometimes found in mince pies.—M. A. P., Kansas.

FOOD VALUE OF CHEESE.

With the meat problem so acute, cheese of various sorts is assuming valuable proportions in the eyes of producers and consumers. The United States Department of Agriculture estimates that one pound of cottage cheese supplies as much protein as 1.27 lbs. of sirloin steak, 1.09 lbs. round steak, 1.37 lbs. of chuck rib beef, 1.52 lbs. of fowl, 1.46 lbs. of fresh ham, 1.44 lbs. of smoked ham, 1.58 lbs. loin pork chop, 1.31 lbs. of hind leg lamb, 1.37 lbs. of breast of veal.

The Iowa Agricultural Experiment Station, Ames, Iowa, has a bulletin on "Soft Cheesemaking," which should be valuable to cheesemakers. It gives instructions on the making of Neufchatel cheese, pimento cheese, olive cream cheese, sandwich nut cheese, cream cheese, club cheese, cottage cheese, raw sour buttermilk cheese, sweet buttermilk cheese, sour pasteurized buttermilk cheese.

Grange.

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

THE GRANGE AND THE FARMER.

This is a queer title. Of course, the Grange is for the farmer. It is made up of farmers, it refuses to admit any except those engaged in agriculture, and closes its gates to all who have any interest contrary to the interest of the tillers of the soil. Why, then, this title? Well, because it seems to me that by far too few of our Granges realize how important it is that every Grange should keep close to the needs of the average man on the farm.

Of course, the Grange resembles other societies of a fraternal nature in that it has a ritual, some secret work, an initiatory ceremony whose importance must not be overlooked. Then, too, every subordinate Grange offers excellent social advantages if it lives up to its privilege. Perhaps in the whole field of Grange possibility, there is nothing that is of such value as the educational advantages of the lecturer's hour. All of these things have a very direct relationship to country life, and so they are vitally associated with the farm, and the family on the farm.

But in this connection I wish to talk about some things pertaining to the business side of farm life. We are just beginning to get interested in the subject of cooperative selling. Our progress is bound to be slow because this is a new field. We must expect to make mistakes for we are blazing the way. The subject of cooperative marketing must be studied, notwithstanding our mistakes, and we must keep at it, until we have developed a system whereby any member of the Order may market his products in cooperation with his neighbors in a way that will prove to his advantage, and to the advantage of the purchaser as well.

Then, too, the Grange is not living up to its privilege in the matter of cooperative buying. Together we buy a little Paris green, some binding twine, and perhaps a quantity of fertilizer. In the aggregate it looks like a large sum, but when shown by the side of the amounts of these products actually used every year by our membership, it does not make much of a showing.

There is no reason why we should not buy all of these products needed by our members in this way, and save the profits to ourselves.

Think of the quantities of spraying materials used by the farmers and fruit growers of western Michigan annually! And yet, how few barrels of lime-sulphur mixture are bought through Grange contract. Prices of these goods ought to be in the hands of every Grange in the state by December 1. A special effort should be made at the State Grange meeting to advise all, of the terms of such a contract, and the contracting company should be represented at this meeting, and should be prepared to answer any proper question relating to his business with the membership. Carloads and carloads of these goods might be bought to the advantage of the purchasers where now we buy but a few barrels.

Consider for a moment the subject of feed stuffs. Here, too, we are doing next to nothing, and yet, here lies one of the greatest possibilities in the way of cooperative buying.—W. F. Taylor. (To be continued).

COMING EVENTS.

Gratiot County Pomona Grange will meet with Newark Grange, Saturday, November 3. Biennial election of officers, election of delegates to State Grange, installation, a good program, including state speaker, memorial exercises, pot-luck dinner.

Farmers' Clubs

COMMUNITY SERVICE OF THE AGRICULTURISTS.

BY MARY M. ALLEN.

From the time when our forefathers inserted the clause, "schools and means of education shall be forever encouraged," in the ordinance of 1787, inhabitants of Michigan were assured of special school privileges. Especially was this true of the rural people. The oldest and best equipped agricultural school in our splendid country sprang up in our state. No one whose life has been associated with such men as Robert Clark Kedzie, or Dr. W. J. Beal, and other pioneers of our Agricultural College can help but feel the strength and inspiration for service this association gave them.

Country people were slow to realize the benefits and value of an agricultural education. Less than twenty years ago the writer recalls many scathing remarks and much ridicule were hurled at the young man and the young woman who attended the Michigan Agricultural College. Yet there were many who braved the ridicule because they had a vision of the fact that an agriculturist needed a knowledge of the sciences as well as the physician or dentist.

There were, too, young women who believed that a knowledge of domestic science would transform housework from drudgery to skilled labor and change the kitchen from a sweat shop to a laboratory. They knew a knowledge of the sciences would make them better mothers.

Thus we have scattered over our broad state many trained agriculturists and scientific housewives. Quietly performing the everyday tasks, these people forgot the ridicule they were subjected to when they came back from the college and went about their work in the way the vision told them was right.

But, lo! The world's at war! Hunger knocks at the doors! Now the men and women who had the vision come into their own! The country calls on the skilled agriculturist to give his attention to the increase of the world's food; the country calls on the domestic scientist to give her attention to the economical conservation of the world's food.

Scattered over this broad state are some 7,000 rural school houses. Each school house stands for a unit of government, a community about which and in which individuals have a common interest. Yet we are told that, for various reasons, this community interest no longer exists. Only a few persons are interested in the school. District school meetings call out only three or four individuals. The rural school is no longer the center of social life as it was in the days of the spelling school and the lyceum. Many of these communities contain a trained agriculturist; but no community organization exists. Right at this time, the agricultural graduate can repay his state for the splendid school advantages it gave him, by organizing in his community a live Farmers' Club. While much service is given the farmers by state workers, a trained man with the intimate knowledge of his particular community can give far better service. He knows the soil, the weather conditions, the labor conditions far better than any state worker can. He can not only render to his community a distinct service but can give valuable assistance in solving the world's problem of food. Statistics show that children reared and schooled in the country are much less healthy than those of the city. The reason for this is found in the unsanitary country school houses. Next to the problems brought to us by the war, the conservation of public health stands first.

When your boy and mine, or your brother and mine meet over in the trenches they will be so happy over seeing a familiar face, they will become as chummy as military rules will allow. They will forget their grandfathers quarreled over a line fence, or had a lawsuit over a rambling flock of turkeys, or beat each other in a horse trade. May we not be as forgiving? May we not through a united effort of our community "do our bit" towards solving these world problems? If the agricultural college man or woman wants to render his or her country or community a distinct service it can be done in no better way than by organizing a Farmers' Club this winter.

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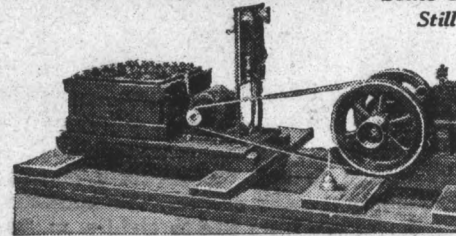
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The Michigan Farmer, Detroit

Dairymen Organize--Why Not?

THE man or business that is not sufficiently patriotic in these days to accept for gain a reasonable profit added to actual cost, is little better than the enemy in front.

The one great factor yet to be given to the public in this milk problem is the cost of production. For long years milk has been produced in this country far below its cost, and for the reasons outlined. The farmer could not know the cost of producing his own milk. A single farm with but one herd is too small a unit for investigation, and the farmer too busy to weigh and measure the items entering into the cost for a year or more.

It was only when his feeding crops failed, when corn and oats and mixed feeds had doubled in price, that he began to call for an increased price for the milk, which before had been an unknown loss to him. There is one underlying trade base that every fair mind in the world must accept, and that is, that every commodity is worth at least what it judiciously costs to produce it, plus a reasonable profit.

Less than a year ago, when an army was to be raised to protect our shores, our families and property from the brutes across the sea, it was announced that the farm boys would be exempted as a food necessity.

This seemed to be economically demanded, but it established an inequality that would have been unfair and un-American. The farm boys have gone to the camps in greater number and in greater proportion than from any other class of people.

More of them have been found rugged and healthy, fit for service, because of their life in the open air. The public cannot fail to note the effect upon farms. The wage increase and lack of help must show itself in a higher cost of milk.

We are here to recognize the laws of state and nation and to uphold them, whether good or bad, so long as they are over us. We may question their interpretation at times and ask for judicial analysis and for the verdict of enlightened public opinion. That we do now.

We ask why farmers, under the circumstances, should be selected as the sole offenders against anti-trust laws of this country, just because they have sought by cooperation to escape the oppression of the monopolies above them. Why have the men in overalls been selected and not the ones in gentlemen's attire?

This great government at this very hour is buying the farmer's milk for our soldiers, not from the farmers, but from the Milk Cannery Association of the United States. No one complains. No one should, for it is a necessity and patriotism excuses. The public has not even asked what profit this great combination is making between the farmer and the government.

But why, if the canners who buy the milk of the farmers can unite in selling, if they may agree upon a price, why not the farmers meet and talk over a price for their milk, if such a price be not unreasonable?

These farmers, isolated and away from their markets, have watched the great industries of the nation grow from shops by the road side, to the partnership, on through the corporation, and then by amalgamation into the great dominating factors of trade.

The entire process has been one of cooperation. But the six millions of milk producers, whose fields are separated, cannot thus join their forces and strength.

They read of the great steel factories cutting the price of their product in two, and yet leaving them a profit. They find their clothing, groceries, tools and machinery mounting upward; their feed for cows more than double its former price, and they well

and justly inquire, why they alone are singled out for public execration, when their milk is going from the farm at much less than it costs them to produce it.

Why is it that the milk producer is expected to be the one world altruist?

In August of this year Mr. Hoover, the Food Administrator, at the behest of public sentiment began an inquiry into the cost of milk production. Data was gathered from over the United States. It was gathered from wide, unprejudiced and dependable sources. An eminent committee of specialists, persons known and of high reputation in the nation, were made members.

Soon, and that committee will make its report. We do not know what it

will contain, but of one thing we are sure, that, when made, the milk producers of the nation will show to the country their patriotism by furnishing their surplus product at such cost as shall be found, plus a reasonable profit.

If that price cannot be given them, their fields must be turned into other uses; for there is no farm product that so enslaves the producer with grinding, incessant labor and care as the production of milk.

We are here today, as we have been before, asking that the X-ray of investigation be applied to our business, and we appeal for like open-faced patriotism on the part of every other industry in this country.

(Portion of address by President Campbell, of the National Milk Producers' Association, before the delegates gathered at Washington, D. C.)

A Genuine Farmers' Retail Market



Where City Buyers Secure Farm Products Direct from the Grower.

GRAND RAPIDS has recently established a new market which is in keeping with the direct to consumer idea. This is the new retail market at the foot of the cement bridge across Grand River.

Here farmers come with their produce on Tuesdays, Thursdays and Saturdays to sell the products in retail lots to the city people. The marketing hours are from five to eight a. m., and judging from the number of wagons and city people who visit the market with baskets, it is a decided success. The cinderized area beside the sea wall is entirely too small to accommodate the patrons and consequently the approach of the bridge is also being used to care for the overflow.

There is no charge to either the farmer or consumer for the privilege of doing business here. A market superintendent sees that things are in order and keeps notes on prices. However, he has nothing to say about the prices charged.

Most all of the wagons are in place before five-thirty a. m., and the greatest amount of business is done between five and six o'clock. The city people appeared to consider the visit to the market as an outing, as they seemed to enjoy the early morning trip and the market experience.

To the farmers the market offers opportunity to get rid of perishable products at a price slightly higher than what they receive on the wholesale markets. As there is no regulation of prices it is up to each farmer to ask what the trade will stand. On that account prices vary considerably. For example, one morning good potatoes sold early in the morning for forty cents per peck while later poor ones sold for fifty cents. There was a variation of five cents in the price per quart of beans and the lower-priced beans were the best; that farmer sold out quickly. One fellow could not sell his beans in large quantities so he put them in quart boxes and charged a much larger proportionate price and sold a fair share of them.

Among the farmers present were many prosperous and successful ones who were provided with large motor trucks, a knowledge of markets, and good selling ability. They had found the market an attractive place to dispose of their wares.

This early morning shopping activity was over by seven-thirty and the market entirely vacated by eight, the regular closing hour. The market would be more attractive to the city people if prices and grades could be regulated or standardized. When buyers learn that they can get better and fresher products for a little less money than at the grocers, even the husbands will rob themselves of sleep in the morning to carry home farm produce bought direct from the producer.

ONE-HUNDRED-POUND UNIT FOR POTATOES.

No standard measure for the handling of potatoes is uniformly accepted in the United States. In certain states various units of measurements have been established through usage. For

instance, Maine has adopted the 165-pound barrel; Washington, the ton; New York, Michigan, Wisconsin and others, the bushel; and Colorado, Idaho and Oregon, 100 pounds as the basis. The confusion caused by the wide difference of units of measurement has led to the demand for a uniform standard to be adopted for the entire United States.

A joint committee representing the growers and the shippers and distributors held a conference in Washington recently. This committee went on record as recommending that the Bureau of Standards be urged to take the necessary steps as soon as possible toward the establishment of 100 pounds as the unit upon which price quotations and the buying and selling of potatoes shall be based throughout the United States.

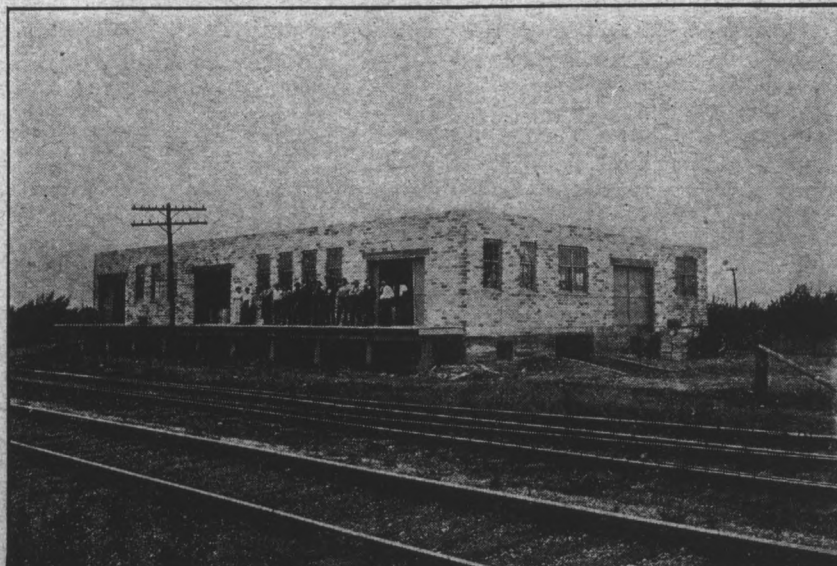
Lou D. Sweet and E. P. Miller, potato experts with the United States Food Administration, heartily endorse this action. Such a unit will facilitate handling and will be fairer to producer and consumer alike.

HOW TO PURCHASE FARM SUPPLIES.

It has been suggested by transportation experts who are with the Food Administration that, after harvests are laid by, the farmer make an estimate of the fertilizer, seed, machinery and the like that he will need for the coming season, and then place his order. This will eliminate the failure to receive supplies which resulted last spring on account of car congestion and priority shipment.

Between March 1 and July 15 of this year the railroads operating in the east and middle west made a saving of 28,000,000 passenger miles by cutting down on the number of passenger trains. Not counting the saving in labor, this reduction continued throughout the year will mean the saving of 500,000 tons of coal per annum.

From the farmer's standpoint a like saving may be effected in the coming months. All orders for supplies should be placed early. It is also advisable for several farmers in a community to club together in ordering so that each car may be loaded to its maximum capacity, and in this manner eliminate transportation waste. By acting on these suggestions supplies will arrive in season so that time, which is so precious during the spring rush, may be saved; and at the same time the crops will have the advantage of those things necessary to their successful planting, tending and harvesting. Cars should be loaded and unloaded promptly when placed on the siding. No stumbling blocks should be left in our path of preparation for a bumper crop in 1918. A little care on the part of every person or association, who ships or receives goods by carlots, will go far toward relieving a critical transportation situation.



Substantial Packing House of the Berrien County Fruit Association Erected at a Cost of \$4,000.

Fruit and Vegetable Markets

IN the following comment, jobbing prices and shipments are given for the United States for the period of October 9-16 inclusive.

Apple Prices Firmer.

Prices are firmer, Jonathans are jobbing at \$4.50 to \$7 per barrel, as compared with \$4.50@6.50 a week ago. Western box apples have also advanced and Jonathans are now jobbing at \$2 to \$3.50 per box.

Peach Prices Declined Slightly.

New York, Elbertas are jobbing at 90c to \$1.15 per bushel, as compared with \$1 to \$2 a week ago. Shipments have decreased about one-half from those of a week ago, but prices have declined as a result of much stock arriving on the markets in poor condition. New York is supplying most of the demand and the shipments from that state have decreased about one-half from those of a week ago. To date New York has shipped 6,922 cars, which is over 1,100 more than was shipped last year up to the corresponding time. The peach movement from all sections is now rapidly decreasing. Michigan and New York Grape Crop Moving Heavy.

Due to the fact that Michigan and New York sections are now at the height of their seasons, the total shipments of grapes this past week were nearly 350 cars heavier than a week ago. New York has shipped to date only 944 cars, as compared with 1,742 up to the corresponding time last year. Michigan, however, is shipping heavier than a year ago. Prices for Michigan stock have weakened slightly. Four-quart baskets are jobbing at twenty to thirty cents, which is about two cents less than last week.

White Potato Prices Firmer Despite Heavier Movement.

F. O. B. prices of potatoes have advanced steadily during the past week. Colorado stock is selling f. o. b. Greeley, per hundred pounds, \$1.40 to \$1.50 and f. o. b. Monte Vista, \$1.55. These prices are an advance of about fifteen cents from those of a week ago. Jobbing prices are also higher. Minnesota stock is jobbing at \$1.10 to \$1.55 per bushel, or about thirty cents more than last week. Michigan and Wisconsin potatoes have also advanced. The total shipments this past week were nearly 800 cars heavier than a week ago. This increase was due to slightly heavier shipments from all important sections rather than a heavy increase from any one point. The car shortage has necessitated storing stock in many sections and has resulted in lighter shipments than would otherwise have been made.

Other Fruits and Vegetables.

The movement of cabbage from New York and Wisconsin was a little heavier this past week, but the heavy movement from these states has not yet begun. The New York crop is estimated at 349,680 tons, as compared with 96,120 tons in 1916, and the Wisconsin crop at 121,900 tons as compared with 57,960 tons in 1916. New York stock is jobbing at \$25 to \$32 per ton, which is about \$3 or \$4 more than the price a week ago. Onion prices have advanced. Ohio stock is jobbing at \$3 to \$3.75 per hundred pounds, as compared with \$2.60 to \$3.50 a week ago. California stock is also higher. The demand continues weak. A total of 143 cars of celery were shipped this past week. The New York and Colorado movement was a little heavier, while Michigan shipped about the same as previously. The pear shipments this week were about the same. New York, with 158 cars, was the heaviest shipper. Shipments from other districts are declining. New York has shipped to date, 789 cars, which is about 400 more than last year up to the corresponding time.

The Saving in the Price of Fuel Pays for This Engine in Six Months

If we could but set this engine up at your farm—let you run it—examine its simplicity and skill of construction—watch its smooth, pliant action—and then have you see for yourself how little kerosene or fuel oil it used for a full ten hour day, we know you would readily appreciate its value for your farm power.

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has neither carburetor, mixing tube or any electrical equipment. The fuel is introduced directly into the cylinder and ignited by the extreme heat of high compression. Twice the temperature necessary for ignition is attained. The engine starts as easily at 10 degrees below zero as at 90 above.

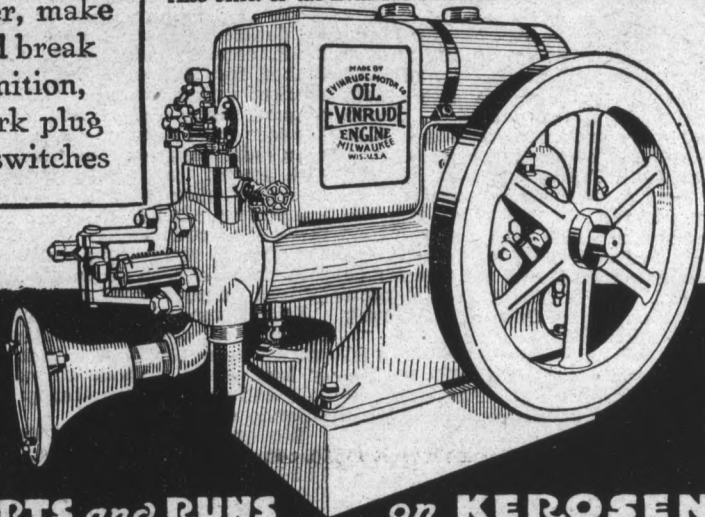
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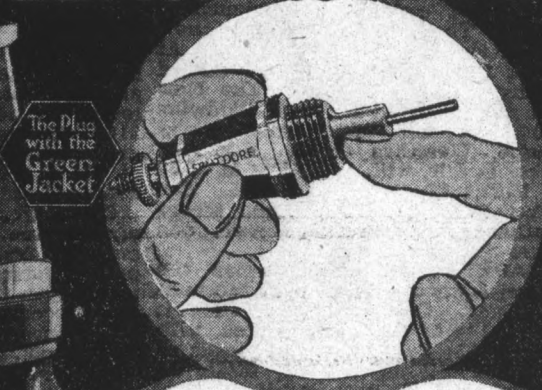
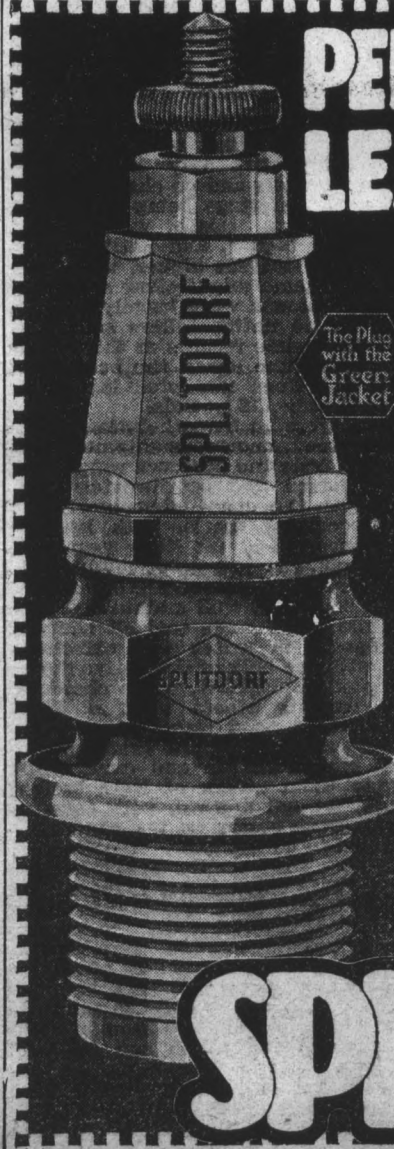
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Make Your Engine Easy to Start

The SUMTER Plugoscillator on medium and large size stationary and marine engines or the SUMTER Starter-Coupling on trucks, tractors, marine and heavy duty engines will make starting sure and easy. Your manufacturer will give you the equipment if you INSIST.

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

Flanders Farm, Orchard Lake, Mich.

CATTLE.

Aberdeen-Angus

Herd established in 1900. Trojan-Erics and Black birds only. Bulls in service. Black Brandon 20832 Enos of Woodcote 19132. Also breeders of Percheron and Saddle Horses.

WOODCOTE STOCK FARM, Ionia, Mich.

ANGUS CLOVERLY STOCK RANCH.
Bulls, Cows and Heifers for sale. **GEO. HATHAWAY & SON, Ovid, Mich.**

ABERDEEN-ANGUS Seven bull calves for sale. **T. E. CRUCHSHANK, R. 2, Evart, Mich.**

M. S. D. AYRSHIRES

We have for sale a choice lot of young stock from A. R. dams. Also a few mature cows. Write for particulars.

W. L. HOFFMAN, Steward,
School for the Deaf, Flint, Michigan

Registered Guernseys

Stock always for sale. May Rose Strain—Herd Tuberculin tested annually. Never had a reactor nor abortion. **J. M. WILLIAMS, North Adams, Mich.**

GUERNSEYS, must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested. Do not write about females but come at once as they are priced to sell. **T. V. HICKS, Battle Creek, Michigan.**

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

Guernseys—For Sale, four young registered cows. Tuberculin tested. **Geo. N. Crawford, Holton, Mich.**

Guernseys Registered and Grade cows, bulls, yearlings, heifer calves; will sell 20. Some with records; choice of 45; must reduce herd; tuberculin tested. **Avondale Stock Farm, Wayne, Mich.**

R. E. Guernsey bull 2 years old, prize winner, a few cows, also bull calves, May Rose breeding. **JOHN EBELS, R. 2, Holland, Michigan.**

Cluny Stock Farm

100 Registered Holsteins 100

For Sale—Nicely marked 7 mos. old bull. Sire, Dutchland Colantha Winana Lad No. 114067, Grand Champion Bull at Michigan State Fair 1917. Dam a 19.2 lb. Sr. 2 yr. old. She produced in first four milking periods 50,634.6 lb. milk (private record), average 37.8 lb. a day. Dam's dam, a 20.8 lb. cow, produced in first eight milking periods 92,417 lb. milk. If you are looking for producing qualities, send for pedigree and price on this one.

R. Bruce McPherson, Howell, Mich.

R. E. HOLSTEINS: Herd headed by Albina Bonte R. Butter Boy No. 93124. Dam's record at 6 yrs. butter 28.53 lbs. milk 612.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 1882 lbs. **W. B. HEADER, Howell, Mich.**

For Sale A Yearling Heifer, pure bred Holstein, Sire, Colantha Johanna Cream-elle Lad, Dam, Elizabeth Segis Lyons. If you want something good, write, Geo. D. Clarke, Vassar, Mich.

Registered Holstein Friesian Heifers, 3 to 6 mos. old. Some from 30 lb. sires. Priced to sell. **Fred J. Lange, Sebawaing, Mich.**

I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.

L. E. CONNELL, Fayette, Ohio

Buy Your Bulls From Parham's Pedigree Stock Farm
Choice Registered Holstein calves from A. R. O. cows. **RAY B. PARHAM, Bronson, Michigan.**

3 Holstein Heifers 30.21 lbs. sire. Their dam's 35 lb. cow, bred to 1/2 brother to 30 lb. 7 yr. old. Terms if wanted. **M. L. McLAULIN, Bedford, Michigan.**

"TOP-NOTCH" HOLSTEINS

"Milk production is an inherited ability. Good cows must be bred to good pure-bred bulls if progress in dairying is to be made."

Extract U. S. Dept. of Agric. Bulletin.

Here is a young bull with inherited ability, and rare individual merit. He was born Dec. 24, 1915.

Butter 7 Days	33.62
Butter 30 Days	30.73
Milk 30 Days	2615.70
Butter 1 Year	538.41
Milk 1 Year	18675.80

His Sire's Sire's three nearest Dams average Butter 7 Days 30.87. (Including a junior three and senior four yr. old.)

His Dam's Record (Butter 7 Days)	21.24
3 Yrs. 14 Days (Milk 7 Days)	462.3
Dams' Dam (Butter 7 Days)	29.40

Almost 30 lbs. About 1/2 white. Price low for this quality.

McPherson Farms Co., Howell, Mich.

HOLSTEIN BULL CALF. Fine individual, four months old, pure bred, farmers prices. **A. R. GRAHAM, Flint, Mich.**

On Our Easy Payment Plan we will ship you any registered Holstein Bull calf in our stables. Prices from \$50 up. **Ypsilanti Farms, Ypsilanti, Michigan.**

Additional Stock Ads. on Page 393

Markets.

GRAINS AND SEEDS

October 23, 1917.

WHEAT.—With an active flour market and limited deliveries by farmers, millers continue as anxious as ever to secure every available car of wheat. One year ago No. 2 red wheat sold on the local market at \$1.73½ per bushel. The present local prices are: No. 2 red wheat \$2.17; No. 2 mixed \$2.15; No. 2 white \$2.15.

CORN.—Values rule higher than they did a week ago. The opinion now prevails among dealers that the new crop will be slow in coming to market, owing to the crowded conditions of railway lines and the farm labor situation, consequently those in need of the grain are out to purchase all the cash offerings they can secure. On the other hand, there are a few who believe the government will force the roads to move corn in preference to other goods and thus prevent any crisis in the trading. A year ago corn was quoted locally at \$1.01 per bushel. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.98	2.00
Thursday	1.98	2.00
Friday	2.02	2.04
Saturday	2.02	2.04
Monday	2.03	2.05
Tuesday	2.03	2.05

Chicago.—Dec. \$1.15½; Jan. \$1.12½; May \$1.10¼.

OATS.—The local and general demand for oats has been active and exporters are constantly taking the grain from the country. With farmers delivering in small quantities, the tone of the market is naturally very firm, with prices slightly above those of last week. A year ago standard oats were quoted here at 53c per bushel. Last week's Detroit quotations were:

	No. 3 Standard.	White.
Wednesday	61½	61½
Thursday	62	61½
Friday	62	61½
Saturday	62	61½
Monday	62½	61½
Tuesday	61½	62

Chicago.—December oats 58½c per bu; May 60c.

RYE.—This grain is coming to market slowly, while exporters are taking it in moderate quantities. No. 2 rye is steady with last week at \$1.80 per bushel.

BEANS.—An apparent effort is being made by the trade to work bean prices to a lower level. The local market suffered a decline of 25c on Monday, putting the present quotation at \$8.75 for immediate and prompt shipment. At Greenville the quotation is on an \$8 basis. The Chicago trade quoted Michigan pea beans, hand-picked, new, at \$9.25 per bushel; red kidneys at \$8. Owing to the lateness of the season and the inclement weather many acres of beans are deteriorating or spoiling in the fields.

SEEDS.—The demand for seeds is somewhat easier than a few days ago, although prices are higher than last week. Prime red clover \$14.90; alsike \$13; timothy \$3.80.

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$11.50; seconds \$11.40; straight \$11.10; spring patent \$12.10; rye flour \$11.20 per bbl.

FEED.—In 100-lb. sacks jobbing lots are: Bran \$36; standard middlings \$39; fine middlings \$42; cracked corn \$80.50; coarse corn meal \$75; corn and oat chop \$60 per ton.

HAY.—In carlots at Detroit: No. 1 timothy \$22.50@23; standard timothy \$21.50@23; No. 2 timothy \$20.50@21; light mixed \$21.50@22; No. 1 clover \$16.50@17.

Pittsburg.—No. 1 timothy \$25.50@26 a ton; No. 2 timothy \$23.50@24.50; No. 1 light mixed \$24@24.50; No. 1 clover, mixed, \$24@24.50; No. 1 clover \$24.50@25.

STRAW.—In carlots on the track at Detroit: Rye straw \$9.50@10; wheat and oat straw \$8.50@9.

DAIRY PRODUCTS

BUTTER.—Butter is lower in some markets and easy in Detroit. Fresh creamery firsts at 41@41½c; fresh creamery extras 42@42½c.

Elgin.—Lower prices prevail, and business is poor, trading being mostly in small lots for current requirements.

Bids of 42c were made, but no sales resulted.

Chicago.—The feeling is easy and buying is limited to current needs. Creamery quoted at 38@42c; packing stock 35½c.

POULTRY PRODUCTS

POULTRY.—(Live).—The poultry deal is easy and liberally supplied. Best spring chickens 20@21c; hens 18@21c; ducks 24@25c; geese 18@20c; turkeys 24@25c.

Chicago.—Poultry is in fair supply with prices on all offerings lower. Fowls sell at 15@15½c; spring chickens at 17½c; ducks 15@17c; geese 14@17c; turkeys, good 23c.

EGGS.—The egg market is firm and fresh firsts were quoted at 39@40c.

Chicago.—Market easy. Fresh Michigan firsts sell for 36@37c; ordinary firsts 35½@36c; miscellaneous lots, cases included 36@37c.

FRUITS—VEGETABLES

POTATOES.—Prices at shipping points: At Greenville potatoes are a little easier at \$1.25@1.30 to farmers. Grand Rapids market is steady with round whites carloads f. o. b at \$1.45@1.48; do. bulk \$1.35@1.39; small immature \$1.30 per bushel. At Coldwater the crop was about half dug October 20. Demand active and market strong with round whites f. o. b. carload lots \$1.35@1.40 per bushel. Digging practically completed in Wisconsin with round whites from wagons at side track quoted in bulk at \$1.90 per cwt. In Minnesota growers are getting \$1.28 for Red River Ohio sacks. Colorado dealers are paying farmers \$1.60@1.65 per cwt. for round whites and \$1.70 for Russets from wagons at side track. Maine market is weaker with Green Mountains selling from wagons at side track at \$4@4.25 for eleven pecks.

Shipments.—The average daily shipments for the past week from the potato producing states have run between 900 and 1000 cars. A total of 1184 cars had been shipped from Michigan producing points up till Sunday of this week. The majority of Michigan stock is moving to Detroit, Pittsburg and New York City.

Markets.—(Oct. 22).—There were 80 cars of potatoes on the tracks at Detroit Monday morning. The demand was moderate and market fair, with round whites sacked, selling at \$1.44@1.46 in jobbing lots. Boston market is slightly weaker with Green Mountains at \$3.50@3.75 per two bushel sacks; bulk \$1.75 per bushel. New York market is easier with demand moderate. Rurals \$4.75@5.25 per 180 lbs.; Green mountains \$6. Pittsburg trade is steady with Michigan round whites quoted at \$4@4.15 per 10-pk. sacks; bulk \$1.65 per bushel. Chicago: Trade is stronger, with Wisconsin round whites quoted at \$2.15; \$2.25 per cwt. bulk. Cincinnati: Trade is firm with Michigan round whites in bulk quoted at \$150 per bushel. The Cleveland trade is slightly weaker and Michigan round whites are quoted at \$4@4.15 per 10-pk. sacks.

APPLES.—Carlot shipments of apples for Saturday totaled 994 cars, of which eight cars were consigned to Detroit. The Pacific states are now the heaviest shippers of this fruit. At Detroit fancy Jonathans were quoted Monday at \$6.50 per bbl. The New York market is strong with Baldwins \$4.50@5 per bbl., fancy Greenings at \$5.50@6. Wealthys \$5@6. Pittsburg market is fair, with Wealthys at \$5.50@6, Yorks \$5, Grimes \$5.50@6. The market is steady in Chicago where Jonathans fancy bring \$6@6.25, and Grimes \$5@5.50.

GRAPES.—At Benton Harbor the demand continues good, with the market steady. Carloads f. o. b in 4-qt. baskets 17½c; Concord per ton, with baskets \$55; do. from wagon loads at side track 16@16½c, mostly 16½c. At Westfield, N. Y., the heaviest movement will occur this week, weather permitting. Market is very strong with Concord in 2-qt. baskets, carloads f. o. b. 12c; do 4-qt. baskets 21c; Concord per ton \$55@58. The Detroit market is steady with Michigan Concord in 4-qt. baskets quoted at 21c; in 20-lb. baskets 65@70c. The Chicago market is unsettled with Michigan Concord 4-qt. baskets unlabeled mostly at 19@20c; do. labeled, mostly 20@22c. There is a good movement and demand in New York City.

ONIONS.—Demand is limited at the shipping points in Ohio where car shortage prevents loading. At Walkerton, Ind., sales are few at \$1.25@1.35 f. o. b. track in Massachusetts the demand is good and market firm, the farmers getting \$3.25@3.40 in 100-lb. sacks for Yellow Globe. At Detroit the market is strong and prices are advancing with yellow varieties quoted at \$3.65 per 100 pounds.

CABBAGE.—Market is stronger and demand active.

GRAND RAPIDS

Potatoes brought around \$1.40 on the city market Monday, and the price paid at outside loading stations is around \$1.10. Apples now lead in the fruit line and the price paid here ranges from \$1.25@2. Pears sell from 80c@1. In the vegetable line, cabbage ranges from 65@75c; rutabagas 90c@1; onions \$1.25@1.50; beets \$1.25.

DETROIT CITY MARKET

Despite the rain Tuesday morning, farmers secured good prices for their offerings. Potatoes are now coming quite freely with the bulk selling at \$1.60 per bu; cabbage is higher at 75@90c; apples \$1.25@2.25; cauliflower \$2.25@2.50; onions \$1.75@2; pears at \$1.40@1.60; carrots 60@65c; celery 20@30c per bunch; no eggs, butter nor hay in sight.

LIVE STOCK

BUFFALO.

October 23, 1917.

Receipts here today as follows: Cattle 7,800 (312 cars); hogs 15,200 (95 d. d.); sheep 7,000 (35 d. d.); calves 1,500 head.

With 312 cars of cattle here today the trade was very slow and unevenly lower, the bulk of all classes selling a big quarter lower, in some cases a half dollar a hundred lower, except bulls, which sold about steady. We look for a liberal run of cattle next week and no more than a steady market.

We had a liberal run of hogs today, 95 double decks, or a total of 15,200 head, considerable more than were looked for, and with light demand the market was extremely dull and lower, a good many sales showing a strong 50c loss from Saturday and on the common light hogs some as much as \$1 per cwt. lower. A few loads of selected heavy weights sold at \$16.75, with scattering sales from \$16.25@16.50 and the bulk around \$16; pigs and lights \$14@14.75; roughs generally \$15; stags \$12@14. Late trade was very bad and quite a number went over unsold.

With a moderate run of lambs today our market opened up active and the prices were 10c higher than the close of last week. About three loads unsold and we look for steady prices the balance of the week.

We quote: Lambs \$17@17.10; cull to common \$12@16; yearlings \$12.50@14.50; wethers \$11.50@11.75; ewes \$10.75@11; bucks \$7@9; best calves \$15.25@15.50; common and light \$13.50@14.50; heavy \$10@14; grassers \$6@7.

CHICAGO.

October 22, 1917.

Cattle, Hogs, Sheep.
Receipts today..24,000 26,000 35,000
Same day 1916..29,761 51,020 39,311
Last week.....102,593 119,594 96,985
Same wk 1916...77,355 167,672 128,724

Last week's collapse in prices resulted in a great falling off in cattle receipts today, with only about 4000 northern rangers and no choice beefs, most of the offerings being inferior in quality. Range cattle were called largely 25c higher, and natives were quoted from 10@15c higher, with prospects that some might show a greater advance. Lambs were largely 25@50c lower, choice native killers selling at \$16.85 and prime feeders at \$18. Hogs averaged a dime lower, the best going at \$16.65. Hogs marketed last week averaged only 212 pounds.

Cattle were in overwhelmingly supply last week, enormous shipments being made from the northern ranges and from western and southwestern pastures, with the usual slim showing of choice corn-fed cattle, both long-fed heavy steers and fat little yearlings. The result was just what might have been predicted safely, the best fat beefs selling at well maintained prices, while other kinds sold off sharply. The spread in prices was extremely wide, with the bulk of the native steers selling at \$8.75@13.75, while choice to fancy weighty steers went at \$16@17.50, with a good class bringing \$13 and upwards. Medium grade steers found buyers at \$11 and over, while poor to plain steers of light weight brought \$8 and upward, with sales of inferior little steers on the canner order down to \$6 and over. Yearlings of the best class brought \$16@17, good lots of these cattle being taken at \$14 and over, and sales were made down to \$10.25@11.50 for the commoner kinds of yearlings steers. Butcher and canner and cutter cattle sold off sharply under the liberal offerings, butchering cows selling at \$6.10@8.90 and heifers at \$5.50@12. Cutters brought \$5.50@6, canners \$4.90@5.45 and bulls at \$5.50@10. Calves had a further advance in prices for the choicer lots, light vealers being taken at \$15@16.25, with sales down to \$6@8.50 for the

heavier weights of poor to pretty good grading. Western range cattle were in large supply and offered at lower prices, with sales of inferior light weight canners to prime heavy steers at a spread of \$5.25@13.50. There was a large traffic in stockers and feeders, plenty of these being on the market at reasonable prices. Stockers had a good sale at \$5.75@9.40, yearlings being the highest sellers, while feeders sold at \$8.25@12. Fleshy feeders were salable up to \$13, but only a few sold around there. Cattle prices closed from 50c@1.50 lower than a week earlier. Prime beefs closed at \$16@17.10.

Hogs were forced to materially lower prices last week, sensational declines taking place, with the packing firms raiding the market for all descriptions. What the future will bring forth is a matter of conjecture, but further reductions in prices are generally looked for. That hogs will fall to a basis which would not make them highly profitable to farmers is not regarded as likely, however, and values could go much lower and still leave hogs far higher than in normal times. There is an extremely wide spread in prices, with the best lots commanding a liberal premium. Receipts of hogs in western markets have been increasing materially in numbers recently, while still on a smaller scale than a year ago. Inferior hogs form too large a share of the receipts and sell unsatisfactorily. Increased receipts of light hogs are expected as a result of the collapse in prices. At the close of the week hogs were selling at \$14.80@16.75, comparing with \$16.50@18.75 a week earlier, while pigs brought \$10@14. Hogs sold about \$3 lower than at the month's highest time. Many underweights are coming here.

There was a great call for range feeding lambs last week, and at times at least twice as many as were offered could have been disposed of readily. The best feeders brought much higher prices than the best killers, and breeding ewes sold away up. Montana and Washington have contributed a large share of the feeding lambs, with some big shipments coming from Idaho. Fat lambs closed last week largely 25c lower than a week earlier, while feeders declined mostly 25@50c. Sheep and yearlings were steady to 25c lower. Prices closed as follows: Lambs \$12.50@17.60; feeding lambs \$17@18; yearlings \$11.50@14.25; wethers \$11@13; ewes \$6@11.60; breeding ewes \$12@19.50; bucks \$8@9.

Horses were offered moderately last week and sold about as heretofore, with loggers wanted at \$150@225 and little southern chunks going mainly at \$65@100 for animals weighing around 1200 pounds. Drivers went at \$100@200 and drafters at \$185@265.

FROSTED BEANS.

Where there is a considerable amount of frost damage to beans it will still pay to save them and cure out well before threshing. It is hoped to establish a special grade of frosted stock that will avoid expense of picking and realize their food value. There is a demand for all food stuffs, and it seems very probable that an outlet for this grade will be found abroad. Small samples may be sent to this office to secure estimates of grade and values.

JAS. N. MCBRIDE,
State Market Director,
East Lansing, Mich.

VETERINARY.

Obstructed Teat.—I have a good cow that has one bad teat—there seems to be a hard lump in upper part of teat which obstructs milk flow. In order to milk her she has to be stripped. W. D., Copemish, Mich.—Very little can be done to relieve an ailment of this kind, other than a surgical operation which should be performed by a competent Vet. You might apply one part iodine and ten parts fresh lard once a day. However, it is very doubtful about it absorbing a bunch of this kind.

Eczema.—Last year some of my calves were troubled with a crusty hard scab forming on their faces and heads. This spring they are suffering from a similar skin ailment. E. W. T., Pinconning, Mich.—Apply one part of tincture iodine and nine parts glycerine or olive oil to dry portions of the skin once a day.

Constipation.—What can I give pigs five weeks old that are inclined to be constipated and clogged in large intestines which seem to produce their death? These pigs are very fleshy, fed boiled potatoes, middlings, rye, oats and alfalfa. My hogs had a similar trouble last year, but seemed to get over it. J. O., Maple City, Mich.—You had better give them equal parts of castor oil and olive oil as often as necessary to keep the bowels active. Perhaps they are not having sufficient exercise.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.
October 25, 1917.

Cattle.

Receipts 2593. Market steady at last week's prices; closed fairly active. Best heavy steers \$9.50@10.50; best handy weight butcher steers \$8.50@9; mixed steers and heifers \$7@8; handy light butchers \$6.50@7; light butchers \$5.50@6.25; best cows \$7.50@8; butcher cows \$6@6.50; common cows \$5.50@6; canners \$4.50@5.25; best heavy bulls \$7@7.50; bologna bulls \$6@7; stock bulls \$5.50@6; feeders \$7.50@8.50; stockers \$6.50@7.50; milkers and springers \$50@100.

Bishop, B. & H. sold Converse & B. 24 cows av 955 at \$5.50; to Parker, W. & Co. 22 do av 850 at \$5.25, 19 do av 806 at \$5.35, 7 do av 700 at \$5.25; to Hammond, S. & Co. 13 butchers av 540 at \$6.25, 26 do av 640 at \$6.25, 9 do av 724 at \$5.25, 8 do av 790 at \$6.50; to Mason B. Co. 2 bulls av 1475 at \$7.50; to Hyman 6 butchers av 741 at \$6.35; to Sullivan P. Co. 3 bulls av 1210 at \$7; to Breitenbeck 15 steers av 884 at \$7.50; to Ratner 28 butchers av 400 at \$6.55; to Garber 29 do av 583 at \$6; to Sullivan P. Co. 7 do av 773 at \$6.25, 22 do av 830 at \$6.50, 25 steers av 904 at \$8.40, 3 do av 910 at \$7, 6 do av 1000 at \$6.75; to Goodgold 1 steer wgh 1400 at \$9.50; to Newton P. Co. 30 butchers av 755 at \$6.50, 18 do av 842 at \$7, 1 bull wgh 1060 at \$7, 6 butchers av 940 at \$9, 4 cows av 1040 at \$6.50; to Nagle P. Co. 4 butchers av 1150 at \$6.75, 5 do av 988 at \$8.50, 6 do av 1000 at \$7.85; to Parker, W. & Co. 5 steers av 980 at \$9, 5 cows av 858 at \$6.25, 21 butchers av 700 at \$6.25, 5 do av 798 at \$6.25; Goodgold 20 do av 711 at \$6.25; to Hammond, S. & Co. 25 steers av 1028 at \$9.70, 15 do av 1073 at \$9.70; to Converse & B. 7 canners av 886 at \$5.35, 4 do av 945 at \$5.50, 4 do av 907 at \$5.25, 7 do av 993 at \$5.25; to Ratner 9 butchers av 660 at \$6.50.

Erwin, S. & J. sold Newton P. Co. 4 cows av 1080 at \$5.50, 10 butchers av 755 at \$6.50, 2 cows av 900 at \$5, 1 do wgh 900 at \$4, 15 steers av 927 at \$8.90, 5 do av 634 at \$6, 10 do av 843 at \$7, 1 ox wgh 1860 at \$7.25; to Sullivan P. Co. 5 cows av 1010 at \$5, 5 do av 1060 at \$6, 21 butchers av 733 at \$6.35, 10 canners av 941 at \$4.85; to White 7 cows av 800 at \$5; to Newton P. Co. 2 bulls av 825 at \$6.35, 2 cows av 1025 at \$6.35, 17 butchers av 700 at \$6.35, 41 do av 666 at \$6.35, 3 steers av 970 at \$7, 10 butchers av 687 at \$6, 2 cows av 1100 at \$6, 1 do wgh 1200 at \$5.50, 5 do av 720 at \$5; to Breitenbeck 11 butchers av 762 at \$7.25; to Thompson 2 bulls av 1060 at \$6.50, 6 steers av 900 at \$8.50, 1 bull wgh 1120 at \$6.90; to Gilbert 11 feeders av 873 at \$7.25; to Hammond, S. & Co. 2 canners av 1100 at \$4.85; to Sullivan P. Co. 3 cows av 917 at \$5.25, 3 do av 1033 at \$7, 2 do av 1275 at \$7, 1 do wgh 1030 at \$5.50, 22 steers av 1043 at \$9; to Nagle P. Co. 2 do av 1170 at \$8.50, 10 do av 926 at \$8.40, 1 cow wgh 1100 at \$6.70, 3 do av 1000 at \$7.50, 1 bull wgh 1200 at \$6.75; to Newton P. Co. 1 do wgh 1120 at \$6.50, 3 cows av 900 at \$5; to Leach 28 stockers av 609 at \$7; to Newton P. Co. 2 cows av 920 at \$5, 9 butchers av 786 at \$7.25, 3 cows av 800 at \$5.50, 7 do av 854 at \$5; to Barlage 6 butchers av 680 at \$6.25; to Thompson 4 steers av 1175 at \$10.50.

Veal Calves.

Receipts 666. Market dull. Best \$14.50; others \$7@12.

Sandel, S. B. & G. sold Thompson 14 av 150 at \$14.50, 2 av 115 at \$12, 4 av 140 at \$14, 4 av 320 at \$10.50; to Rattkowsky 2 av 210 at \$10; to Nagle P. Co. 7 av 150 at \$14.50, 7 av 125 at \$13.50, 6 av 105 at \$12, 8 av 145 at \$14.50, 1 wgh 240 at \$10.

Sheep and Lambs.

Receipts 4725. Sheep strong; lambs 25c higher than on Tuesday. Best lambs \$16@16.25; fair lambs \$15@15.75; light to common lambs \$12@14.75; fair to good sheep \$8.50@10.50; culls and common \$5@7.50.

McMullen, K. & J. sold Thompson 70 lambs av 70 at \$15.75, 38 do av 70 at \$15.75; to Bordine 24 do av 75 at \$16; to Sullivan P. Co. 11 yearlings av 100 at \$14.50, 2 sheep av 120 at \$8, 5 do av 88 at \$7, 3 do av 125 at \$8, 13 lambs av 58 at \$13.50, 8 do av 55 at \$12.50, 18 do av 55 at \$12.50; to Chapman 40 do av 75 at \$15, 13 sheep av 125 at \$10.50; to Nagle P. Co. 27 lambs av 85 at \$15.50, 31 do av 85 at \$15.50, 107 do av 85 at \$15.50.

Hogs.

Receipts 8310. Pigs very dull \$12.50@13.25; mixed hogs 15@25c higher than on Tuesday at \$14.50@15.25.

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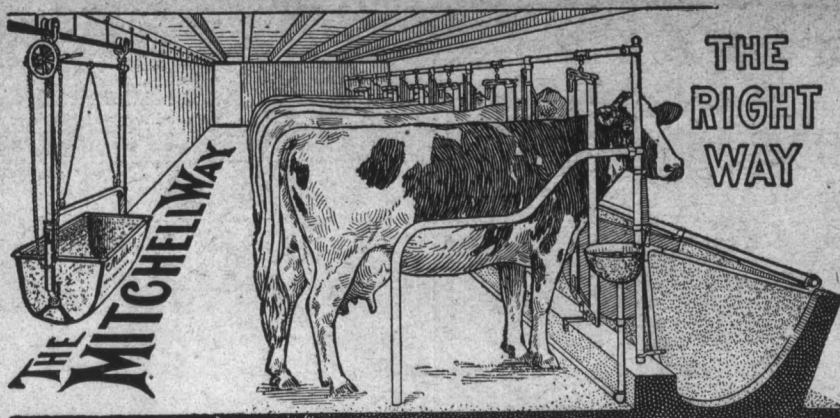
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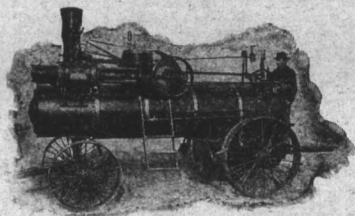
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Hints on Feeding Dairy Cows

THE prospects for better milk and butter-fat prices are good. Dairy-men will feed grain this winter, although perhaps not as liberally as usual. It will pay to feed cows of good dairy ability a grain ration, even under present price conditions.

Care should be used in selecting the most economical rations. Cows should be fed individually according to their milk production. Under normal market conditions a recent investigation revealed the fact that dairy feeds are from ten to twenty-five per cent cheaper during the summer and early fall than during the following winter.

This year, however, is abnormal, the unprecedented high prices prevailing all summer with practically no decline; the uncertain effect of the recent embargo on food stuffs, and the passage of the food control bill make an uncertain condition that makes it dangerous to predict future prices and impossible to give specific advice as to the best time to purchase the winter supply of feed. In all probability, however, feeds will be somewhat cheaper in early fall than in the winter and early spring.

How to Select Most Economical Rations.

The following facts are given with the hope that they may aid the dairyman in determining the proper concentrates to balance his home-grown feeds.

Market price per ton is not a true guide to value of feed. Price per pound of digestible nutrients should be the basis of determining this value.

A nutrient is any part of food of the same general composition that may aid in the support of animal life. The term "digestible nutrient" covers that portion of each nutrient which is digested and taken into the body, as determined by actual digestion trials.

The nutrients we are concerned with are protein, which produces milk and growth, and the carbohydrates and fat which produce heat, fat and the power to do work.

Protein, the milk-forming nutrient, is furnished the cheapest at the present time in cottonseed meal, alfalfa hay, oil meal and clover hay. The total nutrients, the work, heat and fat-producing nutrients, are furnished cheapest in corn stover, oat straw, corn silage, clover hay, alfalfa hay, barley, oats, gluten feed and corn.

In the case of the ready mixed dairy feeds it will be noted that protein and the total nutrients are without exception cheaper in the feeds possessing a higher content of protein and total nutrients although these feeds may cost more per ton.

Alfalfa hay, clover hay and silage are cheap sources of the nutrients and besides a ration with these as the basic is palatable, succulent and healthful, very important requirements in an efficient ration.

Cows in good condition producing less than twenty-five pounds (twelve

quarts) of milk per day, testing approximately 3.5 per cent, or twenty pounds (ten quarts) of milk testing 4.5 per cent or above, will receive sufficient nutriment if they are fed liberally on alfalfa hay and corn silage, with perhaps mixed hay or corn fodder in addition, to furnish variety and keep up the appetite. Cows producing more than these amounts should be supplied with a grain ration varied according to the amount of milk produced and the condition of the cow.

The rules for feeding grain are:

1. One pound of grain per day for each two and a half to four pounds of milk produced per day, depending on the quality of milk.

2. One pound of grain per day for each pound of butter-fat produced per week.

It may be practical this year to reduce the proportion of grain slightly. In selecting feeds to form a dairy ration the dairyman must take into consideration several things, some of which follow:

1. The kind of rough and concentrated feeds on hand.
2. The ability of his cows to produce.
3. The condition of his cows.
4. The stage in the lactation periods of his cows.
5. The price received for his product.

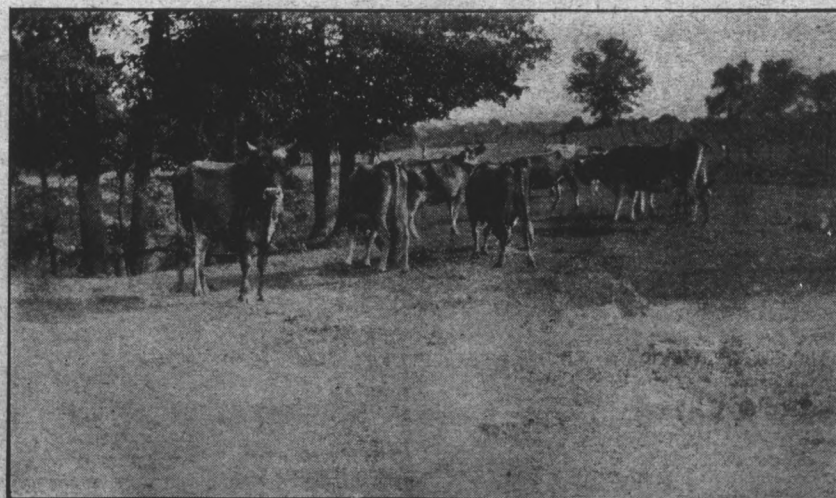
6. He also should remember that a ration for the dairy cow, to be most efficient must, besides having the proper proportions of nutrients, be palatable, possess bulk and some variety, be succulent and be made up of a combination of feeds that do not have a detrimental effect on the cow. To illustrate, a ration for the dairy cow as far as the proper balance of nutrients is concerned, could be made from timothy hay and cottonseed meal. It comes far short of an ideal ration and in fact, continued feeding of it would be detrimental. It is not palatable, lacks variety and succulence and is constipating. The dairyman will strive to approach the ideal ration as near as may be practical under his conditions.

BEET TOP SILAGE.

With feed prices three times what they were ten years ago, more care should be taken of beet tops. An acre of beets will produce from four to eight tons of tops. In a test made at the Colorado Experiment Station some years ago, beet tops made into silage without the addition of straw, showed a value for feeding dairy cows almost equal to corn silage, which is usually considered worth \$6 to \$7 a ton. The beet top silage has a dark, coffee color and was not eaten as readily as the corn silage, but seemed to give as good returns for feed consumed. A number of feeders made beet top silage last year and obtained excellent results from feeding the silage to steers.

Col. Ag. Col.

C. I. BRAY.



An Attractive Herd of Pure-bred Cows.

Problems of Young Breeders

By W. F. TAYLOR

(Concluded from last week.)

WE all know these things in a general way, for we are often told of them, but our successful young dairyman must know them in a way that will result in a strong and steady purpose to do them.

And he must not be easily turned aside from this purpose. If he is worth anything his determination is going to be put to the test. The Great Teacher has told us that "Everything must be tried as by fire."

The best dairyman I ever knew had worked up to a point where his success was in plain sight, when contagious abortion got into his herd, and caused the loss of practically all his calves that year. In that herd was one of the very best heifers in the United States. She was in test for Register of Merit, and made a wonderful record. Did that young man give up? No, he went to the Michigan Agricultural College for help. He went after that trouble with a firm determination to win, and he did win. Today he is a much stronger man than he could have been without that experience. Another friend of mine had ten fine cows on test, one of them made over nine hundred pounds of butter that year. But before the end of the year, tuberculosis appeared and six of those good cows reacted. I do not think I was ever more sorry for a man in my life on account of a mere loss of property. Did he give up? Well, I guess not. Today he has an even better herd than ever before.

The man who is in the dairy business is liable to all these limitations. We might as well understand that at the beginning, but they may be made to minister to his ultimate success if he has the right stuff in him.

How I wish I might discuss the problem of equipment, but this article is already too long. Just permit me to say though, that I would have the best possible equipment. By this, I mean the best I felt able to own. I would rather have a good herd of cows in a poor stable, without modern conveniences of any sort than to possess the finest stable imaginable, with everything in the way of conveniences, and still have to plod along with a poor bunch of cows.

Young man, if you are going to be a dairyman, make your barn warm and comfortable. Use bedding enough to keep the cows clean and dry. Place them far enough apart so that they will not step on each other's udders, and put partitions between them just as soon as you can to better protect them. When you can afford it, get a litter carrier. It will save time and labor. Put in a good watering system, for it also will save time and labor, and the cows will be certain of plenty of water to drink at all times. Get these, I say, when you can, for they are good things to have, but by all means, get some good cows first.

If you have much of a dairy, get a good separator. One can get along for a time with a small machine, and a cheap one, if it will skim clean, but if much milk is to be skimmed it does not pay to spend the time with a small machine. I would buy the very best one I could get, and then I would care for it in a proper way. We can not afford to have a separator we do not like. We use it too often. Twice each day we are going to work that machine. We want it to work every time without a hitch. It will do so in nearly every case if it is a good machine and if we care for it properly.

We want to turn it just fast enough, not too fast, for it is hard work, and it taxes the machine; not too slow, for if we do we shall not skim clean. We are going to keep it clean, for otherwise it will contaminate the cream,

and will not get all the fat out of the milk.

Lastly, the successful dairyman will study to economize his time in every way. He will not neglect the comfort of his animals. He will not overlook anything that needs to be done, but he will study to make every move count, and he will from time to time, as he is able to do, add to his equipment those conveniences that make for comfort and save labor. If he is a good dairyman he will love his work, but he will look upon it as a means to the ends which are best worth while. Anxious for still greater results in his work, with a mind always open to practical suggestions, giving to his chosen calling the very best that is in him, he will still find time to discharge his obligations as a citizen, and a neighbor.

NATIONAL DAIRY SHOW.

On the evening of October 18 the great coliseum which Ohio has erected on the state fair grounds at Columbus was thrown open to an admiring multitude of dairymen and friends in attendance at the National Dairy Show. The great audience had not long to wait. A trumpeter in khaki sounded the assembly, the band struck up the national air, the people, stood, uncovered, and the National Dairy Show of 1917 was on.

First came the parade of cattle, under the efficient ring leadership of Thomas Bell. Then the representatives of the great draft horses entered and were put through their paces in true American fashion, for this was almost altogether an American horse show, the imported individuals being decidedly in the minority. The remainder of the evening was devoted to the regular horse show program, which was high-class throughout and a portion of which was more remarkable. Perhaps the outstanding feature of the evening was the twelve-horse team that was sent by an eastern exhibitor. Never before have we seen twelve such horses, and certainly we have never seen such perfect team work and such evidence of thorough training. They handled like a pair, and after being put through various paces from a walk to a run were brought from a run to a decided stop in half the length of the arena. This exhibit in itself was worth making a long trip to see.

The dairy show proper was a wonderful collection of products, machinery and supplies. When one contemplates that all of this great aggregation represents the scope of an industry that is based on the product of the dairy cow it is to be impressed more than ever with the importance of the marvelous laboratory by which she changes feed and forage into the perfect food which comprises a large proportion of the food of the human race. This show is more than a mere collection of exhibits. It is a study in human progress—a college course in the most highly developed agricultural industry—an inspiration for better farming. Every farmer who can possibly arrange to spare the time should spend at least one day at the show. It will last until October 27. It is the most logically arranged and withal the most attractive agricultural exposition that it has been our privilege to visit. It is a distinct compliment to Ohio to have this show there and the people of the central states are showing by their liberal attendance that they recognize and appreciate real merit.

The dairyman who contemplates reducing his dairy herd to save labor would do well to consider first whether a portion of the work now done may not be eliminated through the adoption of a more efficient barn arrangement and labor-saving equipment, for dairy animals are certain to be valuable in the years just ahead.

Michigan Live Stock Insurance Company

Home Office: Graebner Bldg., Saginaw, W. S., Michigan
Executive Office: 319 Widdicombe Bldg., Grand Rapids, Michigan

This Company is backed by more than 500 of the best live stock farmers of the state, and we have more than \$100,000 deposited with the State Treasurer as a guarantee of the Company's responsibility. We insure all live stock—horses, cattle, sheep and hogs against death from any cause. We issue individual and blanket policies covering any and all conditions—herd policies, feeding policies, shipping policies, 30 day foaling policies, etc. We want a local agent to represent us in every community in Michigan. We want every farmer in the State of Michigan to insure his live stock with us. We will give you a square deal. Write for information.

Colon C. Lillie, Pres. and Supt. of Agts.
Harmon J. Wells, Secty. and Gen. Mgr.

"BULLY" BARGAINS at Long Beach Farm, Augusta, Mich.

Choice Holstein bulls, \$50 up, 4 to 14 mo. old, from A. R. O. daughters from noted families; Our Senior Herd Sire Long Beach DeKol Korndyke has 5 30 lb. sisters, is a son of Friend Hengerveld DeKol Butter Boy, and 1200 lb. daughter of Pontiac Aaggie Korndyke, she has 13 30 lb. sisters. Our Junior Herd Sire is as good. Our illustrated booklet tells all.

HOLSTEIN FEMALES

Fifteen head of cows, heifers and calves for sale. Some have A. R. O. Records above 21 lbs. butter in 7 days, and all will average by their 6 to 7 nearest tested dams over 22 lbs. butter in 7 days. Grand daughters of King of the Pontiac and King Segis.

Extraordinary fine breeding at less than auction prices. All bred to calve before March.

BIGELOW'S HOLSTEIN FARMS, BREEDSVILLE, MICH.

OAK LEAF FARM

Herd Sire
Ypsiland Sir Pletertje De Kol
Registered Holstein cows & bull calves fine individuals safe in calf satisfaction guaranteed.
E. H. Gearhart & Son, Marcellus, Mich., R. No. 4.

WINWOOD HERD REGISTERED HOLSTEINS

Holton, Mich.
Reference: Old State Bank, Fremont, Mich.
Flint Maplecrest Bull sire in service
His sire is Maplecrest Korndyke Hengerveld, his 3 nearest dams each over 30 lbs. of butter in 7 days. His dam and grand dam both made over 122 lbs. of butter in 1 year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Bull's dam is Gluck Vasser Bell, 30.57 lbs. of butter in 7 days and 120 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have Bull Calves from 2 weeks to 8 months old for sale at dairy farmers' prices all out of A. R. O. Heifers. Write & tell us the kind of a bull you want.
John H. Winn, (Inc.), Holton, Mich.

DON'T GUESS ABOUT COWS

Learn About the Profitable Pure Bred
HOLSTEINS
You'll learn how to get the most milk, cream and butter-fat at the lowest cost, the information is free. Write to THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 164, Brattleboro, Vt.

REG. Holstein Bull Calf. The last one until winter. A good one with A. R. O. backing. Write for pedigree and price. Elmer E. Smith, Redford, Mich.

FOR Sale One registered Holstein bull calf. Sire's twenty nearest dams have 7 da. records av. 25.53 lb. butter. Dam to be tested. A finely marked, growthy individual. Long Veiv Farm, R. 3, Box 10A, Rochester, Mich.

Reg. Holstein Bull Calves Pontiac Korndyke and Hengerveld DeKol Breeding at Farmers Prices. John A. Kinke, Warren, Mich.

FOR Sale, Reg. Holstein bull calf born Sept. 15. Half white, in show form. College Sire, A. R. O. dam price low. C. L. HULETT & SON, Okemos, Mich.

2 CHOICE Holstein bulls nearly old enough for service. No. 1 born January 24, 1917, sire's dam, grand-dam and great grand-dam's semi-official records average 242 lbs. butter. Dam of calf 18 lbs. butter 7 days as senior 2yr. old, average per cent fat 4.3. No. 2 Sired by 23 lb. bull and out of a 14 lb. Junior 2-yr. old. C. L. BRODY, Owner, Fort Huron, Mich. Chas. Peters, Herdsman, Three Rivers, Mich.

Butter Fat Counts

Holstein Bull Calves from a 50 lb. 6.53 % Sire. Dam are grand daughters of the King of the Pontiacs. Their dams grand daughters of Saddle Vale Concordia the first 30 lb. cow. Edwin S. Lewis, Marshall, Mich.

2 Holstein Bulls old enough for service. From A. R. O. dams and sired by bull with three generations of twelve hundred pound yearly record. LEWIS D. STARK, Dryden, Mich.

For Sale Shorthorn Bulls 6 mo. to 2 years old from good milking cows. R. R. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test. C. E. Wohner, R. 6, Allenton, Mich.

Prize winning Jersey bull calves of the choicest breeding, from high producers and prize winners. Prices very moderate. C. S. Bassett, Drexel Pl., Kalamazoo, Mich.

Hillside Farm Jerseys. For sale ten months old bull backed on both sides by R. of M. dams with high official records. C. & O. DEAKE, Ypsilanti, Michigan

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

For Sale Two registered Jerseys bull calves. Splendid individuals. Good pedigrees. Priced to sell. Long Veiv Farm, R. 3, Box 10A, Rochester, Mich.

FOR sale, 2 yr. old bull out of a R. of M. dam record 242 lb. butter in one yr. sire Majesty's Wondera R. of M. sire with 10 daughters in the R. of M. Write FRED A. BRENNAN Sec., St. Clair Co. Jersey Cattle Club, Canaan, Mich.

Maple Lane R. of M. Jersey herd offers for sale tuberculin tested cows, bulls, bull calves carrying the best R. of M. blood of the breed. IRVIN FOX, Allegan, Mich.

Do You Want a Cow Like Grace?



Grace is a ten year old Jersey, the best-paying cow in the German town. Gaithersburg Cow Testing Association, Md. All dairy breeds are represented in this Association, yet Grace produced more butter than any of the others. She yielded 12,750.7 lbs. milk and 763.4 lbs. butter. Her feed cost was \$39.11; her butter sold for \$307.15 leaving a net profit of \$218.04. You can have money-makers like Grace. Our Book, "The Jersey Cow in America", points out the way. It's free. Send today.

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

The Wildwood Jersey Farm

offers for sale choice young bulls from R. of M. dams, good enough to head any herd. We invite inspection. ALVIN BALDIN, Capac, Mich.

40--SHORTHORNS--40

5--Percheron Mares--5

1--Yearling Belgian Stallion--1

Will be sold at auction at the farm near Elsie, Mich., Monday, Nov. 19, at 10 a. m.

Thirteen Cows, some with calves, six two year old bred heifers, 12 open heifers, 8 young bulls. Never before in a Mich. Sale Ring has there been an opportunity to secure such pure Scotch-bred cattle. The catalog tells the tale and should be in every good breeder's hands. C. M. Jones, Bixby, Miller, Rowell & Convis, Auctioneers.

H. B. Peters, Prop., Carland, Mich. R. R. Station Elsie.

Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.
FOR Sale—Reg. Short Horn Bulls by Maxwellton Monarch 2nd, a son of Avondale, from 1 to 12 mos. old. John Schmidt, Reed City, R. No. 5, Michigan

BIDWELL SHORTHORNS

For Beef and Milk.

5 Bulls ready for service 15 months to 2 years, for sale; also good Scotch-topped cows and heifers. Modern sanitary equipment. One hour from Toledo, Ohio, N. Y. C. R. Y.

BIDWELL STOCK FARM

Box B, Tecumseh, Michigan.

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

SHORTHORNS Maple Ridge Herd, Established 1897. No stock for sale. J. E. Tanawell, Mason, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos., 3 roan, 1 white, 1 red, price \$150. to \$250. 1 son of Maxwellton Sultan, 19 mos. \$550. C. Carlson, Leroy, Mich.

Bates Shorthorns the original milk strain young bulls 8 mos. old for sale. Price \$150 to \$200. J. B. HUMMEL, Mason, Mich.

Shorthorns. Bulls 9 mos. to 12 mos. old from osnable. COLLAR BROS., R. 2, Conklin Mich.

Registered Shorthorn Bulls 12 to 16 mos. old \$125. Shropshire sheep. W. J. Lessiter, Belding, Mich.

Milking Shorthorns:—Bull calf 5 mos., by a Grand-son of General Clay, dam by a son of General Clay, \$150. A few females. S. E. BOOTH, Morrice, Mich.

For Sale Shorthorns: 5 females from 2 years to 6 years old, two bulls from 6 mos. to 9 mos. old. FRANK ROHRBACHER, Laingsburg, Mich.

Registered Shorthorn calves sired by Diamond King 2nd, 410475, both sexes \$150. Twenty cows \$250 each. WM. J. BELL, Rose City, Mich.

Cattle For Sale

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

For Sale Brown Swiss bull calf four months old from good stock. BATES & JENKINS, R. 2, Camden, Mich.

HOGS.

Durocs and Victorias

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

"Nothing But Spring Pigs For Sale"

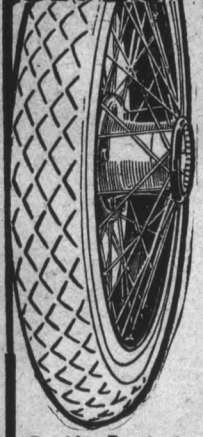
CAREY U. EDMONDS, Hastings, Mich.

Duroc-Jerseys One Yearling Cherry King Boar, Gilts bred for fall farrow. J. H. BANGHART, East Lansing, Mich.

Duroc Sows and gilts bred to Eureka Cherry King and Crimmon Critic son of Critic Model 1916 champion Iowa Fair. W. C. Taylor, Milan, Mich.

Additional Stock Ads. on Page 395

SAVE 40% on YOUR TIRES



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32x3	9.25	9.95	2.75
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31x3 1/2	10.55	11.60	2.50
32x3 1/2	11.50	12.65	3.00
34x3 1/2	12.15	13.35	3.55
31x4	14.75	16.60	3.70
32x4	15.05	16.85	3.80
33x4	15.75	17.20	3.90
34x4	16.10	17.55	4.00
35x4	17.00	18.60	4.50
36x4	17.20	18.65	4.80
34x4 1/2	21.65	23.65	4.90
35x4 1/2	22.70	24.70	5.00
36x4 1/2	23.05	25.15	5.15
37x4 1/2	23.95	26.10	5.35
38x5	24.90	27.25	6.05
38x5 1/2	27.10	29.60	6.65
37x5	26.40	28.85	6.25

Pay After Examination
3% Discount for
Cash with Order

We ship C. O. D. subject to inspection. When ordering state if Clincher, Q. D. or S. S. are desired.

Philadelphia Motor Tire Co.,
240 N. Broad Street. PHILADELPHIA, PA.

AVICOL for Roup and Cholera

Positively cures and prevents roup, cholera and all bowel diseases of poultry. Used and endorsed by leading poultry breeders. Easily given in the drinking water. Bond guaranteed to do the work or money refunded. At dealers or by mail prepaid. 25c and 50c Burrell-Dugger Co., 113 Columbia Bldg. Indianapolis, Ind.

POULTRY.

150 Laying Yearling White Leghorn Hens

In lots from 6 to 50 for immediate sale. Also Yearling Hens Brown Leghorns, Barred Plymouth Rocks, White Wyandottes, Rhode Island Reds, Rose Comb Black Minorcas, Yellow Old English Game, Yearling Cocks and Cockerels Barred Plymouth Rocks, Rhode Island Reds, White Wyandottes, Single Comb Black Minorcas, White and Brown Leghorns. Everything we sell is guaranteed; each customer is to be fully satisfied. We are planning for a more extensive sale of Day-Old Chicks next Spring, so that all orders may be filled. **HOMESTEAD FARMS, Bloomingdale, Mich.**

BREEDING COCKERELS

Trapnested, bred-to-lay stock. S. C. White Leghorns, \$2 each. Barred Rocks and S. C. Reds, \$3 each. **SUNNYBROOK POULTRY FARM, Hillsdale, Mich.**

JOHN'S big beautiful hen-hatched Barred Rocks, good layers. Breeding pens (5 birds) \$10 to \$20. Eggs \$30, \$2.50; 100, \$7. Circulars. Photo. John Norton, Clare, Mich.

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. **Fred Astling, Constantine, Mich.**

Barred Rock Cockerels bred from Great Layers few hens yet. **W. C. OFFMAN, R. 3 Benton Harbor, Mich.**

Ferris White Leghorns
A real heavy laying strain, trapnested 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free. **GEORGE B. FERRIS 924 Union, Grand Rapids, Mich.**

Fowlers Buff Rocks. Eggs one half price for bal. of season \$1.75 for 15; \$1.50 for 30; \$2.00 for 50; \$3.50 for 100. **R. B. FOWLER, Hartford, Mich.**

BUFF LEGHORNS 100 cockerels and 100 pullets at \$1 each if taken at once. **Dr. William A. Smith, Petersburg, Mich.**

Laybitt S. C. W. Leghorns Large, great layers. Pure white. Bargains in choice breeding hens now. **Everfresh Egg Farm, Ionia, Mich.**

Pine Crest S. C. White Orpingtons, special sale of year old cocks and hens, also young cockerels. **MRS. WILLIS HOUGH, PINE CREST FARM, Royal Oak, Mich.**

RHODE ISLAND REDS and PLYMOUTH ROCKS Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6.00. **Mammoth Bronze Tom Turkeys, 8 to 88 lbs. according to age \$6 to \$25, 10 eggs \$3. J. Morris & J. Barsan, Vassar, Mich., Successors to A. E. Cramton.**

R. I. Red Summer Sale. Rose Comb cocks and hens. Single comb hens and pullets. All at bargain prices. Cockerels after September 15th. **INTERLAKES FARM, Box 39, Lawrence, Mich.**

R. C. Br. Leghorn Cockerels and one cock \$1.50, now. **and Imperial Pekin Drakes \$2.00 each, order Mrs. Wm. Nickert, Carson City, Mich.**

S. C. W. Leghorn hens for breeding \$1.50 each. Cockerels from trap nested stock we have them priced \$3 to \$5 each. **O. S. Sturtevant & Sons, Ypsilanti, Mich.**

R. C. Br. Leghorn Cockerels, Pekin ducks, W. China Geese, Order early, the supply is limited. **MRS. CLAUDIA BETTS, Hillsdale, Michigan**

SILVER Golden and White Wyandottes. Choice breeding stock of sale after Oct. 1st, a few bargains in yearling hens. **C. W. Browning, R. 2, Portland, Mich.**

S. C. W. Leghorns. April Hatched. Standard Bred each. **White Line Poultry Farm, Hillsdale, Mich.**

WHITE Wyandottes. Have a fine lot of April and May hatching cockerels for \$3.00 and \$5.00 each. **DAVID RAY, 709 Norris St., Ypsilanti, Michigan.**

Narragansett Turkeys, large big boned ones. **E. B. Thompson Strain, Ringlet Barred Rocks.** Order early. Prices right. **Mrs. Wm. B. Newell, Onsted, Mich.**

Giant Bronze Turkeys, excellent thoroughbred stock—very large. Bargains on sales before Nov. 15th. **N. Evelyn Ramsdell, Ionia, Mich.**

Getting Poultry Ready for Winter

THE coming winter is going to present an especially difficult problem for those who are feeding large flocks of poultry. Grain feeds and special poultry mixtures are so high that skillful feeding and the best of care will be necessary to obtain satisfactory profits from the flock. To feed grain feeds at present prices without full knowledge of what one is trying to do is pretty sure to result in loss. When grain feeds were cheap one could feed with a careless hand and give the flock indifferent care, but now the expense of feeding requires that the hens produce reasonably well to meet the cost of feedstuffs.

Fattened Poultry Profitable.

Live poultry is commanding high prices, but it is very doubtful if many farmers are making anything in fattening poultry for market. The prices seem high to the consumer, but when the farmer makes a careful estimate of the grain he has fed in raising a flock of fowls for the market he finds that it about equals the price of the fowls. Of course, farmers who go to the corn cribs and grain bins and feed grain without figuring its cost may actually think that they are making money from feeding poultry, but by figuring costs accurately one will find that it is necessary to produce eggs during periods of high prices or sell breeding stock at advanced prices in order to make the flock pay any profit.

If it pays to feed poultry at all it pays to feed them well. It means certain loss to feed scant rations. Better sell half of the hens and feed the other half well than to have a flock about the farm that is always underfed.

Cull Flock Carefully.

The first step toward getting the flock in condition to pay good returns for the feed necessary to carry them through the winter is to cull it with exacting care. Send everything to market that fails to show promise of returning a profit. Old hens, surplus males and poorly-developed pullets and hens that are poor layers, had better be culled out and put in pens by themselves and fattened for market. By rigid culling of the flock the number may be reduced so that they can be handled and fed so that they will produce eggs during the winter and be in good condition in the spring.

One can make an excellent grain ration for laying hens with corn, buckwheat and oats. This gives variety, and at the same time it is fairly well adapted to their requirements. When clover and scraps of meat are added it makes a very efficient ration. If a dry mash made up of bran, middlings, gluten and oil meal is fed in hoppers along with the grains, clover and meat scraps, it will afford a change and undoubtedly increase egg production.

Essential Egg-making Foods.

Animal protein is an essential part of the ration for winter egg production. Green cut bone is preferable, of course, but it is very difficult to get and its preparation involves too much time when a man has other profitable work to do. Meat scraps are the cheapest and most practicable source of animal protein for the busy farmer who would find it rather bothersome to keep his flock supplied with green cut bone.

Another thing which will keep down the cost of grain feeds and encourage maximum egg production during the winter is some kind of food to take the place of the grass that the hens gather in the summer. Alfalfa and clover hay cut fine and steamed for an hour makes an ideal substitute for grass, and the hens will eat nearly all of it. These feeds although rather bulky are rich in protein and are valuable for egg production. If the flock is rigidly culled, well-housed, free from vermin and fed along the lines suggested one

should get enough eggs to pay for feeding and caring for the flock during the winter months.

New York. W. MILTON KELLY.

FLOORS FOR POULTRY HOUSE.

It is no longer a matter of economy in poultry breeding to keep the hens in cheap, unsanitary houses. The houses may not be expensive, but they must be comfortable, and one of the first requisites is a good floor. Formerly the dirt floor was considered best, but few up-to-the-minute poultrymen now house their hens in such shanties. Occasionally a location may be found where the dirt floor is permissible, but generally there is too much water in the soil at certain seasons. Nothing hinders the production of the birds more than a wet muddy floor. In the spring, when the frost is coming out of the ground, the dirt floor is almost sure to be a quagmire unless the house is on some pinnacle where the ground slopes away in all directions.

Colony coops that are used only during the summer may be without floors, but it is best, even for this purpose, to have floors, which must of necessity be of boards. Rats, skunks and other predatory animals easily burrow their way into houses without floors.

For the permanent house, there is nothing so good as concrete. Start the foundation a foot below the surface and fill up the form some six inches above the surrounding earth with small stones or tightly packed cinders. The cement mixture should be made in the proportion of one part cement to five or six parts of clean coarse sand. Spread this with a trowel. Gravel is sometimes used in place of the finer sand. Before this mixture has fully hardened, spread a layer of concrete made at the rate of one part cement to three parts of sand. This layer should be a half-inch or more in thickness and should be carefully spread with a plasterer's trowel. A foundation of this kind is permanent and, as it is built up above the ground, the sills of the building last much longer.

When the hen house is built in a moist place or over heavy soil it is well to arrange for drainage. Drain tiles will do the trick and if put in when the building is built may save considerable later trouble and expense.

The brooder houses for early chicks are frequently built without floors. A good type of house for this purpose has a wooden floor covering half of the space, and the other half without floor but with fine mesh wire sunk six inches below the surface of the ground to keep the rats from burrowing under. Even for winter brooding a concrete foundation with six inches of soil on top is better than the bare earth for the covered runs. We believe the little chicks need a part of the house, at least, with a wood floor during the cold weather. Concrete and earth floors are rather cold for the tiny feet.

New Hampshire. C. H. CHESLEY.

ALFALFA AS A GREEN FOOD.

My experience with alfalfa as a green food has been quite satisfactory. Alfalfa meal is an ideal winter green food and will supply during the cold, stormy weather one of the great essentials to large and profitable egg production. The fragrance of new-mown hay fields can be had on any cold winter day by adding boiling water to half a pail of alfalfa meal. The hot water will bring out all the bright green color and the freshness of the original plant.

The appetizing odor will make you yourself wish you might eat it. Place some before the hens daily and notice their combs grow redder each day. Biddy will make good returns, and give thinks in good large, rich eggs that will have a flavor the market demands

most. Those who keep fowls in close confinement the laying season through will find alfalfa as effective a winter ration as can be secured. Its price in ground or cut bags is usually about \$1.50 per hundred, and a sack will feed a large flock of fowls for a long time.

No matter what the green food problem may be, alfalfa will solve it cheaper and better than anything else. Alfalfa-fed breeding stock will produce eggs for hatching of high fertility even very early in the season. Alfalfa meal furnishes elements needed for the production of the highest grade of eggs for table use or for hatching.

The manner of feeding meal is simple. It can be made one of the ingredients of your wet or dry masnes with perfect success. Feeding separately in hoppers is a very good way. This permits the birds to eat what they want when they wish it. For young stock mixing in hoppers is best. Adding boiling water to the meal alone produces a rich, green food second to only green growing grass. Try alfalfa for greater profits. Many flocks are not laying because they lack what alfalfa will give them.

New York.

E. W. GAGE.

RATION FOR ONE HEN COSTS \$2 A YEAR.

The question before all poultry raisers is how to feed their chickens more economically and yet get satisfactory results. In making changes in rations, one must remember that any quick or marked changes will have a bad effect on the hen. Changes should be made gradually. It takes a month for a hen to respond to a new method of feeding and if this new method can be adopted gradually no ill effects are likely to follow. Frequently a new ration is criticised, when the fault is not with the ration but with the feeder in making the sudden change. The University of Missouri College of Agriculture recommends corn two parts and wheat one part for scratch food. This constitutes two-thirds of the ration. A mash consisting of equal parts by weight of bran, shorts, corn meal and beef scrap is recommended for the rest of the ration. At present prices for corn and wheat, the scratch food mentioned will cost \$4 a hundred. At present prices for mash constituents—bran at \$1.60, shorts \$2.60, corn meal \$4, and beef scrap \$4—the mash would cost \$3 a hundred.

If a hen requires seventy pounds of feed per year, fifty pounds of scratch food and twenty pounds of mash, the cost for grain and mash would be \$2 and \$0.60 respectively. Thus the total food cost per hen per year would be \$2.60.

By introducing oats into the ration, the cost can be reduced. With oats at two cents a pound, a scratch food of one-half oats can be made which will cost three cents a pound. This will reduce the cost of the scratch food fifty cents a year for each hen. The mash can also be reduced in cost by substituting middlings for the corn meal. It is doubtful whether wheat should be used for poultry feeding. The by-products, such as bran, and shorts, are still available at comparatively reasonable prices. By careful figuring, the cost of feed per hen need not be over \$2 a year. If a hen lays ten dozen eggs the feed cost of a dozen eggs need not be more than twenty cents.

Sprouted oats have proven an excellent feed for chickens during winter months. The oats may be sprouted in a regular sprouter, in trays by the kitchen stove, in the cellar, on dirt or on burlap. The trick is to soak the oats with water, spread them out in the light, and keep them warm and moist until the blades are from three to six inches long. A successful feeder soaks the oats for twenty-four hours, spreads them in a shallow box, places it in the cellar. Frequently an inch or more of sand is placed in the bottom of the box upon which the oats are spread.

THE HOUSING PROBLEM.

The first of October should find every farm flock properly housed for the winter; but, although there has been progress among farmers in the poultry line as well as in others, there are still too many who seem to think that chickens are not of sufficient importance to receive the care that is given other stock, and these give little attention to the housing problem. The old notion that any place will do for the hens to roost still lives, and so it is that we find chickens roosting in tumble-down or draughty sheds, or in the trees where prowling animals may help themselves, while cold and disease further decimate the flock.

Poor Houses Expensive.

The number of hens lost from these causes can scarcely be estimated with accuracy, but no doubt it runs far up into the tens of thousands. But there is a still greater loss. These hens that are poorly housed will not lay during the winter, even though they are well fed, and the expense of carrying them from October to the first of March about eat up the year's profits. On the other hand, hens properly housed and cared for will yield a profit through the winter, even with the present high price of feed.

Sometimes there is little severe weather before December, but there are apt to be many raw, windy days in October and November that are likely to cause colds or some more serious trouble among hens that are poorly housed. For this and other reasons the poultry houses should be put in shape for winter just as early as possible. If it is necessary to build new houses they should be planned for utility and convenience, not for show. Efficiency is just as necessary as in any other department of farming if a fair profit is to be made. Houses with fancy cupolas and other ornamentation may suit the fancy of the wealthy man who has a few fowls for pleasure, but the man who is in the business for profit needs plain, well built houses.

Essentials of a Good House.

The type of house to be used matters little as long as there is freedom from drafts, plenty of fresh air and a reasonable amount of light. In the poultry press there is much discussion of this and that type until the average reader becomes hopelessly confused. But a close examination of the several types will show that in all essential particulars they are quite similar. In any event the small poultry raiser will continue to use the buildings already on hand. It is pretty well established that some form of open-front house meets the requirements most fully even in a cold climate. With three sides closed tightly and the fourth partly open there is a free circulation of air in the house, but no drafts. For severe weather a muslin curtain dropped over the opening keeps out considerable cold but still admits fresh air. An additional curtain in front of the roosts will keep the fowls sufficiently warm even in zero weather.

Let Hens Have Freedom.

We have found it best not to confine the hens too closely to the houses in winter. They like to get out on the sunny side of a building and scratch or sun themselves. For stormy days or when there is much snow on the ground we have a large open shed with the ground covered a foot deep with straw. Here the hens can scratch or wallow in the dust baths provided for them. Only in the most severe weather do we find it necessary to keep them in the houses all day.

The sooner the farmer abandons haphazard methods of raising poultry and puts it on the same basis as his other live stock the bigger profit he will make from his hens. Like any other live stock, the better they are cared for the more they will produce.

Ohio. NAT S. GREEN.

More eggs!



Help your hens "do their bit"

War prices will mean big profits to you this winter if your hens lay well. It will pay you to look after your hens now. Don't let the moult drag on—nature's course is too slow when eggs mean dollars.

In the National Egg Laying Contest at the Missouri Experiment Station, hens given a daily tonic made much the highest record in egg yield and quick moult, giving official proof that a tonic pays. Dr. LeGear's Poultry Powder is a tonic which helps hens through moulting, strengthens the hen's whole system, and stimulates the egg producing organs.

Dr. LeGear's Poultry Powder

Helps hens and pullets to lay early

It is Dr. LeGear's own prescription, used successfully in his 26 years of nationally famous poultry raising experience.

Don't wait—buy a package from your dealer today. If it doesn't produce results, the dealer is authorized to refund your money. Sold in 25c and 50c packages; 25-lb. pails, \$2.50, and 100-lb. barrels, \$9.00.

Dr. LeGear's Stock Powders

aid digestion and assimilation, correct wormy conditions, etc.

Dr. LeGear's Lice Killer

(Powder) is guaranteed to rid your hens of lice. Try it.

Dr. LeGear's Remedies are sold by the best dealers—never by peddlers. Ask your dealer for them; and a free copy of Dr. LeGear's 112-page Stock and Poultry Book. If your dealer's supply is exhausted, send us his name and we will supply you.

Dr. L. D. LeGear Medicine Co., 712 Howard St., St. Louis, Mo.



Dr. LeGear U.S.
(In Surgeon's robe)

Graduate of Ontario Veterinary College (1892). He has had 26 years' experience in treating stock and poultry ailments. Nationally famous as a prize-winning poultry breeder.

Every Dr. LeGear Remedy is the Doctor's own prescription, based on his long practice and experience.

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high producers. Brookwater offers to sell a few choice bull calves of this kind. Our herd of Durocs has won more prizes at the State Fairs this year than any other.

Boar Pigs and Yearlings For Sale.

H. W. MUMFORD,
OWNER

BROOKWATER FARM

O. F. FOSTER,
MANAGER

Ann Arbor, Mich., R. 7.

SWIGARTDALE
BERKSHIRES

We are offering a few very desirable gilts and boar pigs. All will be of good size for breeding and service by December 1st. Though we have not pushed them they have made about 1 lb. per day for their age. We do not claim to have the cheapest in price but we do claim to have the best in quality and type.

SWIGARTDALE FARM
PETERSBURG, MICHIGAN

Duroc Jersey Swine

of the heavy boned type Spring Boars and Gilts also a good young Percheron Stallion for sale. M. A. BRAY ESTATE, Okemos, Mich.

DUROC BOARS AND SOWS

The biggest, longest, growthiest and best bred of Spring Boars. 3 last fall boars by Panama Special 6383. This fall's boars \$25. pair, not akin \$40. NEWTON BARNHART, St. Johns, Mich.

Pinehurst offers: Registered Spring Boars, tried brood sows, One Great Herd Boar. Write your wants. Orlo L. Dobson, Quincy, Mich.

DUROCS, Orion Chief Perfection No. 68945, and Jennings Pilot Wonder No. 73373. Two outstanding boars of big type and excellent quality. All selected large type smooth sows. Thrifty, smooth, large boned spring gilts from these herd boars and choice sows at very reasonable prices. The Jennings Farms, Bailey, Mich.

DUROC Boars. First, Second and Third Prize Boars at State Fair 1917 get in your order for a herd boar at once. Plum Creek Stock Farm.

F. J. DRODT, Prop. R. 1, Monroe, Michigan

Duroc Spring Gilts and fall boar pigs of the finest breeding. E. E. CALKINS, Longacres, R. 6, Ann Arbor, Mich.

Durocs A few good males sired by Joe Orion 2nd Dam by Orion Ch. King Jr. A. FLEMING, Lake, Mich.

FOR SALE two good yearling Duroc Jersey Boars Registered by Edward F. No. 70193 out of Orion Cherry Lass No. 163725. W. E. SCRIPPS, WILD WOOD FARMS, Orion, Mich.

Duroc Jersey Spring gilts and fall pigs either sex. E. D. HEYDENBERG, Wayland, Mich.

DUROCS of good quality and breeding, yearling and spring pigs of April farrow, priced cheap for quick sale. H. G. KEESLER, Cassopolis, Mich.

CHESTER Whites and O. I. C. for sale. Big type Spring Boars and gilts from prize winning stock for fifteen years. Also some fall pigs. A. B. Combs & Son, R. 2, Allen, Michigan.

Chesters Bred Gilts all sold. Special prices on March boars, also 6 months Holstein Bull. F. W. ALEXANDER, Vassar, Mich.

O. I. C. An extra fine lot of last spring pigs, either sex and not akin, from good, growthy stock. Farm 1/4 mile west of depot. Otto B. Schulze, Nashville, Mich.

Raise Chester Whites

Like This
the original big producers



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

Big Type O. I. C.'S, & Chester Whites

Special prices on all boar pigs for the next 30 days. Will sell sows only when bought in pairs. These pigs are sired by our three Champion boars that have not an equal in the country. School master King of the breed Crandell's wonder & Callaway. Fdd both champions. All stock shipped on approval, satisfaction guaranteed. Get our catalogue. Harry T. Crandell & Son, Cass City, Mich.

BOARS

Big growthy fellows. The kind that pleases. I ship C. O. D. and pay express. J. CARL JEWETT, Mason, Mich.

O. I. C. & CHESTER WHITE SWINE.

Strictly big type with quality. Have a choice lot of boars fit for early fall service. These boars will be sold worth the money. Also have some fine gilts. I will ship C. O. D. NEWMA'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C. Choice Spring boars and gilts out of prize long bodied and Big Boned type. Write for photo and low prices. A. V. HATT, Grass Lake, Mich.

Additional Stock Ads. on Page 391

MAXWELL

Most Miles
per Gallon

Most Miles
on Tires

All You Can Ask in a Car —the Maxwell

The day's work is done.
The lamps shine cheerily. All is quiet
and serene in the home.

Now—let's sit down and talk about
that motor car you want to buy.

You are exacting in your ideas about
motor cars. You demand mechanical
efficiency, economy, and a smart appear-
ance.

That is why we affirm that the Max-
well is *your* car, above all others.

Mechanical efficiency! We are pleased
and proud to discuss Maxwell efficiency
with you.

The Maxwell builders have only one
chassis model, which is never fundamen-
tally changed, but constantly improved
and refined.

Four years of concentration by one
of the largest organizations in the motor
car business has brought the one Max-
well model to the pinnacle of mechan-
ical perfection.

The engine is without a
peer. The smooth clutch
runs in oil. The perfected

transmission is efficient and trouble-
proof. The mighty axles laugh at strains
of the road.

This mechanical efficiency bears fruit
in economy of operation. Thousands of
Maxwell owners run their cars at a cost
of \$6 to \$8 a month.

This year we have lengthened the
wheelbase six inches and have put in
6-inch instead of 3-inch steel frames.

But we have not added one pound to
the lightweight Maxwell.

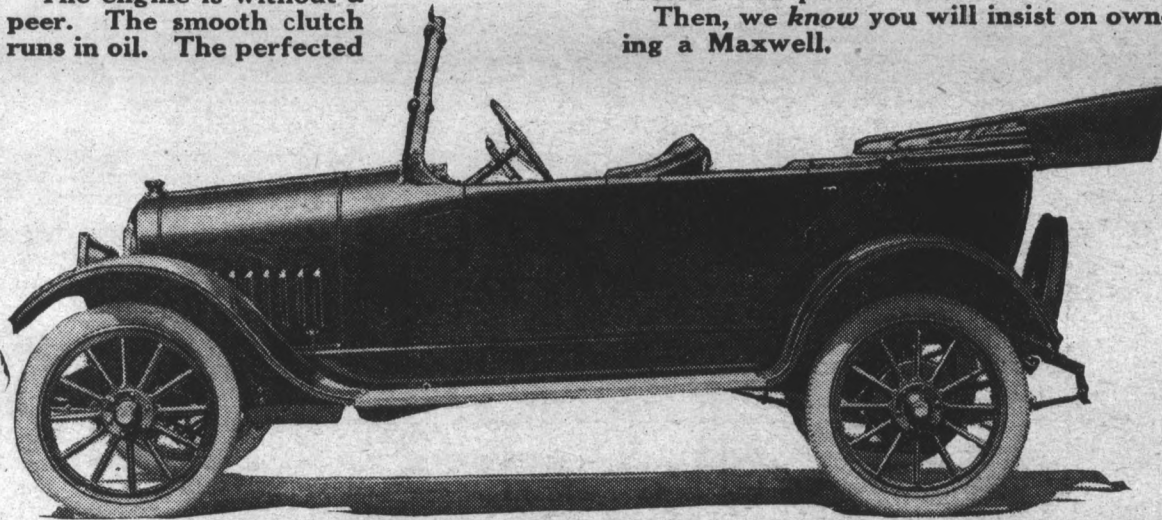
And, having perfected the Maxwell
mechanically, we are now enhancing and
perfecting its beauty.

This year the windshield is sloped, the
body lines more graceful, and the body
roomier.

The Maxwell has the same style today
as the up-to-date models of the highest
priced cars.

Visit your nearest dealer. See the
Maxwell. Get the figures on the car's
records and performances.

Then, we *know* you will insist on own-
ing a Maxwell.



Roadster \$745
Berline \$1095
Sedan \$1095

Touring Car \$745

All prices
f. o. b.
Detroit

Maxwell

Motor Sales Corporation

Write Today
for Catalog N

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