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A County Farm Bureau Picnic

By I. B. McMURTRY

MOST Michigan Farmer readers know Jason Woodman, of Van Buren county, and the others know him by reputation, either as an Agricultural College alumnus and a member of the State Board of Agriculture, as county agricultural agent for Kalamazoo county, to which fact this story is due, as a leader in the state Grange, as an institute lecturer, or better yet, as a successful and progressive farmer who regularly produces bumper crops of potatoes and baby beef as specialties.

The weather man smiled graciously and the morning of September 8 was as beautiful as could be desired as some half a hundred Kalamazoo county automobiles started on their long drive to the Woodman homestead, which is nearly four miles southwest of Paw Paw and some 24 miles from the city of Kalamazoo. It had rained. The roads were dustless and the autos bowled along gloriously.

By noon the visitors had gathered. By 1:00 p. m. dinner, one of those good old-fashioned bring-your-basket-and-spread-the-grub-on-the-lawn kind, was over, cigars were passed by the host, and all were asked to gather "Under the spreading chestnut trees" for the program of the day. The local speakers were W. H. Smith, President of the Kalamazoo County Farm Bureau and also of the County Fair Association. Dr. Ernest Burnham, head of the Department of Rural Schools of the Kalamazoo State Normal School, and T. A. Farrand, County Agent of Van Buren county. Mr. J. H. Lurkins, now county agent of Berrien county, was on the program but unable to attend. In 1912 Mr. Lurkins grew the largest yield of potatoes ever produced in Michigan—some 454 bushels per acre. His farm is near Mr. Woodman's.

These speakers were followed by Mr. H. J. Wilder, assistant in the county agent work of the Federal Department of Agriculture. Mr. Wilder made a very pleasing address in which he pleaded for better community action in giving aid to the county agent. The county agent's time, he said, costs money, is therefore valuable and should be economized to the greatest degree. Jones, out ten miles from the office, for example, calls the agent to advise him in the matter of spraying his potatoes for early blight. Smith, who lives only a mile from Jones, and Wilson, living not far away, call the agent a little later to ask for the same advice. Instead of being compelled to make three or more drives to that community for the one purpose, these potato growers should arrange to meet the county agent at a central point, say at Jones' place, and all go over the situation together. Or it may be that their problems are different and the agent must visit each farm. But even then the interest in using the time of the county hired man most economically should lead them to work together. Frequently all of them could be served on the same trip.

Mr. Woodman took a few minutes to explain to us that the house was built

by his father over sixty years ago, that the big chestnuts under which we sat and the three to the left, as well as the two rows of beautiful hard maples extending northward along the highway for a mile were planted by his father about a half century ago. The oaks and some of the other trees are natural, but the large butternut over there in front of the house, more than three feet in diameter, grew from a twig planted by his father 75 years

ago, as did Mr. Woodman: "I was born in the house yonder. My life has been spent here. This is the place where I want to be when the call comes for my spirit to take its flight into the Great Beyond!"

All who wished to go were invited to join in a tour of inspection over the farm. It should be observed here that years ago Mr. Woodman evolved a definite method of operating the farm. He follows definite systems of crop rota-

tion. The plan includes four cash crops—potatoes, grapes, hogs and beef. All other crops are fed on the place.

four compartments by means of movable gates. Michigan farmers, it is estimated, lose over \$6,000,000 annually in waste and deterioration of manures piled out in the weather. By leaching and heating outside piles of manure lose approximately 50 per cent of their plant food—nitrogen, phosphorus, and potash. It is Mr. Woodman's observation that the saving of the potash, which nearly all leaches away from the ordinary manure pile, makes the most marked profit in his covered yard system.

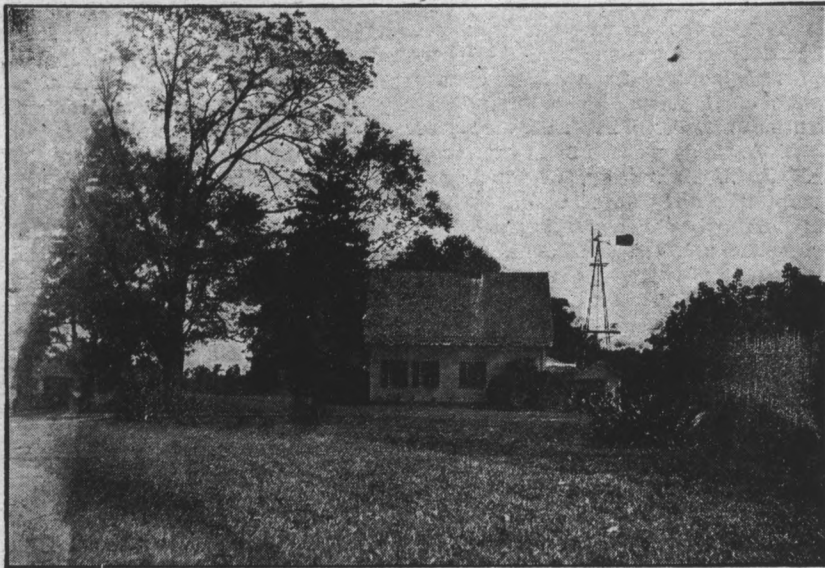
On the Woodman farm a simple, yet very profitable system of hog raising has been evolved. A seven and one-half acre field was divided into three lots. Rye is sown in one of them in the fall and used for early spring pasture. This is plowed under and put into soy beans for fall pasture. The second is planted to rape for later spring and part of the summer pasture. The third is put into clover and grass for part of the summer pasture. Changes from one lot to another are made as the growths demand. Some grain is given. Six to eight brood sows are kept. Two litters per year are produced. The pigs are marketed when they weigh about 200 pounds. A field of soy beans is cut each year for hay and strange as it may seem, the hogs eat it up completely and it has proven a most excellent and economical winter feed.

On the field where last year an average of 345 bushels of potatoes per acre was grown, corn is now growing. The original stand was so ruined by wet weather and crows that the field was replanted June 20. But from the size and regularity of the ears, 100 crates per acre would be a low guess.

And the potatoes! It would be of inestimable value to the potato industry of Michigan if the growers could all see Mr. Woodman's field today after one of the severest drouths in many years. He has no secret method. Upon tens of thousands of acres of Michigan soil his potato yields can be duplicated. His directions are simple. Two years before the field is to be put into potatoes it is planted to oats and seeded to clover and orchard grass. The following year the field is pastured. In the spring 10 to 12 tons of manure are spread per acre. Late in the summer 10 to 12 tons more are spread. The next May the land is plowed and fitted for the potatoes. Whole potatoes (of uniform size) are planted. Furrows are made, the seed dropped and covered with a plow. Cultivation is so thorough that no weeds are permitted to get a foothold. When the plants are six inches high spraying to prevent blight begins. Bordeaux mixture is used.

About every ten days the spraying is repeated. Usually six times is enough. Specially constructed nozzles are used which get the solution on the under side of the leaves. This latter is vital to success in killing blight spores. Bug poison is sprayed at the proper times.

(Continued on page 267).



Farm Home of Hon. Jason Woodman, Van Buren County.

ago. The lawn now contains about three acres, is mowed regularly and with its wonderfully beautiful trees certainly is one of the real beauty spots—one of the loveliest homesteads it has been my good fortune to see in Michigan or elsewhere.

American agriculture should be, and is, ready to do obeisance before, and give all honor to, the man of mature years who has achieved notable success on the farm; who can stand before his neighbors and friends and say,

tion. The plan includes four cash crops—potatoes, grapes, hogs and beef. All other crops are fed on the place.

The first thing we observed as the tour started out, was the covered feed lot, or a very large, comfortable shed for stock. This covered feed lot enables him to secure and preserve, without any loss from rains or heating, the full value of the liquid as well as the solid excrement of the stock. It has a packed gravel and clay floor, has running water and can be divided into



Mr. Woodman's Potato Field, which Promises a Big Yield.

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DETROIT, SEPTEMBER 23, 1916

CURRENT COMMENT.

The Bean Grower's Opportunity.

The action taken by the Michigan Bean Growers' Association at its recent meeting in Grand Rapids is of such great importance to the bean growers of this state, that the report of that meeting is given the greatest possible prominence in this issue. Every Michigan bean grower should carefully read this report, and withhold his product from the market when prices are lower than the minimums fixed by the organized bean growers of the state as reasonable and compensatory prices for this year's crop under prevailing conditions.

By such action the ultimate consumers of this product will not be obliged to pay a higher price than would otherwise prevail, but the growers will get a much larger share of the consumer's dollar than would be the case of the crop were dumped on the market in a few weeks without regard to the available supplies or probable demand, thus permitting speculators to absorb the large margin which such marketing methods would make between the original selling price of the crop and the cost to the ultimate consumer. By maintaining the price above a reasonable minimum basis, crop conditions considered, the bean growers of Michigan will receive a compensatory price for their product without adding hardship to the consumer who will buy the product in small quantities throughout the season.

Every bean grower who is a reader of this paper should carefully read this report and follow the lead of the organized bean growers of the state in the application of good sense to the marketing problem so far as this crop is concerned. The result will be a stabilization of the bean trade which will be beneficial rather than harmful to all concerned, and at the same time insure growers a reasonably compensatory price for their short crop.

The Milk Producer's Duty.

In another column of this issue will be found a letter from the field secretary of the Michigan Milk Producers' Association which will be of interest to every commercial dairyman in the state. The importance of the work which has been undertaken by the Michigan Milk Producers' Association can scarcely be over-estimated in its relation to the future of the dairy industry of this state. If that work is to attain the highest success, it must have the undivided support of the rank and file of Michigan milk producers.

This communication tells something of what has already been accomplished in the way of improving the economic conditions surrounding the

dairy industry in many milk producing communities, and gives some promise of what may be expected in the future along this line if the milk producers of the state will rally to the support of the parent organization, and at the same time build up efficient local milk producers' organizations with which the state organization can co-operate, and through which it can work effectively. If nothing has yet been done in the way of launching

such an organization in any dairy community in Michigan, then interested readers should take the initiative in forming such an organization at once.

We bespeak for this communication a careful reading, and for the Michigan Milk Producers' Association the hearty co-operation of the dairymen of every milk producing community in Michigan, to the end that this industry may be placed upon a sound economic basis at the earliest possible date.

Bean Yield and Prices

WE recommend the following minimum prices for the 1916 crop of pea beans: October, \$5 per bushel; November, \$5.15; December, \$5.30; January, \$5.50, with no decline thereafter from January prices.

The Michigan Bean Growers' Association, in session at Grand Rapids, September 13, after listening to reports from practically all the bean growing counties, voted this scale of prices. A year ago the association met at Flint and started the October market at \$3 and prices kept making sensational advances to the profit of grower and jobber alike. The growers voted to hold their next annual meeting in Lansing in November, at the time the state potato growers meet.

A. B. Cook, of Owosso, and Alex. Pullar, of Freeland, president and secretary of the State Bean Growers' Association, were on hand and were assisted materially by James N. McBride, Michigan Director of Markets. While the attendance of farmers was not large, it was a representative gathering, with reports from the county agents of Saginaw, Mason and Kent counties, and from Prof. Carmody, of the M. A. C., as well as from the farmers. J. E. Humphrey, of Muskegon county, has forty acres of beans that will not average eight bushels per acre. Amos Welch, of Ionia, has 50 acres and will not get over a third of a crop. M. V. Tanner, of Mason county, reported 2,658 acres of white beans this year, with estimated yield of five bushels, and 1,080 acres of red kidneys, with estimated yield of four bushels. Earl P. Robinson, of Saginaw county, placed the crop there at 200,000 bush-

els, with acreage below normal and the yield about eight bushels per acre. The average for Kent county was placed by several delegates at eight to nine bushels. A. Bos, of Ottawa county, estimated a 50 per cent crop.

The report of the executive committee as adopted is as follows:

"Your committee reports the statistical condition of the bean crop as furnished by the United States Bureau of Crop Statistics as follows:

"The five great bean growing states, Michigan, New York, California, Colorado, New Mexico, produced in 1914 11,200,000 bushels of beans; in 1915, 10,300,000 bushels, and the estimated crop of 1916 is 9,870,000 bushels. New York shows a shortage of 450,000 bushels, Michigan 460,000 bushels, while the states of California, Colorado and New Mexico are responsible for the increases in the total.

"The Michigan Crop Reports indicate a yield of 50 per cent of normal.

"Careful reports made by farmers representing 30 of the principal bean growing counties also reports of county agents when compiled, indicate a crop this year of somewhat below 50 per cent of a normal yield, with the uncertainties of the remainder of the season which may reduce this estimate. Some crops already threshed indicate even a less yield. The number of the pods are few and the beans are small. The somewhat increased acreage is fairly offset by fields already abandoned. The states of New York, California, Idaho and Colorado have wired and written to Michigan to be advised as to the prices Michigan (Continued on page 268).

More Money for Milk

MORE for milk or the dairy industry of our state dies! The producer can no longer stagger under the steadily increasing burden of high production cost while certain financially entrenched distributor concerns are paying fat dividends.

Whatever may have been the reason for tolerating the low prices received in the past, the producer now knows that if the milk producing business goes on, the present prevailing price schedule must change, and it must change upward. There is a finality in the cry of the dairyman; he sees but one hope, and that hope is higher prices. Unless he gets a substantial raise and gets it soon, his business fails.

At a session of the board of directors of the Michigan Milk Producers' Association, held in Lansing, Saturday, September 16, at the close of the day the following preamble and resolutions were unanimously adopted:

Whereas, The milk producers of Michigan supplying milk to most of the condensaries have waited long for a favorable response to the repeated requests for a change in the price that would change the production of milk from a losing to a living basis, and whereas our requests and petitions have been ignored, therefore it is hereby resolved by the board of directors of the Michigan Milk Producers' Association that we instruct our field secretary to continue the campaign of organization as rapidly as possible that will cause producers and local organizations to sign an agreement not to deliver milk for less than \$2.00 per hundred pounds on the present test basis to condensaries in Michigan after the first of November, 1916.

The fact that the milk producers

have been losing so much is demonstrated by the investigation that has been carried on under state supervision in many different states and localities. And this net loss which has reached in many instances as much as 33 to 40 per cent of the price received, is not due to any opposition on the part of the consuming public. It is not due to the consumer, but it is due to the great monopoly in the foodstuffs which steps in between the producer and consumer and takes the great profit that has made this monopoly in the span of life of one man, one of the greatest financial factors in this great nation.

This multi-million corporation, that has grown up in so short a period has grown upon the losses of the labors of the milk producers of this nation. And it is against this kind of domination that we protest. It is against this kind of oppression that we are organized. That we have a tremendous task on our hands, we recognize. But believing that there is still left much of the mettle and fibre and spirit of our revolutionary fathers, we have taken up this warfare with as much patriotism as has ever been the actuating motive with any body of men.

Three months is but a short time with funds all available by which to measure any state-wide reform movement. But with funds to provide, plans to perfect, and organization to complete, the call is for much more thought and labor and time. Yet it was but the twentieth of June when (Continued on page 287).

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Both French and British have increased their gains on the western front along the Somme river. The French have taken the villages of Vernandevillers and Berny. The capture of these positions was important in that it aided in straightening the French line. The British have extended their gains farther northeastward against Bapaume, taken the formidable stronghold near Thiepval and the powerful field work near the Mouquet farm which has been bitterly contested for many weeks. Powerful counter-attacks by the Germans have been repulsed.—Italian forces are pressing their offensive in the Isonzo district with the Austrian seaport Trieste as their objective.—Russian troops have resumed their closing-in movement on the Galician town of Halicz located on the Dniester river southeast of Lemberg. Over 3,000 prisoners were taken in the last few days.—Renewed fighting has occurred in the Caucasus region in Asia Minor, but no important changes of front are reported.—In the Balkan district the Rumanian advance in Transylvania continues and the Greek seaport of Kavala recently occupied by Bulgarian forces is now being bombarded by the entente warships. On the other hand, the Teutons are in pursuit of the Russians and Roumanians recently defeated in the province of Dobruja in southeastern Roumania. The Bulgarian right wing in Macedonia is unable to check the violent attacks by Serbian, French and Russian troops, and is continuing to retreat to the northwest in the direction of Monistir.—Belgian forces operating in German East Africa have captured Tabora, the principal German fortress in that territory.

Out of a thousand Villista troops who attacked the town of Chihuahua last Friday, 600 were killed and many captured by federal troops under Gen. Trevino. Gen. Villa is reported to have 3,000 troops stationed immediately north of Juarez, and an attack on that place is momentarily expected. Gen. Pershing's men recently captured 16 Villa followers.

Over 1,500 bar-rooms in Ontario were closed last Saturday night when the new prohibition law became effective.

The London Chamber of Commerce is instituting a world-wide program of trade calculated to assist the British Empire and her allies and handicap her enemies. The countries of the world are classified as allies of the British Empire, friendly neutrals, unfriendly neutrals and enemy countries. A series of graded tariffs will be placed on goods entering international commerce with these countries, designed to encourage traffic with the favored countries and handicap by heavy tariff rates traffic with those countries not in harmony with England's present world-wide political policy.

The latest statistics reveal that 14,000,000 Poles have died since the present European war began, the population having been reduced from 34,000,000 to 20,000,000. To date over 200 towns and more than 20,000 villages have been razed. The total losses in property destroyed amount to around \$11,000,000,000.

National.

While the street railway strike in New York City, which began September 6 continues, the big sympathetic walk-out of other labor unions is reported not likely to occur, at least not before Thursday of this week. The companies are enabled to operate the lines up to nearly a normal schedule.

The Lapeer county infirmary valued at \$20,000 was burned last Friday. The inmates were all rushed to safety.

Alleged scandals in connection with the counting of the recent primary vote in certain wards in the city of Detroit are being investigated and a recount is being made. Many ballots have apparently been tampered with.

It is possible that Chicago will experience another milk strike beginning October 1. One of the leading companies has posted notices that, beginning October 1 it would enter into contracts enduring only one month. As present contracts extend over a period of six months, the Milk Producers' Association will undoubtedly stand for a continuation of that policy. The prices demanded by producers for the six months beginning October 1 would average \$2.00 per month. The monthly prices listed are: October, \$1.90; November, \$2.10; December, \$2.10; January, \$2.05; February, \$2; March \$1.85.

TEN CENTS TO JANUARY 1.

Trial subscriptions to January 1, beginning with the week order is received, will be accepted from new subscribers. Tell your friends who are not taking the paper.

Humus and Soil Fertility

IN this day and age of the world with high prices for land, tools and labor, and the correspondingly high prices for farm products, it is imperative for the farmer to get good yields in order to secure the maximum returns for the labor and money invested. Often we see a field properly fitted, given a liberal application of fertilizer, and yet with a fair amount of rainfall the result is an unsatisfactory crop. This is no doubt due to a lack of humus.

The question is sometimes asked, why is humus so valuable and necessary. Someone has rightly said, "Humus is the stomach of the soil," for its benefits are many, and highly necessary. In the first place it improves the physical condition of the soil. Heavy clays are made loose and more easily worked, and less liable to bake and become hard. Sand is made more compact and holds soil moisture better. Humus acts like a sponge, holding the moisture so that it is available for growing plants. A clay loam is merely clay made light and mellow with humus, and sandy loam is sandy soil well supplied with organic matter.

Humus also prevents extremes of soil temperature. A soil rich in organic matter, or humus, heats up more slowly but retains the heat longer.

Humus is also "Nature's cupboard," where plant food is held in readiness for the use of growing vegetation. It has been shown that plant food, especially nitrogen, is present in the more or less decomposed organic matter. Phosphoric acid and potash are also stored in available forms in the humus.

The presence of decaying organic matter makes mineral plant food available, the acids produced by decomposition liberating the mineral matter. No less important is the carbonic acid given off by the decaying vegetation aiding in the liberation of plant food, also having a valuable physical effect upon the heavier soils.

Another word as to the water-holding powers of humus. One ton of humus will hold twice its weight of water and when one considers that it requires 500 tons of moisture to grow a ton of hay and an acre of corn re-

quires 900 tons of water to mature it, or enough to cover the land eight inches deep, not taking into account that lost by evaporation and percolation from the soil, humus becomes an important factor in moisture control. These figures seem immense, but are borne out by experiments by King at the Wisconsin station.

Since humus is rapidly destroyed by cultivation it is very essential that it be constantly renewed, of which there are two methods—green manuring and barnyard manure.

Green manuring is nature's way of renewing soil fertility. In woods and waste places nature grows a crop and then returns it to be again incorporated in the soil. Rye, rape and buckwheat are some of the crops which may be used for green manuring. Rye or rape sown in corn the last cultivation makes a good cover crop and one which may be plowed under the following spring. The legumes, such as clover, alfalfa, vetch, soy beans and cowpeas, are very valuable green manure crops but are so valuable to feed that it is often better to feed them first and then return them in the form of barnyard manure.

Nearly 80 per cent of the fertilizing value of food eaten by farm animals is returned in the manure so its value can easily be obtained. The following table taken from farmers' bulletin No. 192 gives the amount and value of the manure from different farm animals

Amount and Value of Manure Per 1000 Pounds Live Weight.

	Amt. per Day.	Value per Day Cents.	Value per Year*
Sheep	34.1	7.2	\$26.09
Calves	67.8	6.7	24.45
Hogs	56.2	10.4	37.96
Cows	74.1	8.0	29.27
Horses	48.8	7.6	27.74

*Value of nitrogen 15c; phosphoric acid 6c; potash 4½c.

This table takes into account only the fertilizing value of the manure. When considering the other beneficial effects of humus it will be seen that manure is one of the chief means of conserving soil fertility.

Branch Co. I. H. W.

A COUNTY FARM BUREAU PICNIC.

(Continued from first page).

The early blight is the disease which shortens the life of the potato vines and hence prevents the maximum production of tubers. Late blight causes the tubers to rot.

Today Mr. Woodman's potatoes are as green as ordinary patches are in July or August and even though the drouth hurt them he fully expects to get a big yield.

Nothing very unusual is to be noted about the cattle breeding and care, except that high-class grades and thoroughbreds only are kept. He has them fitting into his rotation scheme finely and through them utilizes a large field of timber and marsh land.

Everyone seemed highly pleased with the day spent on this most excellently managed farm and the method of its operation will give many Kalamazoo county farmers a real vision.

We all admire, appreciate and honor Jason Woodman as a leader in things which make for better farms and farmers; those of us who know the personality of the man admire and love the broadminded, unselfish devotion in which he gives his life to the cause of better agriculture, and a higher standard of farm life and achievement; we do homage to the man who has set the example in producing more and better potatoes per acre than any other in America outside of Aroostook county, Maine, and for whom "Old Spuds" is at once a name of endearment and a tribute of merit; but the language does not contain words to express adequately our love for the man, who, like Jason Woodman, can rear, train and

educate a family of children into manhood and womanhood, who stand four square—a great credit to their parents, an honor to their country! The name of such a man will ever be written on tablets more enduring than stone.

GOOD ROADS IN MICHIGAN.

Hudson township, Lenawee county, voted a bond issue of \$75,000 for good roads. The measure was supported by a big majority.

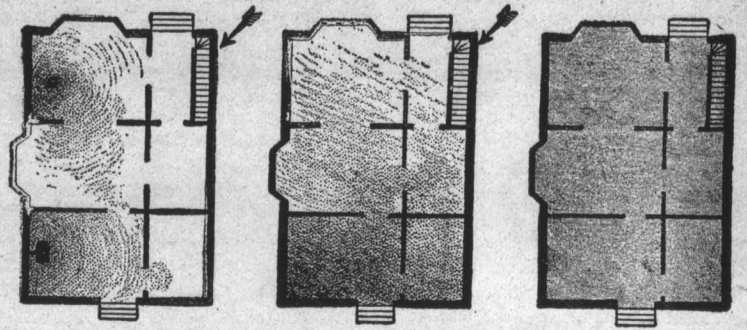
Weare township, Oceana county, will build four miles of gravel road the coming year. Interested farmers have donated the hauling of the gravel and the township will pay for grading and shoveling. The gravel will be hauled this winter. This is a beginning in linking up the fine stone roads with gravel roads to the farms.

Shiawassee county will complete 25 miles of state reward road this year, bringing the total of reward roads in the county to 135 and all has been built in the past four years. All are gravel roads and the average cost per mile was \$1,900. Gravel is found to stand up better under heavy auto traffic than crushed stone. The commission has tried oiling state roads and with good results.

Road work in Ingham county under the county system has been discontinued for the year because of lack of funds. The appropriation of a mill and three-quarters was less than the commissioners asked for, and about \$45,000 of this year's funds were used in finishing up last year's work. There is automobile money but this is available only for maintenance.

The 16-foot concrete road from De-

Have this even, healthful heat in your home—



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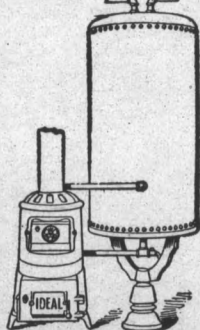
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These diagrams show *results* and you will agree that the radiator warmed house (shown in No. 3) is the one way you want your house to be heated.

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Basement or water pressure not necessary

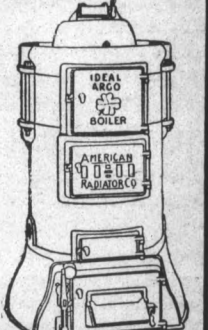
IDEAL Boiler is set in cellar, side-room or 'lean-to'; and same water is used for years. Put an IDEAL Boiler and AMERICAN Radiators in your house *this year*. Call up the nearest heating contractor and ask him to give you an estimate. Don't put off any longer, suffering the chills of old-fashioned heating methods during these severe winters.



Our IDEAL Hot Water Supply Boilers will supply plenty of warm water for home and stock at small cost of few dollars for fuel for season.



A No. 5-19-W IDEAL Boiler and 450 ft. of 38-in. AMERICAN Radiators, costing the owner \$200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.



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troit to Pontiac has been opened for travel and is a pathway of whirling wheels, with 500 cars often passing a given point per hour.

Saginaw county has made one application of oil to 41 miles of stone road, using eight tank cars carrying 55,063 gallons, at a cost of about \$68 per mile. The roads treated are in the vicinity of Saginaw city for the most part and the oil has kept down the dust and has seemed to harden the road surface, adding to its life.

State Highway Commissioner Rogers advises the plan of spending all federal road moneys coming to Michigan in the next five years in filling up gaps left in the main trunk lines. He says: "Nearly all our trunk lines have gaps in them. This is particularly true of the East Michigan pike and the West

Michigan pike, and under our present laws we cannot hope to fill the gaps for many years, because the poorer counties and townships cannot stand the strain. I want the counties and townships to pay what they can, say 25 per cent. Then the legislature can pay 25 per cent and the government money can be used for the remainder. Under this plan we ought to have our trunk lines practically completed at the end of five years. Government road money coming to Michigan for the first two years should be due and payable next July, amounting to \$437,000. The legislature will only be asked to furnish half that sum and the remainder will come from the counties. Completion of these "legislative trunk lines" will give us 5,000 miles of good roads out of 70,000 miles of road in the state.

Check-rowed vs. Drilled Corn

THE culture of corn in Michigan has undergone some important changes for the better during the past few years. The selection of the seed, the preparation of the land, the cultivation and harvesting of the crop have all received much study, with the result that there has been great improvement in both the yield and the quality of this most important of our farm crops.

But notwithstanding all the attention and the discussion to which this crop has been subject, there is still great diversity of opinion as to whether the method of check-rowing corn is more desirable than drilling it. Some farmers are so fanatically in favor of the check-row system that they still mark their fields and plant with the old hand-planters though they can well afford a horse planter. Some check-row the corn intended for husking and drill that intended for the silo.

The arguments advanced in favor of check-rowing are (1) the corn germinates and appears above the surface more quickly; (2) cultivation can be made more thorough; (3) corn stands up better against the wind; (4) the fodder is more easily handled when cut by hand; (5) the yield is just as great.

With respect to the first argument it is true that corn "in the hill" will appear at the surface from one to two days sooner than that drilled one kernel in a place, but the growth of weeds and grass during that time is very little and this advantage is so slight as to afford little basis for argument. The statement that cultivation can be made more thorough in check-rowed corn has some foundation. On a heavy clay loam soil two-way cultivation will doubtless prove best in eradicating weeds and keeping the surface soil mellow. On other types of soil, however, one-way cultivation will prove just as good if done with a reasonable amount of care. All parts of the cultivator should be in good repair. Then, with the shovels and shields properly arranged, the soil can be stirred right up to the planter mark and a thin layer of dirt thrown in to cover up the sprouting weeds in the corn row. By exercising some care, the first two cultivations can be made very close to the growing corn—closer than could be done with corn in the hill. Again, whereas one is prone to delay cultivation of check-rowed corn because he is so sure of being able to clean it up later, in the case of drilled corn, one is always ready for the first moment when he can begin work, and the several cultivations are made with more care and thoroughness. Lastly, unless check-rowing is done very accurately, it is impossible to cultivate crosswise the planter rows. During the latter part of August I have visited scores of corn fields and have found the drilled corn no weedier than the fields which have been check-rowed. I am willing to concede arguments three and four, but they seem to me to be minor considerations. The great bulk of corn is cut nowadays with some form of horse-drawn machinery and drilled corn is

much more easily handled than that which is check-rowed.

The final argument in favor of the check-row system is the weakest of all for it is a statement entirely contrary to fact. When corn is drilled the seed should be dropped ten to twelve inches apart in the row. To secure the same number of stalks, check-rowed corn would require four kernels to the hill. But every corn grower in Michigan knows that when there are more than two stalks to the hill crowding and diminished grain production results. Experience proves the reasonable supposition that such a rank-growing and gross-feeding plant as is corn must suffer when three or four plants occupy the same square inch of soil. When drilled, each plant has three to four square feet of soil to itself. It has no legitimate rivals. This system makes every foot of soil in the field available to the roots of the corn. Check-rowed plants, on the other hand, are rivals and a hindrance to each other from the beginning, for their root systems occupy the same area of soil. They cannot reach all the plant food available. By this method, then, either the yield of fodder or that of grain must suffer. A fair comparison of these two systems will show that corn properly drilled will yield at least twenty-five per cent more of both grain and fodder than will that which is check-rowed.

In conclusion, I would say that drilled corn can be just as easily and thoroughly tilled as check-rowed corn; drilled corn is more easily handled by the corn binder; and, finally, drilled corn yields more fodder and grain, other conditions being the same. Since yield is what we are after, it will surely pay many farmers to study this matter fairly and carefully on their own farms.

Calhoun Co. C. C. MILLER.

BEAN YIELD AND PRICES.

(Continued from page 266).

producers will ask. So little danger need be feared from lower prices in those states. Contracts for beans for the Allies made last year are still unfilled. The great bulk of Japanese beans will supply the foreign demand in the eastern war fields and will absorb any surplus. The claim of the Japanese invasion of the American bean market has much the same basis as claims of war by Japan against the United States. Beans based on other foodstuffs this year, like bread, potatoes, meats, and vegetables, are not high at the prices asked by the producers.

"Compensatory prices to the grower means a profitable industry to him, to the distributor and a continued food supply to the consumer. The advancing wheat market is an index to bean prices. Unless the market starts at a fair price for the bean crop, the statistical and food value of beans, which is apparent, will allow the speculator in foods to reap the harvest which he has not sown. With the hazard of growing beans and the profits accruing to others than the grower, means a decrease-

ed acreage and the decline of one of Michigan's great industries. Your committee, therefore, in view of the condition above outlined, recommends and advises the following minimum prices for the 1916 crop of pea beans: October, \$5 per bushel; November \$5.15 per bushel; December, \$5.30; January, \$5.50, with no decline thereafter from the January prices. If beans are rushed on the market without due regard to distribution of the crop, prices will break and the speculator will have the opportunity to secure the profit on the crop. Beans are a safe crop to carry and a good collateral to borrow money on. Consult with your banker and do not dump the crop on the market to bring down the price. When beans fall below the minimum price, stop marketing; consult with your elevator operator for, when each are owners of beans, your interests are identical. A break in the market is disastrous to each; co-operation of producer and distributor is just as much needed as any other co-operation. Co-operative marketing is the assurance of successful bean growing."

Signed by the committee: A. B. Cook, C. M. King, Alex. Pullar, W. I. Bullard, A. L. Dean.

This report was read by President Cook at the closing session of the Michigan Bean Jobbers' Association and was listened to with interest. It developed at the different sessions of the jobbers held September 13-14 that they are expecting to have to pay good prices for beans and they do not exhibit much alarm at the \$5 minimum figure for October 1. They agree that the Michigan crop is below normal but place the average at fully 60 per cent, while the farmers place it below 50 per cent. Then the buyers point to big crops in California, Colorado and New Mexico this year, to the marked improvement in Michigan late planted beans, to foreign beans and to bean substitutes. A Michigan canner claims that he is finding good substitutes such as soy beans and California beans, for the Michigan white pea bean at present prices. With no surplus old beans on the market, the war in Europe still on, and wheat, potatoes, meats and vegetables soaring, the growers feel that the \$5 price for beans is not unreasonable. Reports were made of sales at Belding at \$4.90, October delivery. No threshing to speak of had been done up to the time of this meeting. The bean crop was still in the balance, with at least two weeks of good weather needed to bring it safely through.

No anthracnose affects the beans this year, due to the hot summer. This disease as affecting the food value of beans in cans, was discussed by the jobbers and canners, the discussion arising from the seizure and confiscation of a car of Michigan canned beans by the government. This test case will be tried at the October term of the federal court at Grand Rapids and will be watched with interest. Government experts will undertake to prove, so it is believed, that anthracnose brings on decomposition, making these diseased beans unfit for food. Canners contend that the cooking process, with temperature of upwards of 212 degrees F., will kill the germ, and furthermore that these germs have been eaten by the human family for a century or more without harmful effect. If the government wins its case then the unspotted bean will soar to still dizzier heights.

LILLIE FARMSTEAD NOTES.

The government chart giving dates and latitude for sowing winter wheat to avoid the ravages of the Hessian fly puts down the date of September 20 for our vicinity. But we began sowing on the twelfth and now, September 16, have 35 acres sown. The balance of the ground is so nearly completed in preparation that the drill can be kept going and have the whole job finished nicely by September 20, weather

permitting. We never had ground that could be prepared better for wheat than this year. The moisture was just right for working the soil and there is moisture enough so the wheat will germinate and grow nicely if present weather conditions continue. We have been especially favored in this locality in this respect. I have lately visited the central and eastern portions of the state and in every section visited there is much need of rain. It is refreshing to return home and find the grass in the meadows and on the lawns fresh and green. In every section where I have been everything is dried brown and sere. On September 7 we had a splendid rain and I thought it best to sow the wheat as soon as possible. At that time it was pretty hot but now the weather has changed and I think conditions are ideal for wheat seeding.

All through the central and eastern portions of the state where I was there is a splendid crop of clover seed, but we have none here. Ours is too late.

The new seeding of clover is getting so large that there is danger of its smothering this winter if conditions are just right. I have known this to happen. Had we only known what conditions would have been, then the clover should have been clipped the first of August. However, it is better to have it too large than too small. What we would like is to have it just right.

It is rather exasperating to hear the city papers take on about the high cost of living. Prices are beginning to get up where the farmer can see a little silver lining to the cloud, and then the consumer begins to cry about the high cost of living. The fact is that the necessities are not so high but that well paid laboring men can live very comfortably. It is not necessities that pinch the consumer nowadays. It is the unnecessary things that take our money. We can live, and live comfortably, if we could only cut off some of the luxuries that we are in the habit of indulging in. It costs too much to dress. It costs too much to be amused. Pleasure is what costs, not the things necessary for our comfort and well being. It is not my duty to tell people how they should spend their money. Perhaps I need a lesson or two myself, but I can see plainly that everybody could afford to pay prices for food products that would enable farmers to make a profit if they wished to do so, but of course you can't spend the most of your money for amusement and luxuries, things that could be curtailed in most instances with benefit, and then have enough for necessities. We Americans are extravagant. We waste our earnings. We are living for today instead of for tomorrow. I have no objection to this if people want it that way, but I don't like to have the consumer complain every time the cost of production goes up on food products. There would be no particular complaint if places of amusement advanced their prices, or if beer or other liquors were advanced, or if ten cents was added to tobacco, etc., but let one more cent be added to the cost of a loaf of bread and the consumer hollers long and loud, and the city press take the matter up and the farmer is made the "goat." He is getting too much for his wheat or his pork or his beef, or his beans. Prices must go up so the farmer can afford to compete in the labor market or else some people will go hungry. Then, and then only, probably, will people curtail expenses on the unnecessary things of life. It is a great economic law that governs these things. This law has not been in force in America because of the abundance of food products, but it has been in force in other parts of the world and it will produce like conditions in this country some day. That day may not be so far in the future as some of our consumers now seem to think. The day will come when the mass of the people buy food products first, and pleasure, amusement and frivolities last.

COLON C. LILLIE.

Sheep In Michigan

By N. A. CLAPP

DURING the earlier years of farming in Michigan, wheat and wool were considered the staple products of the state. Other things like beef, pork and coarse grains were considered subsidiary, while wheat and wool were the main money crops sold from the farms. The man who could raise large crops of wheat and was successful with a large flock of sheep was the man who was looked upon as having a liberal income. In the main those were prosperous days—farmers built up their homes and increased their land holdings.

The kind of sheep universally kept during the fifties, sixties and seventies was the common Merinos. They were medium in size, yielded a fleece of wool from six to eight pounds each which sold in the market at about the common price of 40 cents per pound. The finest staple sold for the highest prices. During the war of the rebellion good clothing wool sold from farmers' hands at one dollar per pound. Immediately after the war prices dropped back to the old level and there was a depression in the sheep business.

A Checkered History.

Although sheep raising and wool growing has been one of the best money-making branches of farm business, it has had its ups and downs, in a see-

brushes and weeds that would spring up in the fence corners and in the odd places on the farm in the summer, and at the same time winter on the coarse feeds that would have but little value as feed except for sheep feed. Those sheep in return for the privilege of acting as scavengers in summer and consuming coarse feeds in winter, yielded a good fleece of wool that commanded a good price in the markets. The wool brought the cash which tided the farmer over the summer until he could realize on the year's wheat crop.

During the seventies there appeared some of the representatives of the English mutton breeds. The promise of an early income from the lambs sired by the mutton rams induced many farmers to adopt the plan of raising half-blood lambs and selling them in the fall, or feeding them until nearly one year old. On account of tariff tinkering the prices for wool were low and five to six dollars per head for the lambs was looked upon as a good and substantial income from the flock. From that time many began to lose interest in the fine wool flocks. But I will say before dismissing the Merino sheep as the farmers' sheep, that there has never been a class of sheep kept in the state that could endure as many hardships in summer in the way of



The Merinos were Universal on Michigan Farms in the Early Days.

saw manner, with a considerable regularity. Sometimes it would be one thing that would cause a halt and a period of depression, and then it would be another. At one time the depression was laid to "free wool" from other countries and at another the competition with the great flocks on the free ranges of the great west. The last cause was the stunning blow that brought discouragement and abandonment of the sheep business on many farms in Michigan. Farmers have declared that if the United States government would give monied men free pasture on government lands and allow them free access to our markets in competition with farmers in the civilized portions of the country, it was not giving the farmers fair play, and they would seek some other sources for an income with which to support a family and build ideal conditions in rural communities. On account of the all-the-year-around monthly income from the dairy cows, dairying has been accepted as a business to such an extent that general live stock raising has been abandoned to altogether too great an extent.

While the farms in the older settled portions of the state were being improved the flocks of fine woolled sheep were also being improved and the breed now known as the American Merino was established. The grades of this breed were well adapted to the needs of the farmers while clearing their farms. These sheep could endure scanty fare, live on the weeds growing on their summer fallows, crop the

short, scanty pasture, irregular and short supply of water, intense heat and general neglect while trimming the bushes and weeds in the byplaces on the farm, come into the winter in moderate condition, and at the end of the year, the first of June, make better returns than the American Merinos and their grades.

Since the early eighties nearly all of the well known breeds have been tried, but under discouraging conditions in many ways, sheep raising in Michigan as a business, has been neglected.

The Outlook for the Future.

Prices for all kinds of sheep, both old and young, are high. We all know that, but in endeavoring to stimulate a business for the future, it is well to look as far ahead as we can and see what the prospects are for markets.

In the first place, let us consider that the present high prices were not brought about on account of the war in Europe. Sheep meats are not called for to feed the armies in the field, or workmen on public works, as are pork meats. The sheep meats are called for in the ordinary channels of trade. People of all countries and callings, have learned in recent years that mutton is not only palatable but is nutritious, and as a promoter of health among all classes, has no equal among the meats consumed on our tables. The demand, therefore, must be considerable and lasting.

Why the high prices? It is because the supply is short all over the world. The international reports do not men-

(Continued on page 281).

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The watch alone free for sending three subscriptions to the Michigan Farmer at 50c each.



Packing Apples In Boxes

THE fruit grower who is producing apples of extra high quality finds the barrel not adapted to his needs. His apples are tender, fine grained and delicately colored, consequently their flesh is easily bruised and their general appearance marred. This man needs a package that will carry each individual apple to its destination without injury and will make an attractive appearance on opening. The box is the package that he should use rather than the barrel. This is the package that is being used almost entirely by the western fruit growers and has already been adopted by many of the eastern ones.

Style of Box to Use.

There are two styles of boxes used, the "standard" and the "special" with inside dimensions of 10½x11½x18 inches, and 10x11x20 inches respectively. Because of the wide variation in the sizes of apples it was found necessary to use both styles of boxes in packing the fruit. In order to make the box a very attractive package it must be made of lumber that is free from knots and dressed on the outside. To protect the fruit and keep it clean the boxes are lined on bottoms, tops and sides with plain white paper of the ordinary new grade. This paper should be placed in the box very carefully and should overlap on the top and bottom about one-third of the width of the box. In order to guard against tearing a fold is made in the paper at the lower corners to allow for the bulge. After this is done the box is ready to be packed.

All boxed apples should be wrapped in light manila paper, smooth or glazed on one side and rough on the other. The rough side being next to the fruit absorbs any moisture that may appear on the surface and the glazed side prevents the entrance of moisture, dirt and germs from the outside. The size of the wrapper varies with that of the fruit, although 10 to 11 inches square will be a sufficient size for all ordinary box apples. A good grade of paper of this size should be purchased for 30 to 50 cents per thousand.

Wrapping the Apples.

To wrap an apple smoothly and without waste of time, requires considerable practice although the operation in itself is simple. There are several different methods used by the packers, but the one that I will give a detailed description of is the simplest. The paper is placed in the left hand with the thumb and little finger pointing toward opposite corners. The apple is thrown into the center of the paper and the thumb is brought up over it as far as possible, bringing in the corner of the paper at the same time. If the fruit is to be packed on end it should be thrown blossom end down. It should never be thrown stem end down as this would tear the paper and spoil the general appearance of the box. The next movement is made with the right hand as it gathers a second corner between the extended thumb and forefinger and folds it in with a sliding motion of the hand. The fingers of the left hand now sweep upward and backward, bringing in the third corner. The left hand should now roll the fruit from the packer, using the right hand as a bed. In this manner the fourth and last corner is folded in over the fruit. The apple is now being held in the thumb and the first three fingers of the left hand and is in the exact position to be placed in the box.

The Style of Pack.

In packing the box two styles are used, the square and the diagonal. Of these two the latter is much to be preferred, because it does not bruise the apples nearly as much as the other style. The square pack which was formerly in very general use has been discarded except when an occasional size or shape will not come out right when packed diagonally. The diagonal pack

has two systems of packing, the three-two and the two-two. To more fully describe these systems we might state the number of apples per layer we are packing. Then the systems would read two-two, twenty-four or three-two, thirty, etc.

Method of Packing.

In starting the first layer of the three-two pack, place an apple in each of the lower corners of the box and a third apple about half way between these two. The fourth and fifth apples are then placed in the spaces between these three. This leaves three spaces in which three or more are placed, and so on till the layer is completed. The other layers are then placed in the box by putting an apple over each of the spaces of the previous layer. The two-two pack is started by placing an apple in one of the lower corners of the box. The second apple is then placed about midway between the first fruit and the side of the box. The third and fourth fruits are placed in the spaces between the first two, and so on until the layer is finished. Each succeeding layer should be placed so that every apple is over a space left by the preceding layer of fruit. Layer paper may or may not be used in the packing. Its chief use is to bring the apples up high enough in the box so that they will pack firm and compact. After the box is packed the next thing to do is to prepare it for shipment.

How to Get the Bulge.

To prevent the fruit from becoming loose in the box, it is packed an inch and a half higher in the middle than on the ends. When the box is placed on the press and the top nailed down this inch and a half is distributed between the top and bottom, making a three-fourths of an inch bulge on both sides. Different packers get this bulge in different ways, but the two principal methods are as follows: (1) Pack the apples tighter in the central part of each layer, and when the cover is nailed on the apples will press together more at the ends than in the middle and as a result we get the bulge; (2) selecting larger apples for the middle part of each layer.

After the box is all packed and ready to ship the only thing remaining to do is to label it. An attractive label pasted on the end of the box is the best advertising agent the fruit grower can produce. The label should not be gaudy but should give information such as grower's name, variety of apple and the number of fruits in the box.

Ingham Co.

A. M. PORTER.

FRESH TOMATOES FOR CHRISTMAS.

Tomatoes may be kept for a considerable period if they are gathered at the proper time and stored in a cool cellar. Before the frost has injured them gather a quantity of well grown fruits, that are still green and show no signs of ripening. Wrap each one separately in tissue paper and pack carefully in an open crate. Set the crate away in a dark corner of the cellar. Leave it for a month then remove the tomatoes and sort them over carefully, picking out those that have ripened. Re-wrap those that are still green and set away again. Do this every week until all have ripened. Some of the later varieties of tomato will keep until Christmas.

In storing tomatoes in this way it is important to set the crate in a cool place and exclude all light. The fruits must be picked before they have been injured by frost. The tomato is easily chilled and the slightest touch of frost spoils its keeping qualities. It is also important to handle each fruit with care and wipe it off each time the crate is gone over. Tomatoes of some late variety are best for this purpose.

New Hamp.

C. H. CHESLEY.

Dairy Problems

Young Heifer Giving Milk.

I am writing you for information in regard to a heifer which I have. This heifer is part Holstein and will be 15 months old August 10, and for a month her udder has been developing and filling with milk until I am at a loss to know what to do, whether to milk her or not. She has never been bred. Have you ever had such experience? I have milked her just a little and her milk seems as nice as any.

Antrim Co.

E. J. K.

By proper and frequent manipulation the udders of heifers of inherent dairy qualities have been induced to secrete milk long before they became pregnant. It is not considered desirable that this be done. It will probably retard the general development of the heifer and perhaps lessen her value later on. But if the milk secretion has started to any considerable extent it might be policy to milk her. In fact, the udder might be permanently injured if she is not milked. I would not try to milk unless it seemed necessary, however. If only a little milk is being secreted let her alone and there will be no harm done.

I know of a heifer that milked a fair mess before becoming pregnant, and the milking was continued through the period of pregnancy, but there seemed to be a lack of development in both heifer and offspring. I do not consider it wise to encourage such a practice.

Rag Weed in Ensilage.

Are rag weeds in ensilage injurious to stock if ensiled? Several farmers here have a heavy weed growth in the corn and with the available help will not be able to clean them all out before time to fill the silos.

Kent Co.

L. D.

It would not be proper to say that rag weed or any other weed does not injure ensilage. We do not know, but we do know that every year more or less rag weed and many other weeds go into the silo with the corn and with no appreciable harm to the cattle. Perhaps the cows, if they could talk, would tell us that this silage is unfit to eat, but they eat it and seem to like it, and what is interesting, seem to do well on it.

One farmer told me once that pig weeds made good silage. He was sure that the cows liked this. His only reason for getting the weeds out was because he could raise more corn to the acre than he could weeds. But he was just guessing. Nobody knows the food value of weeds. Of course, we want to grow corn, with no weeds, if we can, but in case we have the weeds we can put them in with the corn and it seemingly does the cattle no harm.

Does Silage Injure Cattle?

I work my father's farm of 120 acres and we each furnish half and get half. We have eight cows, which freshened this fall, eight head of young stock, one thoroughbred Holstein bull, also two heifers. I bought a silo, offering to stand half the expense. When it came he did not care to stand half, also refusing me the privilege of erecting it at my own expense, his objection being that silage was not good for dairy cows, too much acid shortening the life of stock. I would like the experience of Mr. Lillie or some reader who has had experience with the silo. Is ensilage injurious to dairy cows? Also, would a silo be a paying proposition on a herd of this size

Wayne Co.

SUBSCRIBER

It seems almost incredible that anyone now would think that silage would injure in any way the health of cattle, or any kind of stock for that matter, if it is properly made and properly fed. Twenty years ago before we had had so much experience, there might have been an excuse for asking such a question, but now with silos in every neighborhood, thousands of them scattered all over the state, and more being built every year, it is almost beyond reason for one to have any such idea. Why would the silo be so popular if such were the case? Many farmers are building silos after they use one for a while. Many are building silos so they can feed ensilage the year round. Would they do this if it injured their

cattle? Most assuredly not. You can safely feed silage to all animals, especially cows, with the assurance that it will not injure them; on the contrary, there is no more healthful food. It is the very best food you can get for cows.

I certainly think that every 120-acre farm should have a silo, every 80-acre farm and every 40-acre farm. Silos are entirely practical for 16 head of cattle and even for a smaller number. You will find that an investment in a silo is one of the best that you could possibly make.

COLON C. LILLIE.

ST. CLAIR COUNTY COW TESTING ASSOCIATION No. 1.

The end of the first half-year of the association came at a time when the heat, haying, and hired help took the farmers' attention more than their cows. But the attendance and interest displayed at the meeting at Capac showed that that was only temporary, and that there is more enthusiasm than ever among the members. It would be a fine thing if more meetings could be held.

This summer has been hard for everything on the farm, and nothing has suffered more than the cows. So the figures given are probably below the records the cows would normally make. Thirteen cows have averaged over 40 pounds of fat per week for the six months, and 14 gave over 1,000 pounds of milk per week for the same period. The highest fat production for six months was 326.2 pounds which was made by a Jersey owned by Alvin Balden. A grade Holstein, owned by John Glyshaw made the high mark of 8,489 pounds for the six months. The cost of feed ranged from \$22.71 to \$41.57.

To compare with the best cows, the following average has been computed of the 140 cows in the association that have completed the six months test without any dry month: 4,089 lbs. of milk; 160.2 lbs. of fat; \$28.03 feed cost.

The average of the 244 cows on record for the entire six months, ending at August, whether dry part of the time or not, is: 3,580 lbs. of milk; 136.9 lbs. of fat; \$25.44 feed cost.

The feed cost of 100 pounds of milk averages for the 244 cows 71 cents, and varies from 13 cents to \$2.29. Per pound of fat the average is 18½ cents, and varies from .02¾ to \$.67. This does not include feed for young stock or bulls. There are a number of cows that are averaging as well as these in the tables, but have not completed six months' record.

W. H. MOULTON, Tester.

SEPARATOR MILK FOR CALVES.

Separator milk is not a balanced ration for calves. On this feed alone, and the way it is usually given to them they are liable to get indigestion, as shown by a bloated condition, capricious appetite and diarrhoea. Most of this trouble can be avoided by adding a handful of oil meal, corn meal or cottonseed meal, to supply, in a way, the fat that has been removed in the skimming. The milk should be given to them warm and never when it is frothy. Never allow a calf to drink all of the milk that it wants at one meal. It is bad practice to allow several calves to drink out of one trough, some of them will get too much. Care in feeding calves is of vastly more importance than "cures" for calf scours. —Geo. H. Glover, Col. Ag. Col.

95 Per Cent of His Sales.

Mr. Fred Astling, Constantine, Mich., who has been advertising live stock in our paper writes as follows: "Your paper brought me over 95 per cent of my sales and I used three other publications."

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has produced in this, our 1916 model, a Cream Separator that cannot be approached as a profit-maker for farmers. It represents the highest achievement in separator building. Over 100,000 Reliance Cream Separators have been placed in farm homes during the last two years. Learn about this, our newest model; it goes ahead of anything ever yet offered.

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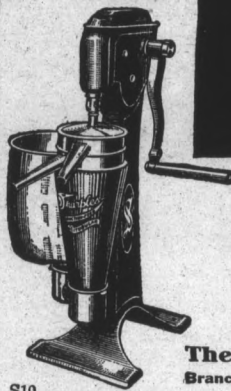


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Well-made of steel, wood-lined, designed for perfect cow-comfort and long service. Of simplest construction, easily installed and adjusted. Let us mail you our FREE Illustrated Catalog and learn all about the many good points of Harris Sanitary Barn Equipment. Please write TO-DAY—a postcard will do. The Harris Mfg. Co. 330 Main St. Salem, Ohio



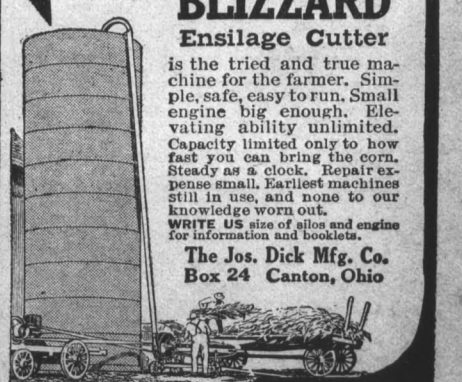
Silo filled in 8 hours

"This Silo 10 x 24, filled with No. 9 Blizzard with 4 1-2 H. P. gasoline engine in 8 hours by R. A. Blood & Co., Goshen, Ind." was the information sent us with the picture shown. The

BLIZZARD Ensilage Cutter

is the tried and true machine for the farmer. Simple, safe, easy to run. Small engine big enough. Elevating ability unlimited. Capacity limited only to how fast you can bring the corn. Steady as a clock. Repair expense small. Earliest machines still in use, and none to our knowledge worn out. WRITE US size of silos and engine for information and booklets.

The Jos. Dick Mfg. Co.
Box 24 Canton, Ohio



Equipment Bonds

By J. R. MILLIGAN

HERE is probably no type of short-time railroad securities that is so very highly regarded as the equipment bonds, or car trusts, which have come into prominence during the last fifteen years or so. The plan under which they are issued is so admirably adapted to the occasion, and the means of financing is so sound, that investors have come to realize the merit of such offerings, and their confidence has been well borne out by the history of the equipment obligations of our railroad system.

Equipment bonds are sold to provide funds for the acquisition of rolling stock, locomotives and other equipment. The railroad company pays in cash a margin of from 15 to 25 per cent and equipments bearing interest from four and a half to six per cent are issued to provide funds for the balance. The paper is usually issued under what is known as the "Philadelphia Plan," which seems to provide the proper principal for the issuance of equipment bonds. Pennsylvania is a state of unusual laws, where a conditional sales contract is not good against the creditor of the vendee, i. e., change of possession of equipment places a good title to the vendee. A creditor then assumes that the possession implies ownership and extends credit willingly. The lease method under which the equipment is owned by the building company and leased to the railroad company, which has, of course, possession of the equipment, offers a legal substitute to this obstacle.

The modern trust deed or indenture securing equipment bonds is an agreement between three parties: the railroad, bond house or association, and trustee. The railroad covenants to maintain the equipment in good order and replace it in case of damage. A complete statement furnished yearly as to condition and location of equipment is usual and the bankers are allowed access for inspection. This particular feature is rather unnecessary, due to the very keen desire on the part of the railroad to maintain its rolling stock in good condition all of the time.

The usual equipment bond matures over a period of not exceeding fifteen years, and is paid off much faster than the property depreciates—usually eight per cent each year. The life of steel cars is estimated at 25 years, and by that time, of course, the debt has been a long time retired. This maturity arrangement has given investors a wide choice, and the experience of most bankers has been that the investors purchase the longer maturities, and the banks the shorter ones.

Under railroad receivership the history of equipment bonds is such that every confidence as to their merit should be enjoyed by the investor. A railroad receiver realizes the absolute necessity of keeping his equipment in shape for business, and of allowing nothing to interfere with his possession of sufficient facilities to handle what business is offered; consequently, there is seldom a sustained default on such bonds—in fact, only one railroad has produced a permanent default to the equipment holder. Payment of equipment bonds is a matter of business expediency and the receiver recognizes this fact and applies it.

In view of the splendid history and the preferential claims enjoyed by such obligations, the question arises, "Why do equipments yield higher than a good railroad mortgage bond?" This is answered by the fact that equipments are not fully appreciated or understood, and because the security is a chattel mortgage. Furthermore, rolling stock deteriorates very rapidly, it may be stolen, lost, or destroyed by fire or wreck; but in the opinion of experts, ample provision has been made against any of these contingencies. Again, equipment issues are not very

(Continued on page 284).



Will You Lose Your Boy, Too?

This is a true picture of what is happening on thousands of farms each year. Breaking home ties. Young men, and young women too—leaving home for the attractions and conveniences of city life.

Young people in country homes have plenty to keep them busy and contented during the day. Evening is their time of leisure and recreation.

It is then that the depressing gloom of their poorly lighted homes strengthens their desire for the pleasures and comforts of good light which all city homes enjoy, rich and poor alike. For young folks crave companionship—good times—pleasant homes—cheerful surroundings.

Thirty years ago, it is true, only city homes enjoyed the advantages of gas lights and gas cooking but for the past fifteen years progressive home owners in the country have also enjoyed this greatest of city conveniences—good light—until today

Pilot-Carbide-Outdoor Lighting and Cooking Plants

are supplying brilliant, inexpensive light to houses, barns, outbuildings and cooking fuel for the kitchen range on hundreds of thousands of up-to-date country places from the Atlantic to the Pacific.

These homes—situated just like your own—are lighted as well as the finest city house you ever saw.

The young folks in these homes are contented and happy. Their homes are cheerful, full of light and comfort, real homes of which young folks, and older ones too, can well be proud. City life has no attraction for them, because they know that with modern conveniences in the home, life in the country is better, happier and more enjoyable than the best the city has to offer.

What about your children? Are you doing your part to give them the advantages they desire and which their friends and neighbors enjoy? Or are you denying

them the simple comforts and conveniences which you can well afford?

They may be just approaching the time when they will decide for themselves—whether they too will leave for the city or stay at home.

They may never have said anything about these things to you—but what are they thinking? What will they decide?

Their decision is largely in your hands. An attractive home is the strongest magnet in the world. The greatest factor in making the home cheerful, bright and attractive is good light.

Find out about the PILOT today,—Just address

A. R. GRAHAM, Supervisor

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100 Acre Farm With Crops, 6 Cows, Pr. Good Horses,

4 calves, long list tools, machinery, wagons, sleds, cream separator, harnesses, potatoes, corn, oats, apples and vegetable garden all included. Estimated 400 cords of wood that sells for \$6 a cord and 50,000 ft. bass and hemlock; 400 sugar maples, 100 bearing apple trees. Cottage house of 5 large rooms with cellar, 40 ft. barn, 24 ft. stable, spring water piped to both house and barn. Owner forced by outside business to raise quick cash. \$1800 takes all, part down and bal. \$100 yearly. Details this and other money-making farms in a dozen states page 9. "Strout's Big Bunch of Bargains." Write today for your free copy. E. A. Strout Farm Agency, Dept. 101, 450 Nassau St., New York.

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An illustrated booklet FREE. Michigan has hundreds of thousands of acres of virgin land, \$5 an acre up. Healthful climate. Growing season for all crops. Ample rainfall. Write, W. P. HARTMAN, A. & I. Agent, Room 332, Grand Rapids & Indiana Railway, Grand Rapids, Michigan.

New Land,

In Gladwin and Midland Counties, Michigan. Well located. Low prices and easy terms. Staffed Bros. (owners), 15 Merrill Bldg., Saginaw, (west side), Mich.

FARM FOR SALE. I offer for sale my farm consisting of 170 acres located three miles East of Flint. It is the best farm in Genesee County, finely equipped for dairying and handling registered stock; fine orchard; two good houses; an ideal home for some one. Price right and terms easy.
J. E. BURROUGHS, FLINT, MICH.

On Account of Old Age, I Offer for Sale

160 acre farm, located near Big Rapids. Soil black loam and sand loam, surface level, well watered, 12 room house, basement barn 45x80 ft. Will consider an improved 40 acres in part payment. Price \$8800.
David Maney, 146 Rust Ave., Big Rapids, Mich.

I HAVE A NUMBER OF FARMS

From 40 to 90 Acres. Good buildings, silos, orchards, etc., from \$80 to \$20 per acre. If interested call or write
F. W. YETSKA, South Lyon, Mich.

Owner Wants to Retire. 80 acres clay loam, nearly level, no waste, good buildings, fruit, markets close; only \$5500.
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Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

IN a previous article I have discussed preparation for the fur season. In this I shall endeavor to give some sets which the beginner can make successfully. Other information of practical value to the pelt hunter will be treated also.

In the first place, we will consider baits and scents. Of these there are two kinds, natural and artificial. The former consists of foods, the latter of lures, mostly patent, for drawing the animals to traps.

In order to use decoys properly, one

Practical Talks on Trapping II.

By GEORGE J. THIESSEN

must understand the nature of the animals to be trapped. In the first place, with the exception of the muskrat all the other small animals are flesh eaters. The muskrat lives entirely upon vegetable matter and while some claim it will devour flesh, in all my experience I have never been able to verify this. The raccoon, like its larger brother the bear, will be attracted by

almost anything, including comb honey, canned fish, corn, etc.

For the skunk and civet cat, bloody meat is good bait. The weasel can be trapped with it also. The head of a rabbit placed in a natural position is an excellent "draw," too.

When after the mink, muskrat flesh is one of the best natural decoys known. Rabbit invariably gives results.

Small fish, plucked birds (crows, hawks and similar, are worthless), and crawfish are much preferred by many pelt hunters.

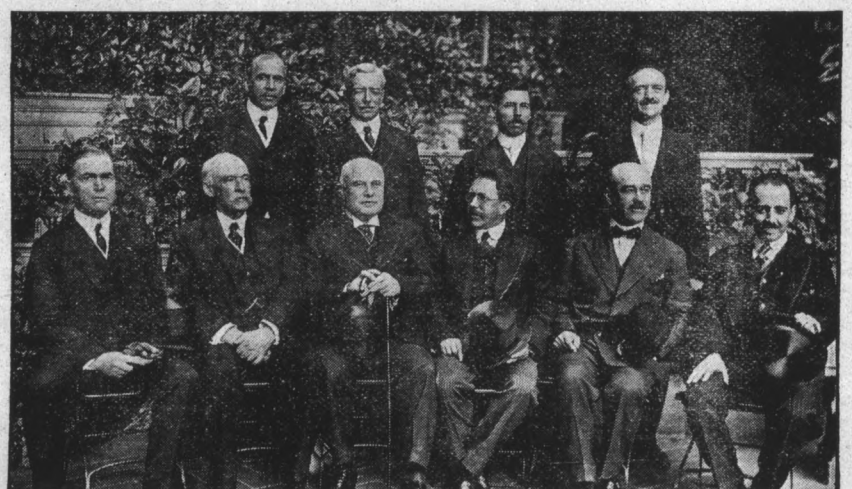
The opossum can be lured by canned sardines. The oil may be utilized also. Employ carrots, parsnips, cabbage and anything similar when after the muskrat.

For the skunk and civet, den sets are the simplest and never fail when properly constructed. Place a Pexto or a Sabo trap at the entrance of the burrow. While it is really not neces-

WORLD EVENTS IN PICTURES



Non-English Speaking Immigrants Being Made into Loyal Americans.



American and Mexican Joint Commission Holds Meeting in New York.



Quilting-bee of Old Revived at Quaint Little Town of Rye, N. Y.



President Wilson Signing the Child Labor Bill.



Chas. E. Hughes, Presidential Nominee, Addresses Students.



Bullet-riddled Car Carrying Dispatches on Somme Front Reaches Safety.

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sary to conceal sets of this kind, I advise pelt hunters to do so for the reason that often a wandering mink or 'coon is taken which would not be with a trap not covered.

Owing to the fact that several of the animals just named usually live in a den, professionals prefer to make sets close to the "colonies" in the following way: Build small three-sided pens and place some bloody meat in the back part. Guard the decoy with one or more traps.

To avoid the annoyance from crows, hawks, etc., it is best to cover these with brush, etc. Remember, also, if made too close to a residence they are liable to lure dogs and cats. When making a set of this kind it is a good idea to make trails from the holes to the sets with some good patent trail scent.

The object of several of these sets near a burrow is to catch a number of animals each night. If a den trap is employed, it can take but one fur bearer in the same hole during the night.

For the raccoon, place small pens in shallow water where there are signs of the animals. These should not be too far from shore. Even the beginner will have no difficulty in recognizing the track of this animal for the reason that it is like the track of a human foot-print, only smaller. In the back part, above the water, place some comb honey or a small fish. Guard the lure with one or more traps.

Never stake a set for the 'coon unless it is absolutely impossible to fasten the trap otherwise. Instead wire the set to a log or stone weighing about twenty-five pounds. When this is done there is less chance of the animal pulling out of the trap.

About the best land set which one can make for the opossum is to conceal traps in leaves, using a part of a can of sardines for bait. Arrange the decoy in such a manner that the animal cannot reach it without being caught.

Along ditches, small streams, etc., sets similar to those I have described for taking the 'coon may be employed. In the back part of the pens, use a sardine, placing it above the water.

Natural places may also be discovered for taking this animal also, where a runway is found between rocks, etc., at the edges of streams, ponds or lakes.

Employ no attractor but conceal the traps well.

Most muskrat pelts are taken with traps placed at the foot of slides or at the entrances of their dens and houses. I prefer the number eight hopper for this animal for the reason that it is strong enough to hold it and does not break the weak front legs when catching the fur bearer.

It is best to make the sets for this animal in water from three to four inches deep so that the jaws will grip the fur bearers by the long hind legs.

On inclined sticks, place a parsnip or some similar bait. Under these arrange traps.

Land sets for the muskrat ought not to be made for the reason that they are usually unsuccessful.

In the winter when the streams are frozen, the muskrat is not very active. About the only methods which can be used is at tile and spring sets. However, many pelt hunters arrange their traps far back in the dens and others chop holes in houses and then place their traps. When the last named is employed, cover up the opening in such a way as to exclude the light.

With the exception of the raccoon, all the smaller fur bearers should be cased; that is, not cut down the belly when skinned. Either board stretchers should be fashioned for the hides or else steel stretchers ought to be employed.

Remove all superfluous fat and flesh from the furs. This must be done before drying. Unless it is, the skins, especially in warm weather, are liable to taint.

From three to ten days, depending upon the climate, is necessary for drying the furs usually. After this time they are ready to ship.

Small packages go best by parcel post; large ones by express. Never send any hides by freight as they are too long in transit and may be damaged or spoiled.

Be sure your name is both inside and outside the shipment. Also notify your dealer by letter what you are sending and how. Should you not hear from him within a reasonable length of time, inquire about your furs. Many packages are lost in shipment during the year. If yours is sent by insured parcel post or by express, a claim can be made and the money will be paid to you.



The Mink.

White Sister of the Pioneer Path

By CAROLINE CRAWFORD DAVIS

(Concluded from last week).

"But you are Comfort," insisted the sick man to the nurse.

"Yes, I am Comfort—are you Joshua? Tell me—" she appealed to Tom, "for I cannot believe my own senses; is this man Joshua Hamilton?"

"Yes," Tom answered breathlessly. "But I was told that you died a captive—that you never reached Malden," she said to her husband.

"I did drop by the way—I all but died of my wounds; but I thought of you and the babe, and God gave me strength to evade the red devils, crazed with lust for blood. Then some

kindly French people helped me reach Detroit, where I hoped to find trace of you. I have searched always—but tell me, think you that this is our little Comfort?"

The woman, dazed by the suddenness of finding her husband, had not realized the meaning of the girl's presence; but now she turned and gave her a searching look. "Comfort," she exclaimed, and took the girl in her arms. It was all the answer she gave to her husband's question, but it satisfied him.

The nurse's instinct forbade Mrs. Hamilton to let her patient converse (Continued on page 277).



BLIND MILTON DICTATING TO HIS DAUGHTER
From the original by Munkacsy, in New York Public Library



The Vision of the Blind

"Thousands at his bidding speed,
And post o'er land and ocean without rest;
They also serve who only stand and wait."

Was the spirit of prophecy upon John Milton when, more than two hundred and fifty years ago, he dictated those words to his daughter?

Did the "blind poet" have a vision of the millions of telephone messages speeding instantly over hundreds and thousands of miles of wire spanning the continent?

"They also serve who only

stand and wait." The Bell Telephone is your servant even while it "only stands and waits." The whole system is always prepared and ready for your instant command.

Every wire and switch-board and telephone instrument is kept alive and responsive by an army of telephone workers.

Each one has his special part to do and, because he does it faithfully, countless messages speed throughout the length and breadth of the land, at every minute of the day and night.



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A PLAY IN 3 ACTS

"The 3 Free Black Shells"

1st Act—Take one Black Shell and test the lightning primer. A strong primer means complete burning of the powder.

2nd Act—Use the second free shell to test penetration, velocity and shot pattern—killing power.

3rd Act—With the third free shell test the waterproofing—your assurance that rain won't spoil your hunt.

For the 3 free Black Shells and a booklet describing the tests in detail, simply do this: Write your name and address with that of your ammunition dealer on the border of this advertisement, tear it out and send to us. We will return immediately to you an order on your dealer for the free shells and information booklet.

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NOW READY!

My new 100-page fall bargain book just off the press and ready to mail! Also the second edition of my big 250-page 1916 catalog!

A postal gets your copies today. These books describe the famous Galloway Separator, the Galloway Gasoline and Kerosene Engines, the new modern Galloway Mowers, Spreaders, our New 1917 12-20 H. P. Tractor, all kinds of farm machinery, mailbags, cutters, power house accessories, grinders, buggies, wagons, harness, fencing, roofing, saddles, automobiles, stock tanks, auto accessories, sewing machines, household goods, carpets, furniture, complete line of clothing for every member of the family. Write now! Save \$200 to \$500 on fall buying!

WM. GALLOWAY COMPANY
187 Galloway St., Waterloo, Iowa

FOR SALE: Grocery stock to include voice about \$1000. Fixtures including 1 Ford delivery car, \$500. Building with six nice living rooms, cheap rent, good business of \$15 per day. Good reason for selling. Box M-923, Michigan Farmer, Detroit, Michigan.

WANTED: Experienced and capable farm foreman, single preferred. A worker and able and willing to do things necessary about the farm. Box S. 923, In care of Michigan Farmer, Detroit, Mich.

WHEAT No. 1 Red Champion, the wonder wheat from the east, guaranteed to increase your yields. For prices and samples write W. J. MERRIAM, Almont, Michigan.

FOR SALE Good early eating potatoes \$1.50 per bu. F. O. B. (in sacks) Manton, Mich. John V. Harrison, Manton, Wexford Co., Michigan.

A Razor Snap

A new lot of fine quality imported Razors at 40 cents while the supply lasts, is now offered by the Michigan Farmer.

The razors are made of the best cutlery steel, five-eighth-inch blade, and black handle. We will not say just what these razors ordinarily retail at, as prices on razors vary with each dealer, but we have seen razors no better sold at \$1.25 and \$1.50.

So, only while our present supply lasts the price is 40 cents each, postpaid, or a half-dozen at \$2.00, postpaid. Address all orders to the Michigan Farmer, Detroit, Mich.

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A statue in low relief modeled after the great painting by Leonardo Da Vinci. It expresses with wonderful fidelity the real character and significance of that memorable hour when the Savior proclaimed to His assembled disciples, "Verily I say unto you, this night one of you shall betray me." It is far more beautiful, natural, and life like than a picture and deserves a warm welcome in every Christian home. Modeled in Plaster, or Italian Marble. Size 7 1/2 x 14 inches. Prices: Plaster, Ivory finished \$1.00, Italian Marble, \$1.50. Carriage charges prepaid anywhere in U. S. Edward A. Hamilton, 750 Vinewood Ave., Detroit, Mich.

The Co(r)nfab

By AUNT QUILLA

ONE evening just after the blades of corn had outgrown the size of "squirrels' ears," two boys who had been looking the field over and planning about going through it with a cultivator, found Aunt Augusta reading on the porch.

"Oh, please put up your book," said Bob, "and tell us a story about old times."

"I believe what I have been reading will suit you better than a personal story," said she. "It is from 'Home Life in Colonial Days,' and the times it speaks of are older than I can recall. Quite a good deal of it I remember and the chapters I have just finished are just what I think will interest corn-club boys."

"Well now," said Harry, "that seems to be just the thing. Go on. We are ready to listen."

"Unlike the apple, corn is associated with the first experience of the colonist on these western shores. Long before any white man had set his foot upon them it might have been seen growing on the coast of Massachusetts or by the rivers of Virginia."

"More than 300 years ago the Indians planted it in hills with pumpkin vines between them as you see it growing today. The hills, however, were somewhat nearer together as the soil was yet new and more fertile than now."

"The Indians not only taught the white men how to plant and raise it, but showed them how to grind and cook it in many palatable ways. The various dishes made of Indian corn are all cooked today much as the Indians cooked them and are called by the same names, such as hominy, pone, samp, and succotash. As for the last, it seems that the white people added beans to the corn. They also quickly learned to like 'roasting ears,' of which the Indians were so fond. They made corn meal by steeping or parboiling the corn in water for twelve hours and then pounding it in a mortar fashioned from a hollowed stone. Samp was often pounded in a hollow block of wood or the stump of a tree which had been cut off about three feet from the ground. The pestle was a heavy block of wood made to fit the hollow in the stump and this was fastened to the top of a sapling which was bent over and allowed to spring back after pounding the corn. This was called a sweep-and-mortar mill and was used in Long Island long after being abandoned elsewhere. It is said that the sailors could tell in a fog when they had reached the Long Island coast by the pounding of the samp mortars."

Two pioneer women of New Hampshire whose cabins were separated by a deep ravine and thicket, and who found the blazed path around a long distance to go, used to signal to each other every day by pounding on their mortars. Their signs were so well understood that one of them was the first to be on the ground one spring morning to welcome the other's fine twin babies.

Rude hand-mills were next used which were called querns and these were followed by wind-mills of which the Indians were afraid, thinking some evil spirit turned their arms. As soon as corn became plentiful English mills were started in many towns.

There was great profit to the early colonist in raising corn, for the Indians always ate theirs as soon as possible and then had to go out and trap beavers in the woods to get skirts which they bartered to colonists for corn to keep them from starving. One colonist planted about eight bushels of seed corn from which he raised 860 bushels which he sold to the Indians for beaver skins, making a profit of \$1600.

Many games were played with kernels of corn, such as fox-and-geese, checkers, and others. One year in Massachusetts Bay Colony they were used as ballots in voting—a kernel of



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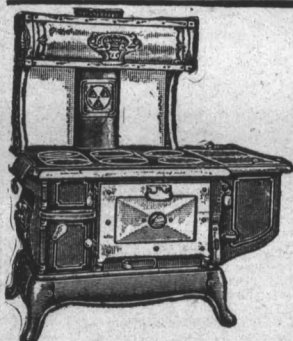
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Northern Crown Hairy Vetch Seed. DORR D. BUELL, Elmira, Michigan.

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Wanted Farm Foreman, Suburban residence near Birmingham, must be experienced in general farming, and furnish references. Married man without children preferred. Write H. W. Standart, Birmingham, Mich.

corn signifying a favorable vote, while a bean stood for an unfavorable one.

It was the work of boys in the winter evenings to shell corn by the fire-light. This was done by drawing the ears across the sharp edge of a shovel, or sometimes the edge of a long-handled frying pan placed across a tub, or by the edge of a knife blade set in a piece of wood across the back of which the corn was scraped.

Corn huskings were one of the few social functions the colonists allowed themselves.

WHITE SISTER OF THE PIONEER PATH.

(Continued from page 274).

any more that day, but he appeared satisfied by her presence, with occasional glimpses of Comfort through his open door. The next morning, however, the wife told her story in detail, for Mr. Hamilton recovered almost as rapidly as he had been stricken, as did many of the cholera patients who were not overcome by fright.

"I knew that you were wounded in the fight, Joshua, and I hoped that you would be among the hospital prisoners exchanged. We were told that there was to be peace soon, and so were unprepared for what happened. All of the British soldiers were withdrawn, and then a large band of Indians returned and began a terrible slaughter. I cannot describe it. Even after nearly twenty years the horror of it affects me so that I try not to think of what I saw done to women and children; aye, and to strong men, too. At the time, but for Comfort I think I should have lost my reason.

"In the midst of all this killing, I was captured, but for no reason that I could see, my life was spared. Then followed days of which I have small recollection, so great was my mental anguish, except that we were always on the move. One day we approached a town. Hope grew in my bosom when I learned that it was Detroit—I thought that I should be set free. I never dreamed that British soldiers would allow white women to be offered for sale in the market place like cattle. They called it ransom, and my heart failed me, for how should you, with your wounds, be there?

"Some of the prisoners were ransomed by their friends, some by humane persons, others by men more to be feared than the savages. A man who looked at my babe and me pityingly, offered all the money he had by him for us, but my captors did not deem it enough. He went away saying that he would return at once with more, but the Indians left the place as soon as he had gone. Perhaps they feared him in some way, for they were very greedy, and would do almost anything for money or whiskey. It was a bitter disappointment—the worse that I had not found some way to give him my name so that you might be able to trace me."

"A rumor which may have come from this man told of a woman and child answering to your description having been offered for ransom. It was all I had to keep hope alive," Mr. Hamilton declared.

"We spent the winter in the country of La Mer Douce (Lake Huron), but when spring came, we started south, and again my hopes arose. One morning I discovered that we had changed our course; we were going west rather more than south. I was distracted by the discovery, and decided to attempt an escape. I slipped away at night, and for a week I eluded them. Then my provisions became exhausted, and I had seen no settler's cabin, though I walked as far each night as I could carry my baby. At last, rather than starve, I threw myself on the mercy of a band of Indians whom I encountered. They were good to me, but alas, they were on their way to a great feast, the same as that which the band who had held me captive were attending. Of course, my captors claimed me, and as a punishment gave my babe to a young

squaw who was mourning the death of her first-born. She promised to be good to the child, and if possible get her to me again. She had been a convert to the priest's teaching in her youth, but had left civilization to return to her tribe. When her baby died she had asked me to repeat prayers for the little one's soul, and in this, and other ways I had been able to comfort her. I gave her a strip of linen with our child's name worked upon it, and begged her to get Comfort to Detroit if she could. Then I bent every energy toward getting there myself; it was all that saved me from madness. She was good to you, Comfort?"

"Oweena? Yes, though she bore many sons, and I was only a girl, she gave me all the love I have ever known until now."

"Thank God for it. Our band now went north, and for a few years remained in the vicinity of Sault Ste. Marie. From there each year some of the chiefs made their way to Malden to consult with the British authorities, for they held the American government in contempt, and hoped to see their old allies once more in power. From an old chief, whose word I could trust, I learned that you, Joshua, had never reached the British headquarters; that you were reported as having died of your wounds soon after reaching Canada.

"One summer, the seventh after my capture, there was a great council of Indians at the Sault to confer with Governor Cass. As usual, the squaws were left some distance from the town; I, of course, remaining with them, but their restraint was slight, for they no longer thought that I cared to escape. I was watching for a chance however. One morning two priests went past, going from the town. All that day and the next I waited for their return, and when they appeared I slipped away and joined them some distance from our camp. They took me to the town, but the governor had gone; so I could not claim his protection, nor aid in getting to Detroit. The Indians made no protest against my leaving them, for the war was over, and they were no longer allowed to bring in captives for ransom.

"The priests gave me employment in their school until there should be a way for me to make the long journey to Detroit. Also, they wrote to their brothers there asking if any child answering to Comfort's description had ever been brought to the authorities. The answer came back that there had not. With that hope gone, I remained at the Sault, teaching and nursing for the good fathers who helped me."

"How, then, did you finally come here?" asked her husband.

"It must have been that God led me. A short time ago one of the fathers became very ill. He was old, and wished to visit St. Anne's church that he might receive its last sacraments, and be buried on its consecrated ground. His old sister, a nun, begged me to accompany them. We made the long tedious journey; and he lived to receive the blessing he longed for—a truly Godly man he was. When the nun wished to return, I had become engaged in this work of nursing, and felt that I was too much needed here to accompany her. That is all."

Comfort's story, which had been told to her mother previously, tallied so exactly with the older woman's that there was not the slightest doubt but that she was the Hamilton's own child. The next morning, in spite of protests from all, Tom took his departure with his oxen. He spent an hour with Comfort in the garden.

"I like it not, that you go so soon," she said wistfully. "I know I shall grow to love my parents dearly, but now they are strange to me; while you—"

"You have known me but three or four days longer than you have them," Tom replied teasingly.

"Is that all?" she asked naively. "They are so wrapped up in each other

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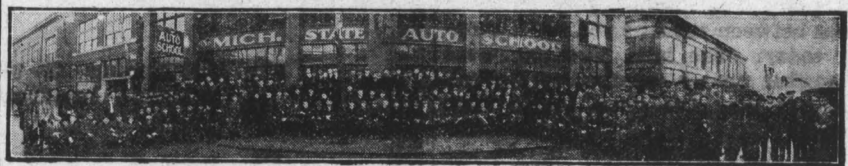
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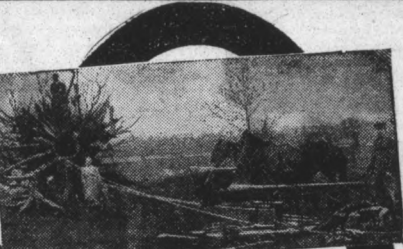
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White and Brown Ferrets for sale. Prices free. Also ferret muzzles. 25c each. BERT EWELL, Wellington, Ohio.

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that I am an outsider, and I am not with you."

Tom plowed all the land that he could, and all that he plowed he sowed to wheat. Mr. Atkin, and others of his neighbors, though they loaned him seed, protested that there would be no market. But Tom reasoned that there would be a rush of settlers in the spring, for Michigan had all but been made a state, and there would be bread wanted, as well as wheat for seed.

During the winter he trapped as he had planned, and during his spare time he improved his cabin to make it fit for a bride. In the spring he took his furs to the market, and had the satisfaction of paying his debt to Chandler, and of buying some much needed supplies. His rations had been rather scanty during the winter, for he had used for seed all the wheat that was to have been his bread, and had lived largely upon game and fish. He spent a couple of days with the Hamiltons, when the slight antagonism that had once existed between himself and the older man completely disappeared. Both Comfort's parents seemed glad to have her become his wife.

The maid looked quite strange to him in her frock of home-spun linen, though she had really altered little. She shyly informed him that she was learning to read and write, as well as to knit and cook.

"That you may not be ashamed of me."

"That you may write me a letter, rather."

Wabenito, he told her, had been taken by his people. Many years later, he and an older brother became occupants of a reservation not far from Long Lake, and were frequent visitors at the Fletcher home.

Later in the summer, Tom and Comfort were wed. Tom's foresight had proved correct. He repaid the seed he had borrowed, and sold much to his new neighbors, and that at a price which put him on the road to prosperity. The cabin was made ready by Mistress Atkin and himself, and on a year from the day that Tom first met the little adopted daughter of the Ojibwas, he brought her to Ginsagaigan as his bride. Again they made the trip in a cart, the cart this time drawn by a pair of ponies, a gift from Mr. Hamilton, and full of the bride's plenishings. Again they spent two days upon the road, and arrived at their journey's end near the setting of the sun.

No happier pair ever stood upon its banks, and gazed across the waters of Long Lake. It glimmered and danced in the evening sun, it seemed laughing with joy at the addition of another family to the community of which it was the heart. Mayhap the shouts of children would soon resound across its bosom.

"Ginsagaigan welcomes us," said Comfort contentedly.

"To be sure it does; for have you not heard that it loves the white people? Once an Indian chief was drowned here, and he feared it was as a punishment for having slain the whites in battle. So just as he was sinking he called upon the Great Manitou to bless the waters that from that time forth no white man should ever drown in their depths until white man himself shall break the spell."

"It will be good to live here then—here by Ginsagaigan."

GOING TO JERUSALEM.

BY L. M. THORNTON.

Provide one less chair than there are players and put them in two lines with their backs together. Let someone play a march, all the players marching around the chairs. Suddenly the music ceases and each player tries to secure a chair. One must, however, fail to do so and he stands aside while the others go on with the game after removing a chair. The game continues until there are only two players and one chair left, the one securing this being the winner of the game.

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Are you interested in proof—the kind of proof that is based on actual performance? Then, consider the recent mountain-climbing record established by a Paige "Fairfield Six-46" at Mount Hood, Oregon, on July tenth.

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There never was a more terrific battle in the annals of mountain climbing. At times, the "Fairfield" was completely sheathed in ice, and, when it finally came to a halt, that stout-hearted champion was resting on a sixty per cent grade.

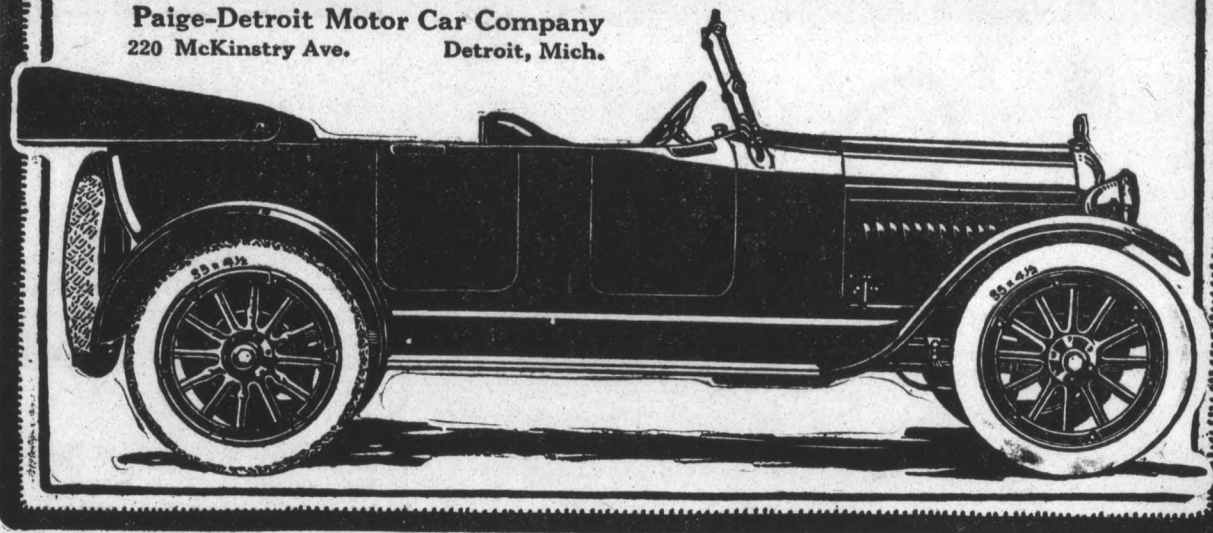
Impossible, you say. Then, please consult the official records as published in every newspaper on the coast. And a little bit later, perhaps, you may have an opportunity to actually witness this thrilling climb on the screen at your favorite moving picture theatre.

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DUROC Jerseys. Some yearling & Spring boars good enough to head your herd. Will sell Eureka Cherry King 67146. Ask about him. W. C. Taylor, Milan, Mich.

DUROC Jerseys—Fall and Spring pigs either sex, from choice strains. S. C. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.

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

DUROC Jerseys. Apr. pigs either sex, boars ready for service and a few bred sows for Sept. and Oct. Some Holstein sows bred for fall. E. H. Morris, Monroe, Mich.

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

DUROC Jerseys I have some good last September Boars and gilts. Gilts will be bred for September farrow. H. G. Kessler, R. No. 5, Cassopolis, Michigan

Dobson's Durocs Combined, size, quality, breeding. Hord boars, spring boars, spring sows for sale. Otto L. Dobson, Quincy, Michigan.

DUROC Jerseys Gilts of the large heavy boned type bred to a Son of Orion Cherry King the greatest boar of his breed. Bred for early Sept. farrow. F. J. DRODT, R. 1, Monroe, Michigan

DUROC Jersey Spring and Summer Boars and Gilts, Ohio Chief breeding \$10 to \$25. NEWTON BARNHART, St. Johns, Mich.

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

CHESTER WHITES Sows bred for Sept. farrow, spring pigs in pairs, not akin. F. W. ALEXANDER, Vassar, Mich.

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

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



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O. I. C. Swine—A nice lot of spring pigs. Write your wants. Meadow View Stock Farm, Holland, Michigan. R. R. No. 5.

O. I. C. October boars weighing 200 lbs. at \$25 each for April shipment. C. J. THOMPSON, Rockford, Michigan.

O. I. C. Swine. If you are in the market for a Spring boar, of April farrow write to Danville, Mich.

400 Big Type O. I. C. and Chester White Pigs From Feb. Mar. and Apr. farrow sired by the five best boars in the state. School Master 52707 who won more champions, defeated more champions than any boar show 1915. Abo 2nd, sire to our undefeated breeders young herd at 7 state fairs, Allen junior champion at Wis. State fair 1914, and Captain Jim 83161, under 6 months boar and junior champion at every state fair show 1915. Then we have Le Dour model 29015, first in class at Sioux City, Iowa, 1914. Get our catalogue, its free. We Register Free; Guarantee satisfaction in every way.

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O. I. C. and Chester White Swine, Spring pigs, of kin. E. B. MILETT, Fowlerville, Michigan.

O. I. C. SWINE: If you are interested in O. I. C's, let me start you with a choice pair or trio, not akin, or a gilt, due to farrow about September first. A. J. GORDEN, R. No. 2, Dorr, Mich.

O. I. C's Pairs and Trios no akin. 2 Reg. Holstein bulls 6 and 8 months old. Cloverleaf Stock Farm, Monroe, Mich., R. No. 1.

O. I. C. Choice Gilts bred for fall Farrow and Spring Pigs. Prize Winning Stock. Write for low price. A. V. HATT, Grass Lake, Michigan.

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

O. I. C's 4 last fall sows to farrow in Sept. and Oct. 5 last fall boars, big strong growthy ones, last spring pigs not akin. Good stock, order now. Farm 1/4 mile west of depot. Otto B. Schulze, Nashville, Mich.

O. I. C's. Yearling boars; bred sows and July pigs of A. No. 1A quality at reasonable prices. Write me. H. F. BAKER, Cheboygan, Mich.

AT HALF PRICE Genuine big type Poland China Hogs, Bred Sows, Spring Pigs, Boars ready for Service. Special, the best big type fall yearling boar in Michigan. Also registered Percheron Stallions and Mares. J. C. BUTLER, Portland, Mich., Bell Phone.

Large Strain P. C.—Two nice fall boars left, a few gilts to farrow in Aug., Sept. and Oct., get one of these sows with pigs by side. H. O. SWARTZ, Schoolcraft, Michigan.

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

(Additional Stock Ads on page 283).

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Don't get discouraged when the children come racing in with dollar-sized holes in their stockings. Let them wear Durable Durham Hosiery and you will not live in terror of the holes. It is made strongest where the wear is hardest. The knees are triple strength and the heels, soles and toes are heavily reinforced. Mothers, everywhere, are doing less darning, because

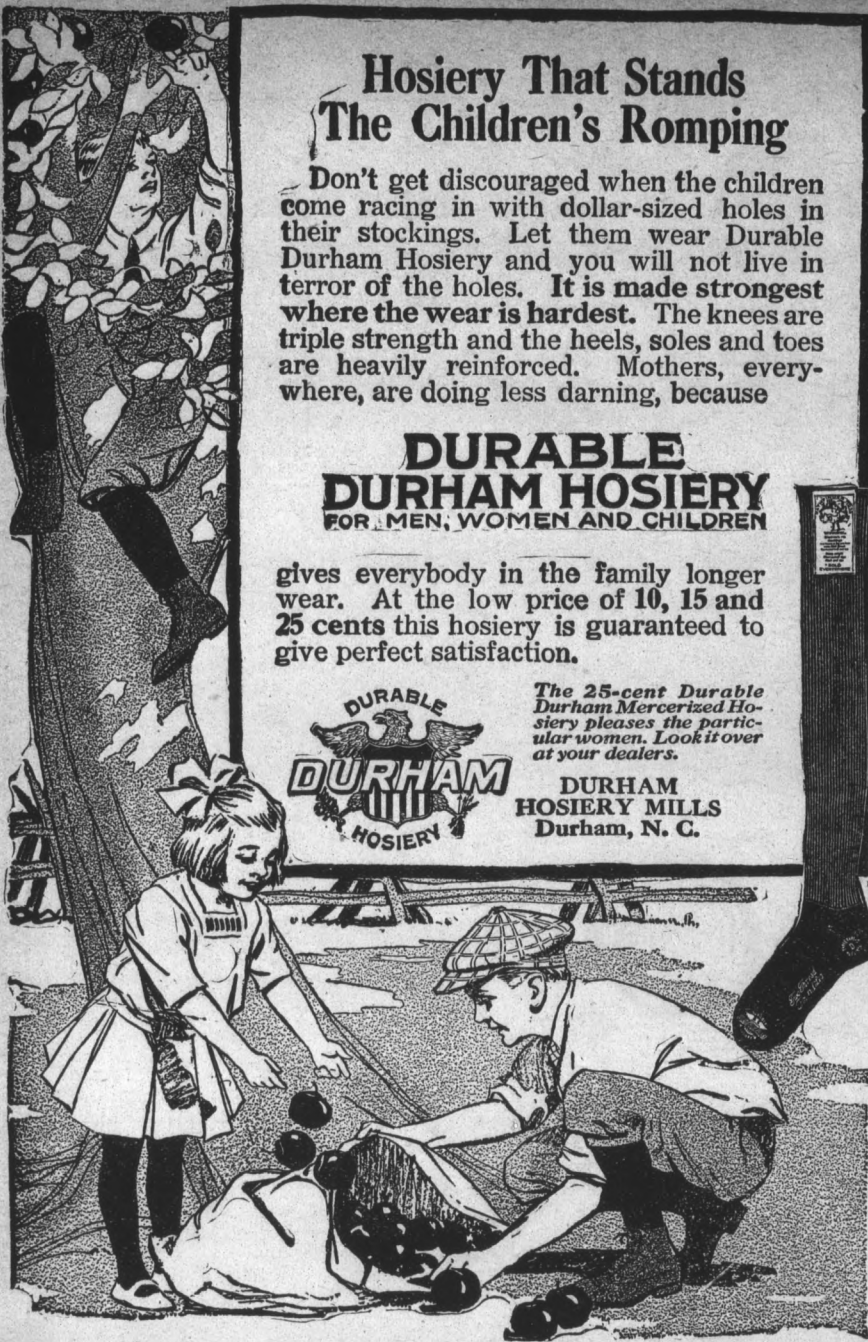
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Woman and Her Needs

Modern Preserving Utensils

By M. A. L.

THE cold pack process of canning has come to stay. Though involving a little more time and labor than the old method of stewing and canning in piping hot jars, the superior results obtained have won the housewife to this new method of storing her fruits and vegetables. Quick to recognize the needs of the new methods the manufacturers are placing on the market utensils which will greatly lessen the labor of the work.

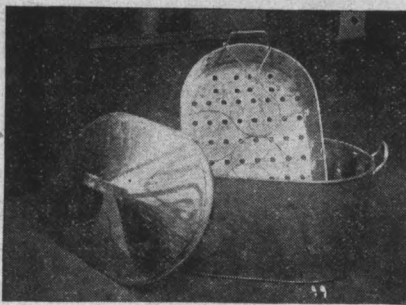
Of course, there are the large canning outfits for those who can for the market. And there is the good, old, family wash boiler, with a perforated

vinegar, or in dipping fruit from the syrup to put in the cans when preserving.

THE SCHOOL LUNCH.

The following suggested menus for the school lunch basket, prepared by the Department of Agriculture, give the child, as nearly as is practicable in such a meal, the proper proportions of the different classes of foods:

1. Sandwiches with sliced tender meat for filling; baked apples, cookies or a few lumps of sugar.
2. Slices of meat loaf or bean loaf; bread-and-butter sandwiches; stewed fruit; small frosted cake.
3. Crisp rolls, hollowed out and filled with chopped meat or fish, moistened and seasoned, or mixed with salad dressing; orange, apple, a mixture of sliced fruits, or berries; cake.
4. Lettuce or celery sandwiches; cup custard, jelly sandwiches.
5. Cottage cheese and chopped green-pepper sandwiches, or a pot of cream cheese with bread-and-butter sandwiches; peanut sandwiches, fruit; cake.
6. Hard-boiled eggs; crisp baking-powder biscuits; celery or radishes, brown-sugar or maple-sugar sandwiches.
7. Bottle of milk; thin corn bread and butter; dates, apple.
8. Raisin or nut bread with butter; cheese; orange; maple sugar.
9. Baked bean and lettuce sand-

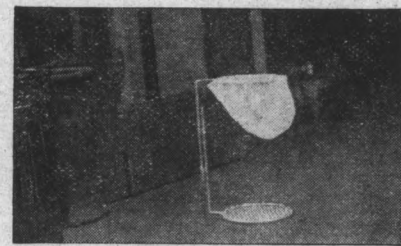


Combination Boiler and Preserver.

board in the bottom, or perhaps with folded newspapers or a pad of hay, anything to keep the jars from touching the bottom of the boiler. But for the housewife who does things on a small scale there are two or three small canning outfits on the market which fill a long felt want.

One of these is known as the "Handy Preserver." It is a small tin boiler, shaped exactly like a clothes boiler, with a heavy wire rack inside fitted to hold six cans. There is a tight-fitting cover, of course, and the whole thing sells for \$2.00. When not needed for preserving the little boiler could be used to boil the few napkins and pieces of table linen or dish towels which we often need to wash between regular wash days, and so the thrifty housewife need not feel she has bought a utensil to be used only occasionally.

More expensive, but more practical



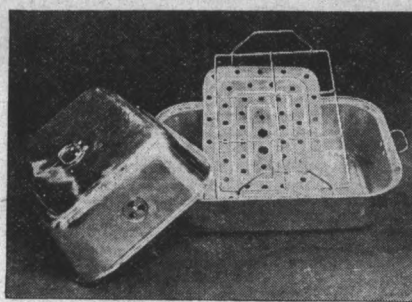
Jelly Bag Holder.

wiches; apple sauce; sweet chocolate. Taking milk to school in the warm weather would be impracticable unless means were provided for keeping it chilled until it is consumed.

The school lunch container, the specialists point out, should permit ventilation, exclude flies, and should be of a material which permits thorough washing in boiling water. If glasses, paper cups or spoons are provided, the child should be warned against letting other children use them. The child should be encouraged to wash his hands before each meal, and for this reason paper towels, paper napkins or clean cloths should be provided. Food that does not require ventilation should be carefully wrapped in paraffin paper, and the soft or liquid foods should be packed either in jelly glasses, screw-top jars, or paper cups.

It is, of course, very good for the child to have at least one warm dish at noon—a vegetable milk sour, vegetable or fish chowder, meat and vegetable stew, or a cup of cocoa. These things are easily prepared on ordinary stoves with ordinary utensils in a school where interested mothers or teachers agree to do the cooking and serving and where dishes and spoons are available. Almost any school, however, could by co-operative arrangement with the parents see that the children get a cup of good milk at noon.

Soft fruits, such as berries, which are difficult to carry in lunch baskets also might be prepared at school. Where these dishes are provided at school (the meat or milk dish and the fruit) the lunch basket would omit the meat dishes, and provide merely bread



Combination Roaster and Preserver.

because they last a life time, are the preservers made of aluminum. These are really roasting pans fitted with the wire rack and so they, too, fulfill a double mission. Indeed, their mission is three-fold, for they can be used as steamer as well as roaster and preserver. They come in two sizes, the larger selling at \$5.25 and the smaller at \$4.60.

Jelly bag holders are of heavy wire, a strong muslin bag fitting in the hoop which is suspended from a standard. They sell at 40 cents and 75 cents, according to size. Another aid in making jelly is a dipper with a strainer bottom. This is good in skimming the boiling juice as the pure juice runs back into the kettle while the thick scum remains in the dipper. These dippers and strainers combined are of aluminum and sell for 20 cents. They are of great aid in making pickles which must be taken out of the boiling

and butter or crackers and cake.

Because ordinary vegetables, such as potatoes, greens, lettuce, green peas, and beans, asparagus, and others, and the ordinary fruits do not contain much fat or protein, their value in the child's diet is frequently underestimated. These things, however, should be considered a necessary part of the diet of the child for the very important reason that they furnish mineral and other materials required to form bone and tissue as well as to repair waste and supply some energy. Green vegetables are valuable particularly because they contain iron in forms which the body can utilize. Fruits contain a considerable percentage of sugar, especially when they are dried, and sugar is a quickly-absorbed fuel food. As things eaten raw transmit disease germs, care should be taken to wash vegetables and fruits thoroughly in several waters. Many fruits, especially those with skins, can be dipped safely into boiling water, while those with thick skins, such as oranges, bananas, and apples, may be safely washed, even with soap. Dried fruits when washed and put into an oven to dry, absorb some of the water, and thus are softened and improved in taste.

Sugar, as has been said, is a quickly absorbed fuel food and simple sweets have their place in the diet of all children. If not served between meals or at times when they destroy the appetite for other needed foods, there is no objection to them. They may be served in the form of cake, not rich enough to be classed as pastry, cookies, sweet chocolate, simple candy, honey, dried or preserved fruits, maple sugar and loaf sugar. In general, fruits, fresh, baked, stewed or raw, and simple sweets, are much better desserts for children than rich pastry.

USES FOR BORAX.

BY CHARLOTTE BIRD.

To Stiffen Starch.—In making starch to each quart of the cooked starch add a teaspoonful of powdered borax. This may be dissolved with the dry starch. The borax thus used, not only adds to the stiffness of the starch, but it will keep the iron from sticking.

To Keep Moths Away.—Borax is considered by some housekeepers to be the most efficient means to keep and drive moths away. If a woolen carpet or garment is to be packed away for some time, first clean and air it. Then sprinkle plentifully with borax, roll or fold up and put away. If borax is mixed with cayenne pepper, it will keep away rats and mice as well as moths.

In the Rinsing Water.—In the rinse water a heaping tablespoonful of borax will whiten clothes. If they are badly stained, add three tablespoonfuls of hydrogen peroxide. Borax will set the colors in colored clothes. It will prevent the red in tablecloths from fading. In this case use no soap and hang on the line without wringing. In the rinse water it will also restore the gloss to saten.

For Cleansing the Person.—Borax is an excellent addition to the bath water. It is very cleansing when added to the water in which the hair is to be washed. If a solution is made of one part borax to three parts of sugar and used as a mouth wash, it will relieve canker. It makes a good gargle also for sore throat.

For Cleansing Clothes.—Borax is an excellent means for cleansing woolen goods or dainty silk or cottons. For white or light-colored goods, mix borax and corn meal, half and half, and sprinkle over the soiled articles, roll up lightly and let lie for two or three days. Then shake out and the articles will be fresh and clean. If it is desired, one may now press them and they will look almost as if new. This is an excellent method of cleaning window curtains with delicate colors in them.

Borax as Medicine.—One teaspoonful of borax in a quart of boiling water

makes an excellent wash for erysipelas. It should be applied with absorbent cotton and allowed to remain on the parts affected. Borax is an excellent antiseptic for wounds and sores. One teaspoonful of borax and one of cooking soda, dissolved in warm water, is good to snuff up into the head for catarrh.

PUT YOUR CLOTHESLINE ON PULLEYS.

BY L. L. DE BRA.

Just because we can do certain things we thoughtlessly keep doing them for generation after generation; and, suddenly, necessity makes us stop and think—and lo, behold, we see at once a way that would have been much better all the time.

Just because we can walk on the ground and drag a basketful of wet clothes back and forth along the clothesline, we keep doing it. Our city cousins who live in little boxes high above the ground have to put their clotheslines on pulleys and stretch them across dizzy spaces between the high buildings. Suddenly we realize, then, that a line on pulleys is a great labor saver and will work just as well for people who can walk on the ground and hang clothes.

Our line extends from inside the washroom to a high post in the back yard. The basket, into which the clothes drop from the wringer, sits near a bench just beneath the line. This bench is just high enough that we do not have to bend over to reach the clothes to be hung. Nor do we have to go from the washroom into the cold wind or hot sun to hang clothes. When the clothes are dry they can be taken in without leaving the washroom, or touching a basket.

We have a clothespin box handy near the line in the washroom. As we take the clothes in, we drop the pins back into the box. The pins are always there and always clean.

By hanging the light clothes first we have them dry by the time the heavy ones are ready to be hung and thus we get along with one line. Better have two short ones, however, than one that is so long it takes all one's strength to pull the lineful of wet clothes. Also, get large pulleys. The small ones bend the wire so that it is a hard pull. We have found that two large pulleys, kept oiled, and a rope make an ideal clothesline. The line must be well off the ground for with the pulley line it is not convenient to use poles. The line should be high enough so that when full the clothes will not touch the ground.

Try the endless line. It will put an end to one of the worst jobs of wash day.

SHORT CUTS TO HOUSEKEEPING.

Why not save old rags to sell to the rag man? The rag supply from Europe has been cut off to such an extent since the war that the American paper industry is threatened with famine. Why not let the children have the rag money to begin a little bank account of their own?—M. A. P.

For Lamp or Lantern Chimneys.—If powdered borax is put on an old cloth with which lantern and lamp chimneys are cleaned, they may be cleaned without water and with less danger of breaking.

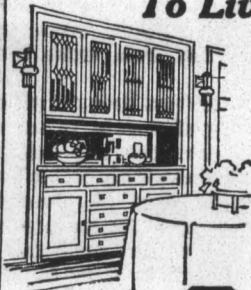
HOME QUERIES.

Some years ago there was a recipe for laying down whole ripe tomatoes in a jar, and I cannot find the recipe and do not just remember how it went, and as I have the outlook for a large crop of tomatoes, would like to try some of them down this way. Kindly send me the recipe or publish it in the columns of The Farmer.—W. F. B., Holly.

We are unable to find such a recipe in our files. Can any reader furnish it?—Ed.



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Much of the satisfaction and pride you will take in it will depend on the kind of woodwork you select. Poor, cheap and carelessly made woodwork means rattling windows, warped doors, yawning cracks. Better build right. Get woodwork that carries a known trademark on every piece.

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The Company has a large active agency force who makes a specialty of writing the careful and temperate drivers. No insurance is taken in the cities of Detroit and Grand Rapids.

This Company is on its second year of successful operation, and was started at the right time, having the first pick of the careful automobile owners of the State. The low cost of insurance is due largely to the fact that it has a large membership with one overhead expense and one office force.

The policy is liberal, covering fire and theft in excess of \$25 up to \$1,000, and liability in excess of \$25 up to \$5,000.

Nearly every part of the state is represented in this Company, and all of the leading salesmen for automobiles are greatly interested in the success of the Company, as they feel that the low cost of insurance helps the sale of automobiles.

The Company is now equipped to meet all claims, and in addition to paying all of their expenses during the past year, have accumulated a surplus of about \$25,000. It seems that this Company is now fully developed, and the majority of farmers and business men have their new cars insured, which helps its continued growth.

The cost is only \$1.00 for policy and 25c per H. P., which is the cheapest known at this time. Many people owning new cars are continually writing for insurance in the Citizens' Mutual Automobile Insurance Co., of Howell, Mich.

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Our Fruit Growers Handicapped

THE railways are discouraging Michigan growers from supplying the largest market in the state with fruit. It is cheaper, for instance, to ship fruit from Illinois and New York state to the city of Detroit than from points in our own western shore fruit belt. It costs 44 cents per barrel to get fruit from Benton Harbor to Detroit, whereas the southern Illinois grower can lay a barrel of fruit down in the Michigan metropolis for 25 cents. Grape growers in the western New York grape district ship their fruit here for six cents less per hundred pounds than the Michigan grower can deliver his product for, yet it takes two and a half days to cover the trip from the Empire State, while twelve hours brings the fruit from Berrien county.

This condition was brought about by the re-checking of freight rates in October, 1914, when the railroads were allowed to advance their rates by substituting tariffs based on percentages of class rates for commodity rates. While the inequalities resulting from this change began to show in 1914, it was not until last year that the fruit growers and shippers felt the full effect of the new rates. The Michigan Railroad Commission has now ordered the railroads to cut their rates on shipments of fruit in intra-state commerce. The railroads are given thirty days in which to make the correction. Should the transportation companies fail to do this, the commission will fix the rates.

The new rates will not be effective until after the first of October, which will force a considerable bulk of this year's crop to be handled under the high rates now prevailing. It will be possible, however, for our apple growers to meet outside competition during the latter part of the season. It is certainly discouraging when consumers living in a state where fruit of the highest quality is produced are obliged to go outside for their fruit supplies. It is to be hoped that the re-adjustment of railway tariffs will not only regain to Michigan growers their home markets which have been partly lost through this unjust competition, but

will enable them to secure a larger business in these markets than they have ever had before.

Standard Measures

STANDARDS for climax baskets for grapes, other fruits and vegetables, and other types of baskets and containers used for small fruits, berries and vegetables in interstate commerce are fixed by a federal law which will become effective November 1, 1917.

The effect of the act will be to require the use of the standards in manufacturing, sale, or shipment for all interstate commerce, whether the containers are filled or unfilled. A large part of the traffic in fruits and vegetables in this country enters interstate commerce. The law relates only to the containers and will not affect local regulations in regard to heaped measure or other method of filling. A special exemption from the operations of the law is made for all containers manufactured, sold, or shipped, when intended for export to foreign countries, and when such containers accord with the specifications of the foreign purchasers or comply with the laws of the country to which shipment is destined.

Standards of three capacities are fixed for climax baskets, two, four and twelve quarts, dry measure. These containers, often known as "grape baskets," have relatively narrow, flat bottoms, rounded at each end, and thin sides flaring slightly from the perpendicular. The handle is hooped over at the middle from side to side. In addition to fixing the capacities of these standard baskets of this type, the law also prescribes their dimensions.

The other standards are for "baskets or other containers for small fruits, berries and vegetables." They are to have capacities only of one-half pint, one pint, one quart, or multiples of one quart, dry measure. Such containers may be of any shape so long as their capacities accurately accord with the standard requirements.

The examination and test of contain-

ers to determine whether they comply with the provisions of the act are made duties of the Department of Agriculture. The Secretary of Agriculture is empowered to establish and promulgate rules and regulations allowing such reasonable tolerances and variations as may be found necessary.

Penalties are provided by the act for the manufacture for shipment, sale for shipment, or shipment in interstate commerce of climax baskets, and containers for small fruits, berries, and vegetables not in accord with the standards. It is provided, however, "that no dealer shall be prosecuted under the provisions of this act when he can establish a guaranty signed by the manufacturer, wholesaler, jobber, or other party residing within the United States from which such climax baskets, baskets, or other containers, as defined in this act, were purchased, to the effect that said Climax baskets, baskets, or other containers are correct within the meaning of this act. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of climax baskets, baskets, or other containers, to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach in due course to the dealer under the provisions of this act."

BETTER MILK PRICES AT FLINT.

The following table gives the prices offered by one dealer to producers for 3.50 per cent milk for consumption in the city of Flint:

January	\$2.10
February	2.10
March	1.85
April	1.75
May	1.60
June	1.60
July	1.75
August	1.80
September	1.80
October	1.90
November	2.10
December	2.10

UNLOAD SURPLUS HENS DURING HOT WEATHER.

Next in importance to "Death or Captivity to the Rooster," the summer-time slogan of the poultryman should be: "To Market with the Old Hens." For certainly the non-producers have no place in the scheme of things in an up-to-date poultry plant.

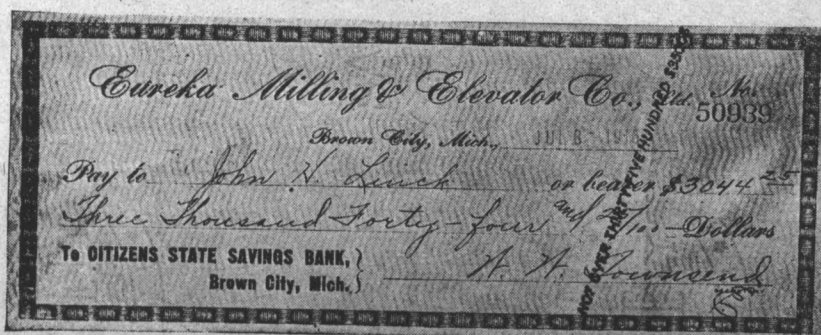
Hens over two years old begin to decline in producing power. They rarely lay as many eggs as in their pullet and yearling stages. Providing that they have been marked with a toe punch in the days of their youth detection of the aged "matrons" will be a comparatively easy matter.

Before the old hens, the surplus young stock and the male birds are sent away to market, they should be kept in a small pen for at least two weeks to increase their weight. A suitable ration for this period consists of three parts corn meal, one part middlings or low-grade flour and one part bran, with enough skim-milk added to make a crumbly mash. The owner should never forget to provide fattening fowls with plenty of pure water during the warm days. Feed all the birds will eat twice a day and allow access to a supply of cracked corn.

Lambs are comprising the principal share of the receipts daily in the sheep division of the Chicago stock yards, and as the range shipments are mainly of a much better grade than the native lambs, they sell much higher as a general rule. Prices are ruling extraordinarily high whether they happen to be up or down at the moment, with a serious reduction in the lamb crop of the country this year and a large demand. Of course, extremely high prices for feeding lambs furnished by the distant ranges are inevitable at such a period, and the supply available is not one-fourth enough to meet the present demand. Prime range feeding lambs have sold this season as high as \$10 per 100 lbs., and that price has been paid also for prime yearling breeding ewes, the breeder supply being meager,

Marketing a Valuable Crop of Beans

Six Loads of Beans Totalling 180 Bags, Marketed at Brown City recently by John H. Linck, for \$6.15 per bushel, bringing in all, \$3,044.25, the most money ever given in a single check for grain by the local bank. Picture of check is shown below.



SHEEP IN MICHIGAN.

(Continued from page 269).

tion a sheep raising country where there is a surplus of sheep. Whether the war closes in one year or five years the demand for sheep and sheep meats will not be fully met for many years to come and prices must be maintained at a high level. Whether a farmer's taste leads him to keep any one of the mutton breeds or any one of the fine woolled breeds, if he pursues the business in an intelligent and industrious manner, a liberal reward for his efforts is pretty sure to await him.

(Continued next week).

CHAMPIONSHIP AWARDS AT THE STATE FAIR.

The live stock exhibits at the State Fair were so numerous and the number of prizes awarded in each class so large that it is impractical to devote the space to the publication of a complete list of the awards in the live stock classes. For this reason it is necessary to limit the publication of awards in this department to the championships and breed specials in the several classes, as is done in reports of the International Live Stock Exposition. The above named awards in the several classes were as follows:

Horses.

In the draft horse section the supreme honors of the show consisted of two silver cups offered by the Michigan Draft Horse Breeders' Association to be competed for by the champion winners in the Percheron, Belgian, Clydesdale and Shire breeds. In the stallion class the winner of this prize was Sans Pour de Hamal, the Belgian champion, owned by the Owosso Sugar Co., of Alicia, Mich. In the class for mares the grand championship cup was won by Honorah, the champion Clydesdale mare, owned by James Van Etta, Lima Center, Wisconsin.

Belgians.—Champion stallion, Owosso Sugar Co., on Sans Pour de Hamal. Champion mare, Lonzo McLain, Lima, O., on Lucie.

The Belgian breed specials were awarded as follows: Stallion, 4 yrs. or over: First, Owosso Sugar Co., on Sans Pour de Hamal; 2nd, Loeser Bros., Ligonier Ind. on Sans Pour de Grandmetz; 3rd, Loeser Bros., on Ludovic; 4th, Lonzo McLain on Argion; 5th, Lonzo McLean on Buffon. Stallion, 3 yrs. and under 4: First, Loeser Bros. on Charles Everitt; 2nd, Loeser Bros. on John. Stallion, 2 yrs. and under 3: First, Loeser Bros. on Filon; 2nd, Loeser Bros. on Meditor; 3rd, Geo. Ackerman, Elkton, Mich., on Major; 4th, Loeser Bros. on Harry Selig. Stallion, 1 yr. and under 2: First, Owosso Sugar Co. on Soleil Lavont; 2nd, Loeser Bros. on Dunbar de Fosteau; 3rd, Owosso Sugar Co. on Louise de Herime. Mare, 4 yrs. or over: First, Lonzo McLain on Lucie; 2nd, Owosso Sugar Co. on Toupie de Millemont; 3rd, Owosso Sugar Co. on Minute de Forchier; 4th, Owosso Sugar Co. on Marguerite de Lepine; 5th, Owosso Sugar Co. on Mantone de Hamal. Mare 3 yrs. and under 4: First, Owosso Sugar Co. on Florida; 2nd, Owosso Sugar Co. on Queenie. Mare, 2 yrs. and under 3: First, Owosso Sugar Co. on Flossie; 2nd, Owosso Sugar Co. on Matilda; 3rd, Loeser Bros. on Dora; 4th, Geo. Ackerman on Francis. Mare, 1 yr. and under 2: First, Owosso Sugar Co. on Oakdale Quality; 2nd, Owosso Sugar Co. on Louise de Hamal; 3rd, Owosso Sugar Co. on Elizabeth de Bois Heigneur; 4th, Owosso Sugar Co. on Marinne Forceur. Champion stallion, all ages: First, Owosso Sugar Co. on Sans Pour de Hamal; 2d, Loeser Bros. on Sans Pour de Grandmetz. Five stallions: First, Loeser Bros.; 2nd, Owosso Sugar Co. Champion mare, all ages: First, Lonzo McLain on Lucie; 2nd, Owosso Sugar Co. on Oakdale Quality. Three mares: Owosso Sugar Co.; 2nd, Lonzo McLain.

Percherons.—Champ. stallion; Lonzo McLain, Lima, O., on Millett. Champion mare, Lonzo McLain on Philis.

The Percheron breed specials were awarded as follows: Percheron specials, open only to first and second prize, winners of special D. & E. Champion mare, bred and owned by exhibitor: First, Lonzo McLain on Harline; 2nd, B. F. Anderson, Adrian, Mich., on Loraine. Get of stallion, four colts either sex: First, B. F. Anderson; 2nd, Lonzo McLain on Daisy. Produce of mare, two colts, either sex: First, B. F. Anderson; 2nd, Lonzo McLain on Goldie; 3rd, B. F. Anderson. Champion stud, stallion and four mares: First, Lonzo McLain on Millett; 2nd, B. F. Anderson. Five stallions: First, Lonzo McLain on Martin, Jr.; 2nd, Loeser Bros., Ligonier, Ind. Three mares: First, Lonzo Mc-

Lain on Black Beauty; 2nd, B. F. Anderson.

Clydesdales.—Champion stallion, Jas. VanEtta, Lima, O., on Baron Prince. Champion mare, Jas. VanEtta on Honorah, also grand champion draft mare of the show.

English Shires.—Champion stallion, Loeser Bros., Ligonier Ind.

Standard.—Champion stallion, Geo. W. Slaughter, Birmingham, Mich., on Silent Peter. Champion mare, Geo. W. Slaughter on Lucille Spier.

Hackney, German Coach, French Coach.—Champion stallion from first prize winners: John Endicott, Birmingham, Mich., on Evergreen. Champion mare, John Endicott on Driftwood.

Shetlands.—Champion stallion, Geo. A. Heyl, Washington Ill. Champion mare, Grace Gordon, Birmingham, Mich.

Welsh Ponies.—Champion stallion, Geo. A. Heyl on Gwindy Duke. Champion mare, Geo. A. Heyl on Dinarth Fancy.

Cattle.

Shorthorns.—Senior and grand champion bull, Michael Wagner, Fremont, Ohio, on Marshall's Choice. Junior champion bull, C. H. Prescott & Sons, Tawas City, Mich., on Albion Crest. Junior and grand champion female, Michael Wagner on Wagner's Princess.

Polled Durhams.—Champion bull, C. E. Simmons & Sons, Geneva, Ind.

Herefords.—Senior and grand champion bull, Calhoun Bros., Bronson, Mich., on General Manager. Junior champion bull, Learned & Son, Hamilton, Ind., on Floyd. Senior grand champion female, Jas. V. Hill, Roundhead, Ohio, on Donald Lass Ninth. Junior champion female, James V. Hill on Betty Fairfax.

Aberdeen Angus.—Senior and grand champion bull, U. L. Clark, Hunters Creek, on Black Monarch. Junior champion bull, Woodcote Stock Farm, Ionia, Mich. on Enos of Woodcote. Senior champion female, Woodcote Stock Farm, on Erica of Woodcote Twelfth. Junior champion female, Woodcote Stock Farm on Erica of Woodcote Seventeenth.

Galloways.—All the championship awards in this class went to James Frantz, Bluffton, Ohio, the only exhibitor.

Red Polls.—All championship awards in this class went to F. H. S. Ineichen, Geneva, Ind.

Jerseys.—All championship awards in this class went to H. B. Wattles, and Helen M. Wattles, of Troy, Mich. The American Jersey Cattle Club specials were awarded as follows:

American Jersey Cattle Club Special. Get of sire: First, H. B. Wattles on Constance's Brookhill. Exhibitors' herd: First, H. B. Wattles on Constance of Brookhill. Produce of one cow: First, H. B. Wattles on Brookhill Rose of Troy. Bull, grand champion: First, H. B. Wattles on Constance's Brookhill. Female grand champion: First, Helen M. Wattles on Duchess Merry Sunshine.

Guernseys.—All the championship awards in this class were won by Avondale Stock Farm, Wayne, Mich.

Holstein-Friesians.—Jr. and grand champion bull, John A. Rinke, Warren, Mich., on Butter Boy. Senior and grand champion female, John A. Rinke on Bell De Kol Colantha. Junior champion female, E. Le Roy Pelletier, Pontiac, Mich., on Netherland Cornucopia Tekstra.

Ayrshire.—Junior and grand champion bull, Michigan School for Deaf, Flint, Mich. Senior champion bull, Jas VanEtta, Lima, Ohio. Senior and grand champion female, Jas VanEtta.

Brown Swiss.—Grand champion bull, Hull Bros., Painesville, Ohio. Grand champion female, L. S. Marshall, Leslie, Mich. Mr. Marshall was also awarded the special grand championship prize offered by the Brown Swiss Cattle Breeders' Association on Nellie F.

Dutch Belted.—Grand champion bull, Maplebrook Farm, Mason, Mich. Grand champion female, same.

Sheep.

Shropshires.—Grand champion ram, Ralph A. Postle, Camp Chase, Ohio. Grand champion ewe, Kope Kon Farm, Kinderhook, Mich. Shropshire specials were awarded as follows:

Ram, 2 yrs. or over: First, Kope Kon Farm. Ram, 1 yr. and under 2: First and 2nd, Kope Kon Farm. Ram, lamb: First and 2nd, Kope Kon Farm. Ewe, 1 yr. and under 2: First and 2d, Kope Kon Farm. Ewe, lamb: First and 2nd, Kope Kon Farm. Best ram: First, Kope Kon Farm. Best ewe: First, Kope Kon Farm. Pen of four lambs: First, Kope Kon Farm. Ewes, pen, three yearlings: First, Kope Kon Farm. Rams, pen, five yearlings: First, Kope Kon Farm.

Hampshires.—Grand champion ram and ewe, Walnut Hall Farms, Donerail, Ky. Hampshire special on flock two ewe lambs and one ram was awarded to Wray Simpson, Mendon, Mich.

Horned Dorsets.—Grand champion

(Continued on page 283).



Why Let That Stump "Stump" You?

How often have you wished it was removed? How often have you considered the profits you are losing from the land on which it stands? Every day you neglect the removal of stumps, boulders or other obstructions, you are losing just that much more in profits.

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"Good Luck" Dynamite

is an easier and quicker method of removing obstructions. It is convenient—and far more economical than axes or stump-pullers, for it saves time and money as well as labor. With Burton "Good Luck" Dynamite you simply drill and fill the hole, light the fuse—and the obstruction is lifted out, broken into pieces convenient to handle.

"Good Luck" Dynamite is equally effective for ditching, tree-planting or subsoiling. It is uniform, positive and safer in its action. It is cheaper than most grades because a smaller charge is required.

Our distribution facilities enable us to guarantee prompt deliveries.

Ask your dealer for "Good Luck" Dynamite. If there is no Burton dealer in your locality, write us at once. If you have any farm clearing problems to solve, write us and we will advise you what to do and what it will cost.

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Markets.

GRAINS AND SEEDS.

September 19, 1916.

Wheat.—Although wheat values last week ruled lower than for the previous period, prices advanced on Monday and ruled strong at the higher figure. There is an apparent determination on the part of the central powers in Europe to prevent the allies from breaking through the Dardanelles. It is also asserted by wheat exporters that in the event the Dardanelles should be opened in the near future, it would be a considerable time before sufficient wheat could be moved over the disorganized transportation lines in Russia and the Balkan states and the waters of the Mediterranean and its tributaries to restock the empty storehouses of western Europe. High prices in this country have checked sales to some extent which has been reflected in the cash deal. The general impression of the market is, however, that future values are to be higher not only because of the general shortage in the total world production, but also for the reason that a large quantity of the wheat this year will not be of good enough grade to make flour. The visible supply increased 1,481,000 bushels last week, which is small for this season of the year. One year ago No. 2 red wheat was quoted locally at \$1.12 per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	Dec.
	Red.	White.	
Wednesday	1.48½	1.43½	1.53½
Thursday	1.48½	1.43½	1.53½
Friday	1.48½	1.43½	1.53½
Saturday	1.46½	1.41½	1.51½
Monday	1.47½	1.42½	1.52½
Tuesday	1.49	1.44	1.54

Chicago.—Sept. 1.49¼; Dec. 1.50; May 1.50½.

Corn.—Values for this cereal have held to the closing figure given a week ago. The demand is quiet. There are many reports of damage to the corn crop by frost; just how extensive the recent cold wave has cut into the probable yield will not be known until later. The United States visible supply increased 224,000 bushels last week. A year ago No. 3 corn was quoted at 77½ cents. Last week's Detroit prices were:

	No. 3	No. 2	Yellow.
	Mixed.		
Wednesday	87	88½	88½
Thursday	87	88½	88½
Friday	87	88½	88½
Saturday	86½	88	88
Monday	86½	88	88
Tuesday	86½	88	88

Chicago.—Sept. 86½c; Dec. 73½c; May 76½c.

Oats.—There was not a great deal of business transacted in this division of the market last week. Prices are a fraction lower. The demand is light and the visible supply of the country shows an increase of 2,830,000 bushels. Standard oats were quoted a year ago at 38½c. Last week's Detroit quotations were:

	No. 3	White.
	Standard.	
Wednesday	48	47
Thursday	48	47
Friday	48	47
Saturday	48	47
Monday	48	47
Tuesday	48	47

Chicago.—Sept. 44½c; Dec. 47½c; May 51c.

Rye.—This cereal has suffered a decline and cash No. 2 is now quoted at \$1.22 and the market is quiet.

Beans.—While speculators are attempting to bear the market through the publication of flattering reports that recent weather has greatly improved crop conditions, the fact remains that there will probably be less than 50 per cent of a normal yield, and that because of the unevenness in ripening, farmers will have difficulty in curing the vines unless the most perfect weather prevails throughout the harvesting season. At Detroit immediate and prompt shipment are now quoted at \$5, and \$4.50 was bid for October on Tuesday's market. Chicago reports a better demand with Michigan pea beans quoted at \$5@6; red kidneys \$5@5.70.

Seeds.—Prime red clover \$9.45; alsike \$9.60; alfalfa \$10@11; timothy \$2.40 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$8.40; seconds \$7.80; straight \$7.60; spring patent \$8.40; rye flour \$7 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$26.50; standard middlings \$28; fine middlings \$35; cracked corn

\$39; corn and oat chop \$34 per ton. Hay.—(New) No. 1 timothy \$14@15; standard timothy \$13.50@14; light mixed \$17@18; No. 2 timothy \$12@13; No. 1 mixed \$11@12; No. 1 clover \$8@10 per ton.

Straw.—Rye straw \$6.50@7; wheat and oat straw \$6.50@7 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Trade at Detroit is fairly active and firm with prices unchanged from last week. Creamery extra 32c; do. firsts 30½c; dairy 24c; packing stock 23½c per lb.

New York.—Market firm. Western creamery extras 34@35c; nearby prints, fancy 37c.

Elgin.—Values are ½c higher with the market firm at 32½c per lb.

Chicago.—Market is active at a higher range of values. Creamery rules from 27½@32½c.

Eggs.—Values steady at last week's advanced prices. Firsts 30c; current receipts 28½c per dozen.

New York.—Fresh gathered extra fine 37c; extra firsts 35@36c; firsts 32@34c.

Chicago.—Higher. Firsts 29½c; ordinary firsts 28@29c; at mark, cases included, 21@29c.

Poultry.—Live broilers 20c; No. 1 hens 18@18½c; average do 17@17½c; ducks 17c; geese 13@14c; turkeys 25c per pound.

Chicago.—Although supplies are moderately large, the active demand is sustaining prices on a steady to higher basis. Turkeys 15@25c; fowls 18@18½c for general run; extra heavy 20c; light weight 16@17c; roosters 14c; ducks 13@15c; geese 10@14c.

FRUITS AND VEGETABLES.

Apples.—Market is quiet in Detroit and prices steady. Barreled stock \$3@3.50 for fancy; No. 2, 50c@1 per bushel. At Chicago No. 1 stock in barrels \$2.25@4; No. 2 stock \$1.50@2 per bbl.

Pears.—Bartletts are steady at \$1.50@1.75 per bushel; other kinds lower at \$1@1.25. At Chicago No. 1 Bartletts bring \$3@4 per bbl. Seckle at \$4.50; other kinds \$2@3. No. 2 all kinds \$1.50@2.25.

Peaches.—At Detroit fancy \$1.75; AA, \$1.40@1.50; A, \$1.25; B, 90c@1 per bushel. At Chicago good stock has an excellent sale. Good Michigan Elbertas are bringing \$1@1.25; other kinds 50@85c per bushel.

Plums.—Detroit quotations \$1.75@2; at Chicago No. 1 stock brings 90c@1.50 per bushel; common grades 50@60c.

Grapes.—Blue grapes 18@20c per 8-lb. basket; 10@11c per 4-lb. basket. Delawares 12@12½c per 4-lb. basket. At Chicago in six-basket carriers Moore's Early brings 75c@1; Delawares \$1@1.50; Niagaras 75@90c.

WOOL AND HIDES.

Wool.—Sellers continue to make the prices in the wool deal. Manufacturers are not well stocked and while a few are hoping that something will occur in world politics to relieve the situation, a majority of the users of wool are coming to the market and purchasing raw material as their orders demand. Prices are stronger than ever with chances of an advancement very favorable. Fleeces sold last week at 42c for three-eighths blood, and 33c for fine unwashed. Boston quotations for Michigan unwashed delaines 35c; do. combing 38@40c; do. clothing 28@31c.

Hides.—No. 1 cured 19c; No. 1 green 16c; No. 1 cured bulls 14c; do. green 12c; No. 1 cured veal kip 23c; do. green 18c; No. 1 cured calf 29c; do. green 27c; No. 1 horse hides \$5.50; No. 2 do. \$4; sheep skins as to amount of wool 50c@1.25 each.

GRAND RAPIDS.

Peaches will be plentiful in the market this week and prices for good stock are starting off at \$1.25@1.50, though they may not hold quite to these figures during the week. They are of good quality and nicely colored and the demand will be active. Apples range from 50c@1; pears and plums \$1@1.25; grapes \$1.25@1.40 per dozen baskets. A dollar and a half is the top for potatoes, and tomatoes are around 75c per bushel. Dealers are quoting \$4 for white pea beans, October delivery.

DETROIT EASTERN MARKET.

Tomatoes were selling on the active Eastern Market on Tuesday morning around \$1.50 per bushel for good average grade. Grapes for jelly purposes at \$1.50 per bushel; cucumbers for pickling \$3@4; string beans \$1.25@1.50; cabbage of only fair quality \$1.75; the bulk of the peaches \$1@2; with fancy Elbertas \$2.25@2.50; pears \$1.25@1.75; few weeks ago.

apples 75c@1.50; corn 20c per dozen; eggs 40c; chickens 75c each. Loose hay \$16@20 per ton. No potatoes in sight.

LIVE STOCK MARKETS.

Buffalo.

September 18, 1916.

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

Receipts here today as follows: Cattle 200 cars; hogs 75 d. d.; sheep 50 d. d.; calves 1200 head.

With 200 cars of cattle today, the trade was very slow and the bulk of the steers sold 10@15c lower. There were a few strictly good cattle that landed about steady; also a few choice cows and heifers sold steady, but the general market was 10@15c lower. We look for a fair run of cattle next Monday and a steady trade.

We had a fair supply of hogs, about 75 double decks, quality rather poor, and while the top showed about 15c higher than Saturday's close, the average sales were no better than steady and a good many showed 10@15c loss from Saturday, mostly on the medium grade of light hogs. One load of fancy heavy weights sold at \$11.75, with the bulk of the choice at \$11.50@11.65; common kinds, as to weight, from \$10.25@11.25; pigs and lights \$9.75@10.50; roughs generally \$9.75; stags \$7.50@8.50. Everything sold excepting some of the common classes of yorkers, several loads of this kind going over without bids.

Sheep receipts were light again today and prices were about a quarter higher than the close of last week. Prospects a shade lower last of the week.

We quote: Best spring lambs \$11.50@11.75; cull to common lambs \$9@11; yearlings \$7@9.25; bucks \$5.50@6.50; ewes \$7.25@7.75; cull sheep \$3.50@5.50; wethers \$8@8.25; top veals \$12.75@13; heavy \$8@10; common and light \$10@12; grassers \$5.50@6.50.

Chicago.

September 18, 1916.

Cattle. Hogs. Sheep.
Receipts today..24,000 31,000 32,000
Same day 1915..26,007 22,627 14,065
Last week.....58,222 98,207 108,346
Same wk 1915..38,987 102,811 77,923

Buyers were late in purchasing cattle this morning, the receipts being liberal here, while Missouri river markets got generous supplies, the arrivals in Kansas City being reported as 36,000 head. The Chicago receipts included about 3,500 head. Toward noon the prevailing opinion was that while fat beefs would remain steady, the less desirable steers would sell at least 10c lower. Hogs sold up to \$11.55 for the best, an advance of 5c, but the general market was no better. Hogs received last week averaged 226 lbs. With a large run of lambs and sheep here and 50,000 head received in Kansas City, trade was slow in getting started, and bids were as much as 25c lower. Only 9,913 hogs were shipped from here last week, comparing with 13,416 a week earlier and 22,399 a year ago.

Cattle were marketed much more liberally last week, the Monday run being especially large, and a sharp decline in prices took place during the first two days, in which all kinds shared. By Wednesday there was a reaction, however, with a steady to 15c higher market than on Monday for steers, fat lots selling above \$9.75 developing the most strength, with little change in plain and common grassers and short-feds, but female cattle averaged 10@15c higher, cows and heifers above \$6 getting the main demand. The bulk of the steer sales for the entire week were at a range of \$7.50@10.50, with choice to fancy steers going at \$10.50@11.25, while a good class sold at \$9.75 and upward. Medium grade steers sold at \$8.75@9.70, fair little killers at \$8.25 and over and inferior to fair grass steers at \$6@8.20. Butcher stock had a good demand, so far at least as the good offerings were concerned, with cow sales made at \$5.30@8.25, while heifers went at \$5@10, with only small sales of prime yearling heifers at \$9 and over. Cutters sold at \$4.50@5.25, canners at \$3.50@4.45 and bulls at \$4.75@8. Calves were extremely high sellers so far as the light vealers were concerned, these selling briskly at \$12@13 per 100 lbs. for desirable lots, while sales were made all the way down to \$4.75@10 for the coarse to good heavy weights. Western range cattle arrived in increasing numbers and has a good outlet on the whole, with steers going at \$6.25@9.75, but not many sold near the highest price. There was a moderate demand for stockers and feeders, with sales at a range of \$4.75@7.75 for inferior little stockers to prime weighty feeders, buyers usually wanting a good grade that could be bought below \$7.50. Good lots could be bought for \$7@7.35, and desirable stock steers sold at \$6.60@6.90, or 50c less than a

Hogs cannot be put down materially in value without materially checking country shipments, as was demonstrated again during the past week, slightly lower prices quickly bringing about too small supplies to meet the good demand. Of course, the market advanced and choice hogs sold at nearly the highest prices seen at any time this year, with eastern shippers taking the greater part of the choicer consignments. Prime butcher weights topped the market, with prime light weights a close second and prime heavy shipping hogs selling about a dime below highest quotations. In point of quality the recent receipts have shown a falling off, and this tends to increase the spread in prices between choice and undesirable lots. The week's receipts show substantial gains in numbers, although more hogs could have been used advantageously, and hogs closed on Saturday firm at \$9.75@11.50, pigs selling at \$7@10. Prime hogs weighing 215 to 250 lbs. sold highest, prime light shipping hogs going at \$11.40 and prime heavy shipping lots at \$11.35. Heavy packers brought \$9.75@10.80.

Sheep, yearlings and lambs arrived last week in much larger numbers than a week earlier, and as the week advanced some reductions in prices took place, following early strong values. The week as a whole was a good one for sellers, with prime flocks selling especially well, and sales of prime Idaho and Montana range feeding lambs at \$10.60 marked another high record price. Breeders also sold extremely high, with a \$10.50 top for high-grade range yearling breeding ewes. High prices also were paid for desirable lots of feeding wethers and ewes from the range country. Prime killing lambs sold as high as \$11.40, price closing as follows: Lambs \$7.50@11.10; feeding lambs \$9@10.60; yearlings \$7.50@9; wethers \$7@8.50; ewes \$3.25@7.50; breeding ewes \$7@10.50; bucks \$4.50@6.

Horses were marketed with the usual freedom last week, but although horses of the army types comprised the principal share of the receipts, more could have been sold readily without disturbing values in the least. Artillery horses sold chiefly at \$160@175, with the best going at \$190@200. About 112,000 horses have been received here this year, and it is estimated that 60 to 65 per cent were sold to buying agents of the allied armies. Inferior to fair horses are going at \$60@95, with drivers at \$100@200, the better class of wagoners and expressers at \$180@210, and good to prime heavy drafters at \$240@285. Pairs of heavy chunks sell at \$410@480.

LIVE STOCK NEWS.

The distant ranges are marketing large numbers of lambs, as well as fair numbers of wethers and yearlings, but lambs comprise most of the shipments. The shipments are divided between several markets, the Missouri river markets getting a large share, though a good many are sent to the Chicago market, where the demand is usually strong for both killing flocks and good feeding lambs. Everything in the least desirable in the sheep and lamb line is sure to sell extremely well, and extraordinarily high prices prevail for feeding lambs from the ranges, as well as for well-bred breeding ewes, with prime yearlings much sought after by farmers wanting to establish a flock of sheep on their lands.

J. W. Frazier, of Illinois, showed up in the Chicago stock yards recently with a consignment of three carloads of choice yearling steers which averaged in weight only 940 lbs. and found a buyer at \$11.15 per 100 lbs. He put them on feed the first day of last November, their appearance in the feed lot being when their average weight was only 340 lbs., and they were fed alfalfa, hay, shelled corn and silage, as well as a pound of oil meal daily per head. These cattle were the tail end of 167 cattle, and the remainder are being finished by Mr. Frazier for the next International Live Stock Exposition in Chicago.

On the recent smash-up in cattle prices in the Chicago market some kinds had to be closed out at reductions of from \$1 to \$1.25 per 100 lbs., the best beefs of heavy weight being so few in number that they sold off much less. Just before the decline took place best steers brought \$11.10 per 100 lbs., and on the following Monday after the collapse in prices took place prime Herefords brought \$10.90. The packing forces in the Chicago stock yards are not large enough to cope with such large numbers of cattle at one time, the forces having been seriously depleted because higher wages in other line of work have caused many workers in Packingtown to quit their jobs. Grassers and short-fed cattle comprise the great bulk of current marketings, the high price of corn causing many stockmen to feed it too sparingly.

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.
September 21, 1916.
Cattle.

Receipts 1557. The market opened at the local yards this week with a good fair run in all departments. The railroad service was some better than for several weeks and it is hoped it will continue.

In the cattle division the quality was again common but the general market showed much more activity than that of last week, although prices paid were no higher. Stocker buyers were more plentiful and quite a large number went back for feeding purposes. Some went to Ohio and Pennsylvania. The close was strong as follows: Best heavy steers \$8; best handy weight butcher steers \$7@7.75; mixed steers and heifers \$6@6.75; handy light butchers \$5.50@5.75; light butchers \$5@5.25; best cows \$5.75@6.25; butcher cows \$5.25@5.50; common cows \$4.75@5; canners \$3.25@4.25; best heavy bulls \$6@6.50; bologna bulls \$5@5.75; stock bulls \$5@5.50; feeders \$6@7; stockers \$5.50@6.25; milkers and springers \$4@8.00.

Bishop, B. & H. sold Triblecock 24 feeders av 710 at \$5.90; to Miller 17 do av 920 at \$6.50, 6 do av 848 at \$6.25; to Parker, W. & Co. 4 butchers av 790 at \$6, 7 cows av 800 at \$4.25, 22 steers av 1165 at \$8, 4 cows av 877 at \$4.25; to Newton B. Co. 13 butchers av 627 at \$5; to Brietenbeck 23 do av 782 at \$5.75; to Sullivan P. Co. 1 bull wgh 1070 at \$6.25, 2 cows av 875 at \$4, 2 steers av 790 at \$6.50, 2 do av 970 at \$7, 5 butchers av 850 at \$5.75, 3 cows av 960 at \$4.50, 1 steer wgh 1190 at \$6.50, 3 do av 930 at \$7.25, 4 cows av 961 at \$5.50, 3 do av 827 at \$5.50, 7 do av 936 at \$5.25, 2 do av 1030 at \$5.25, 2 bulls av 1030 at \$6, 1 do wgh 1180 at \$6.25, 4 butchers av 680 at \$5.50, 7 do av 854 at \$5.60, 1 steer wgh 960 at \$8, 3 do av 777 at \$6.25; to Bel-fert 9 stockers av 536 at \$5.40; to Parker, W. & Co. 3 cows av 947 at \$4.25, 3 do av 1033 at \$5.25, 16 butchers av 940 at \$6.75, 2 cows av 850 at \$4.25; to Thompson 25 butchers av 860 at \$6.60, 4 steers av 1070 at \$7.60, 5 do av 1026 at \$6.25; to Bray 6 do av 706 at \$5.85; to Breitenbeck 15 do av 940 at \$6.60; to Garber 20 butchers av 825 at \$5.35.

Sandel, S. B. & G. sold Hammond, S. & Co. 3 butchers av 803 at \$5.35, 2 do av 995 at \$5.85; to Thompson 14 do av 740 at \$5.85, 2 cows av 825 at \$4.50; to Kull 28 steers av 924 at \$7; to Feldman 10 butchers av 588 at \$5.25, to Applebaum 10 do av 618 at \$5.50; to Newton B. Co. 1 cow wgh 1010 at \$4.25, 1 steer wgh 450 at \$5.25, 4 do av 1017 at \$6.50, 1 do wgh 1050 at \$6.25; to Thompson 2 do av 1095 at \$6.50, 3 do av 1170 at \$7.50, 1 cow wgh 1150 at \$5.50; to Mason B. Co. 2 steers av 1035 at \$6.75, 5 do av 676 at \$5.25; to Brown 4 stockers av 625 at \$5.75, 11 do av 586 at \$5.75; to Kull 13 butchers av 881 at \$6.15, 2 do av 1060 at \$6.25; to Mason B. Co. 1 bull wgh 1160 at \$6.25, 1 do wgh 1830 at \$6.50; to Reede 11 stockers av 575 at \$5.80, 3 do av 433 at \$4.50, 6 do av 603 at \$5.85, 15 do av 560 at \$5.60; to Parker, W. & Co. 14 butchers av 792 at \$6; to Hammond, S. & Co. 3 cows av 933 at \$4.50, 3 do av 847 at \$4.25.

Veal Calves.

Receipts 787. The veal calf trade for good grades was full steady with that of last week, selling at \$12@13 per cwt; heavy and common grades dull and draggy at \$5.50@8.50.

Erwin & S. sold Nagle P. Co. 1 wgh 130 at \$10, 1 wgh 150 at \$13; to Costello 3 av 110 at \$13; to Mich. B. Co. 3 av 150 at \$12.75.

Sheep and Lambs.

Receipts 9828. The sheep and lamb trade was fairly active, sheep bringing full last week's prices, but lambs were 25c lower on Wednesday and Thursday in sympathy with all other markets, which suffered a like decline. Best lambs \$10.25@10.50; fair lambs \$9.50@10; light to common lambs \$8@8.75; fair to good sheep \$6.25@7; culls and common \$4@5.

Haley & M. sold Parker, W. & Co. 12 sheep av 110 at \$7.50, 22 do av 115 at \$7, 189 lambs av 75 at \$10.85; to Costello 17 lambs av 55 at \$8.50, 37 do av 60 at \$8.50, 30 do av 50 at \$8.75.

Hogs.

Receipts 9877. In the hog department the trade opened up slow and about 5c lower than last week on yorkers and heavy pigs, holding steady on Thursday. They went at 15c in Chicago and the decline of course was followed here, yorkers and heavy hogs bringing \$10.50@10.75 and pigs \$8.50@9.50.

CHAMPIONSHIP AWARDS AT THE STATE FAIR.

(Continued from page 281).

ram and ewe, Hamilton Farm, Gladstone, N. J. The Dorset Club special prize for best pen four lambs either sex was awarded to Geo. C. Woodman, Owosso, Mich.

Cheviots.—Grand champion ram, W. C. Postle. Grand champion ewe, Raymond D. Grieve, Xenia, Ohio.

Tunis.—The grand championships in this class were won by Ralph E. Owen, Fulton, N. Y.

Cotswolds.—Grand champion ram, J. A. Campbell, Thedford, Ont. Grand champion ewe, same.

Leicesters.—Grand champion ram and ewe, C. D. McLean, Kerwood, Ont. **Lincolns.**—Grand champion ram and ewe, A. H. McLean & Sons, Sherwood, Ont.

Oxford Downs.—Grand champion ram, Geo. W. Heskett, Fulton, Ohio. Grand champion ewe, Kope Kon Farm.

Southdowns.—Grand champion ram, Geo. W. Heskett. Grand champion ewe, Monroe Stock Farms, Lucas, Ohio.

Rambouillets.—Grand champion ram Calhoun Bros., Bronson, Mich. Grand champion ewe, J. M. Shaw & Son, Edison, Ohio.

American Merinos.—Grand champion Grand champion ram and ewe, W. M. Staley, Marysville, Ohio.

Delaine Merinos.—Grand champion ram, S. Blamer & Son, Johnston, Ohio. Grand champion ewe, W. M. Staley.

Swine.

Chester Whites.—All championship awards in this class were won by W. H. Settle, Petroleum, Ind.

Hampshires.—Grand champion boar, W. C. Gilliland, Van Wert, Ohio. Grand champion sow, same. Hampshire special on four pigs, either sex, was awarded to Oscar Halladay, Clinton, Mich.

Victoria and Small Yorkshires.—Gd. champion boar, M. T. Storey, Lowell, Mich. Grand champion sow, C. A. Storey, Lowell, Mich.

Poland Chinas.—All championship awards in this class were won by C. E. Simmons & Son, Geneva, Ind.

Mulefoots.—Grand champion boar, R. G. Long, Alameda, Ohio. Grand champion sow, Zene G. Hadley, Wilmington, Ohio.

Berkshires.—Grand champion boar, Hamilton Farms, Gladstone, N. J. Grand champion sow, same.

Large Yorkshires.—All grand championships in this class were won by A. G. Purdy, the only exhibitor.

Duroc Jerseys.—All championships in the open class were won by Brookwater Farm, Ann Arbor, Mich. Duroc Jersey special prize for herd under one year was distributed as follows:

Young herd, bred by exhibitor: First Brookwater Farm, Barrow, under 1 yr.: First, 2nd and 3rd, Brookwater Farm. Pen of three barrows, under 1 yr.: First, Brookwater Farm. Special, head under 1 yr.: First, Brookwater Farm; 2nd, M. T. Storey; 3rd, N. Barnhart; 4th, F. J. Drott, Monroe, Michigan. Boar and 3 sows, farrowed: First Brookwater Farm; 2nd, M. T. Storey; 3rd, N. Barnhart.

Tamworths.—Grand champion boar, W. W. Morton, Russellville, Ky. Grand champion sow, same.

LIVE STOCK NEWS.

Fat steers of good to strictly prime quality have been selling on the Chicago market before the late break in values at a range of from \$10 to \$11.10 per 100 lbs., the high prices paid being due to their growing scarcity and a good local shipping demand. No really choice steers have been selling below \$10.50, and some prime little yearling heifers sold a short time ago up to \$9.85. On the other hand, the thousands of grass cattle which at times glutted the market have had to go at comparatively low prices, these, as well as the best cattle selling much higher than a year ago, however. Within a short time fat steers have sold about \$1 per 100 lbs. higher than the low time in July, and the recent breaks in cattle prices caused by too generous receipts did not extend to choice corn-fed cattle. Looking ahead, with the promise of larger supplies of grass cattle from northwestern and southwestern pastures and small supplies of fat corn-fed beefs, it may be expected that there will be further marked widening out in quotations. High-costing corn resulted in short feeding of it this season, and the great abundance of grass caused owners to depend on pasturage. The demand for stockers and feeders is very variable, being alternately animated and slow, with very few choice lots offered on the market, prices having advanced materially of late. Demand comes mainly from the country around Chicago.



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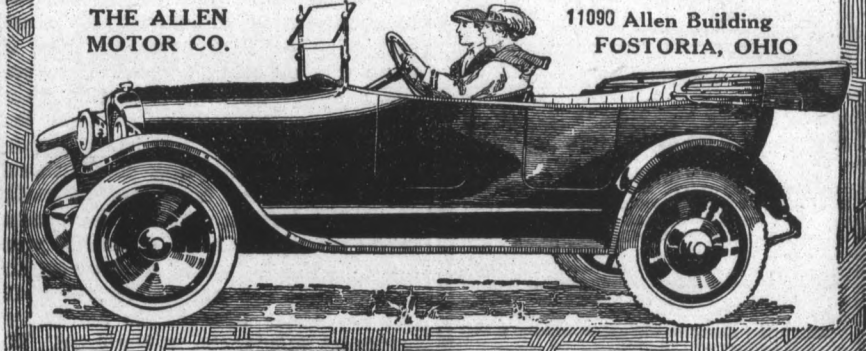
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Large Type P. C. Glits and sows. Bred for Mar. and April farrow. Sired by Big Des Moines, Big Knox Jr. and Giant Defender. Bred to Big Knox Jr. Smooth W. under 3 and Big Jumbo, four great boars in state. Come or write. W. E. Livingston, Farms, Mich.

BIG TYPE POLAND CHINAS A fine Spring boar also a brood sow with pigs. Very cheap for quick sale. J. O. Brown & Son, Goldwater, Michigan. R. F. D. 3

BIG TYPE P. C.—100 pigs of Mar. and Apr. farrow, either sex, sired by Big Type King Tessemeyer A. Wonder Jr. and Mow's Big Bone. We pay exp. charges and record free. W. Brewbaker & Sons, Elsie, Mich.

For Sale Poland Chinas either sex, all ages. Some thing good at a low price. P. D. Long, R. P. D. No. 8, Grand Rapids, Mich.

Large Type P. C. Sows & Glits all sold. Have 3 extra good spring boars. Sired by Big Defender. W. J. HAGELSHAW, Augusta, Michigan.

BIG TYPE POLAND CHINA Spring boars that will please you, priced right. G. W. HOLTON, Route 11, Kalamazoo Michigan.

Large Stiled Poland China Pigs, either sex, pairs not horn Bulls. Oxford sheep, both sex and Short-horn Bulls. ROBERT NEVE, Pierson, Michigan.

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

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HAMPSHIRE SWINE Spring Pigs registered. John W. Snyder, R. 4, St. Johns, Mich.

SHEEP.

SHROPSHIRE

I will be at the State Fair with 20 field rams. All are for sale and are a better bunch than has been seen in Detroit in recent years. KOPE-KON Farms, Kinderhook, Mich.

The Ingleside Farm will not make a show of Shropshire shires at the fair this fall but has a good supply of registered rams and breeding ewes for sale. If you are in need of any Shropshires, let us know. H. E. POWELL, IONIA, MICH.

For Registered Shropshire Rams, Yearling or Lambs write or call on Armstrong Bros., R. No. 3, Fowlerville, Mich.

Shropshires, Ram Lambs and Yearling Rams, also a few good Ewes to offer. M. A. BRAY, OKEMOS, (Ingham Co.) Mich.

SHROPSHIRE

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

Shropshire yearlings and ram lambs. One two year old stock ram. All of best wool—mutton type. G. P. ANDREWS, Dansville, Michigan.

For Sale: Thirty choice registered young Shropshire ewes. Fifteen extra good ewe lambs, also yearling and lamb rams. Elmer E. Bowers, R. R. No. 2, Manchester, Michigan.

(Additional Stock Ads on page 276).

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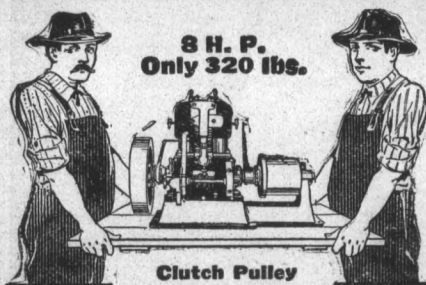
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The Food Value of Milk

By FLOYD W. ROBISON

TO ascertain the physiological requirements of the body it becomes necessary to have some appreciation of the composition of food materials. This is in order that we may know what types of food materials to select to increase or decrease any particular nutritive function.

Food and Health.

In the last few years we have come to learn more in detail and appreciate with deeper significance the close relationship existing between food and health. We know, of course, that one must eat to live, but we have not appreciated what one must eat to live, and how closely the enjoyment of perfect health is bound up with the consumption of appropriate food materials.

In the case of dairy cows much greater progress has been made than in the case of the human diet, probably because we have been able to control exactly what is fed to the cow. But it is only through an appeal to the intelligence of human beings that anything may be accomplished in the way of controlling the human diet. The state has gone a long way in making possible intelligent selection of food products through the establishment of municipal, state, and federal inspection bureaus. But these have been of necessity confined in their efforts to securing purity in foods and to securing truthfulness in the representations made to buyers of these food products.

We Must Not Remove the Vitality from Food.

We have known for a considerable period of time that certain manufacturing processes in vogue in this and other countries in the manufacture and perfection of food products were in some way or other prejudicial to perfect health. We have seen the use of chemical preservatives in food products permitted on the score largely that the chemical being used in such minute quantities could not be really counted injurious, and we have seen permitted the use of chemical processes in the bleaching of flour on the ground that the process involved did not leave any appreciable amount of injurious substances in the flour. We have known of the perfection of processes for the high milling of wheat and grain products with the object in view of securing for a fastidious consumer a pure white flour, free from cellulose and bran.

Rice is prepared in very much the same way, the effort of the manufacturer being to remove as completely as possible the complete exterior of the grain, to produce a product which is almost entirely digestible and which is altogether pleasing to the eye.

This has been encouraged instead of being discouraged by many of our professional men and even by the government itself. The attention of the public has been focused upon such points as digestibility rather than wholesomeness.

Wholesomeness Takes Precedence Over Digestibility.

Some few years ago the government went to some considerable expense in investigating the completeness of digestibility of high-grade patent flour as against the so-called whole wheat product.

It seems to us that one conclusion only could be reached in such an investigation. Of course, high-grade patent flour is more completely digestible than is whole wheat flour. So is sugar more digestible than the crude material from which it is manufactured; so is starch more completely digestible than the whole grain from which it is obtained. There can be nothing, or essentially nothing, indigestible in a food product itself which contains no insoluble residue. But after all this has been said, one single step looking to the question of wholesomeness has not been made.

We supposed at that time that the reason the coarser, cruder raw materials affected the human system more advantageously than the more highly milled and more perfectly manufactured articles was because largely of its mechanical action. We thought, for instance, that whole wheat flour containing a considerable quantity of bran must affect the physiological system favorably in part, at least, because it aided the onward movement of the products in the alimentary canal and thus prevented stagnation and removed the danger of auto-intoxication. True, we believed that the presence of certain inorganic constituents more extensively in the outer covering of the grain than in the interior did assist in the enrichment of the body in such elements as iron, phosphorous and the like, which we know, of course, to be vital to the health. We now know that it is possibly because of the absence of certain so-called vital constituents of foodstuffs such as the vitamins that the system may actually perish for want of vital nourishment, even in the presence of an abundance of an almost completely digestible, otherwise well-balanced food supply.

It has seemed impossible to take up a discussion of milk and its relationship to other animal products without in some way going into certain general principles which we now know to underlie the general principles of nutrition. We have been in the habit, in studying the balanced rations for stock to consider the importance in the relationship existing between the three proximate principles, proteid, carbohydrates and fats, and we now know it is necessary to supply proteids to a certain definite extent, which is governed by the physiological requirements of the animal's body for protein, and that the science of the balanced ration depends upon stopping the expensive protein food at just this point and filling the balance of the ration with the more common and less expensive carbohydrates and fats.

Adult Daily Requirement of Protein.

In the same way the human dietary has been developed. It is conceded that the adult requires on the average 100 grams, equaling approximately three and one-third ounces, of digestible proteids per day. These proteids may be supplied in the form of lean meat, in the form of gluten of flour, in the form of egg albumin, or in the form of casein of cheese or milk, and in this respect we wish to call to the attention of our readers the relationship existing in the various animal food products in regard to this one constituent, protein.

Proteids are the substances in food products which are associated with life phenomena. They are very highly complex compounds of carbon, hydrogen, oxygen, nitrogen and sulphur, and sometimes phosphorous, and always are associated with muscular activity and the use of vital energy in the body. Our food material must be so adjusted that in one or another way the human body will get its three and one-third ounces of proteid material somewhere distributed through the day's food supply. If this is not done gradual protein starvation is the result, with its accompanying nutrition diseases and loss of bodily functions.

To obtain this necessary 100 grams of proteid it would be necessary for a person to consume the following amounts of any one of the substances mentioned:

- 100 ounces of cow's milk.
- 40 ounces of rice.
- 160 ounces of potatoes.
- 27 ounces of wheat.
- 25 ounces of egg albumin.
- 21 ounces of egg yolk.
- 18 ounces of lean fish.
- 16 ounces of round steak.
- 12 ounces of milk solids.

If we now take the following valuations of the various animal food products:

Milk, 8c per qt. or.....	4c per lb.
Round steak	24c per lb.
Sirloin steak	28c per lb.
Fresh oysters	25c per lb.
Smoked ham	30c per lb.
Fresh fish	16c per lb.
Salt fish	8c per lb.
Eggs	30c per doz.
Mutton	24c per lb.
Cheese	22c per lb.

At these prices milk is a little cheaper than round steak, nearly one-half cheaper than sirloin steak; not over one-third or one-fourth as expensive as cold ham; cheaper than fresh fish; not much more expensive than salt fish; and considerably cheaper than eggs and mutton for the purpose of furnishing protein. In other words, to furnish the adult requirements of this all-essential food, protein, that is, three and one-third ounces per day, the consumer is interested in not only the readjustment of the menu for physiological reasons, but in reducing the ever-increasing high cost of living, and we could afford to in some way substitute milk or cheese, (its protein product), for the much more expensive other animal food products, such as we have enumerated.

Milk Has a Great Advantage.

In this connection it is well to bear in mind that where we have shown milk at eight cents per quart to be more economical as a food material than the other animal food products at the prices mentioned we should remember that we are here considering milk from the standpoint of one only of its constituents, the one which is usually thrown away and rejected entirely. In other words, one of the milk products which in many, many creameries in this state is going down the sewer without any attempt at its conservation is this same proteid material—casein—cheese—which, by itself more than equals the other animal food products.

BUCKWHEAT FOR SILAGE.

I have a field of buckwheat that did not fill very good on account of the terrible heat in August. Will it make good silage to put in with corn?

Huron Co.

S. H. D.

Buckwheat has been used for hay with success and there is no reason why it will not make silage of fair quality when put in with corn. To put it in alone it would be difficult to pack it to exclude the air sufficiently to make good silage, but put in with corn there will be no difficulty in this respect. But it should be cut and put into the silo while yet green. It won't do to let it get ripe and dry and then try to ensilo it unless you add plenty of water.

Buckwheat is not a leguminous plant like clover and therefore will not be as good as clover or beans to mix with corn, but it will be palatable and nutritious and the cattle will relish it and do well.

COLON C. LILLIE.

EQUIPMENT BONDS.

(Continued from page 272).

large, and owing to their short life, the issue has very little chance to become well known or well seasoned, also, there is very little chance of appreciation in value.

The investor who wishes a little higher return than that obtained on other railroad issues should recognize the peculiar merit of equipments for his own purpose, and take advantage of the market obtaining in them. At the present time good equipments may be had at prices to yield from four per cent up to five and a half per cent, the higher price usually being asked for the shorter maturities and the cheaper price for the longer one. Particular offerings may be received from your own banker or bond house, and the writer has in mind at the present time several issues that offer attractive investment opportunities.

Grange.

GRANGE EXECUTIVE COMMITTEE MEETS.

I am going to tell the readers of this paper about the more important things done at the meeting of the executive committee of the Michigan State Grange held at Lansing, Tuesday and Wednesday, September 5-6.

We thought we had arranged for a splendid meeting of the committee on taxation in connection with the other work at hand, but when the hour came only one man out of the three who had been invited to address us, was in evidence. This was a gentleman from Detroit who spoke upon "The Single Tax."

We had invited a man who has given much thought and a lot of study to the budget system, and were disappointed not to see him at the meeting. It is the purpose of the committee to get all the light possible upon this matter, and finally to be able to recommend a plan for a "Budget System" that will mean something.

The matter of the "Tonnage Tax Measure" was taken up in due time, and final arrangements were made for its completion and Brother Hutchins, to whom had been given the management of the securing of names upon the petition, reported his plan.

In the preparation of the bill, considerable discussion arose as to the "return" provision which was in the measure of two years ago. It will be remembered that this part of the measure provided for the return of twenty-five per cent of the tax collected to the localities paying it. After the failure of the Pennsylvania law taxing hard coal, the decision of the court resting in part upon the fact of the return of a portion of the tax to the localities, some hesitation was felt about retaining this provision.

However, the case is somewhat different, there can be no possible doubt about the justice of the provision, and after much discussion the committee voted to retain this part of the bill, without opposition.

There has been much discussion also over the so-called Torrens bill. It will be remembered that this bill failed of initiation along with the tonnage tax bill two years ago. In the meantime a committee of lawyers from different states have been at work upon what they call a "uniform bill." Some of the people who examined that bill were in favor of it, but after much studying and minute examination of both measures, I think practically everyone is willing to concede that the Grange measure is by far the best adapted to Michigan conditions. Such is the unanimous opinion of the executive committee, and therefore the same bill will be initiated if we secure the required number of names to the petitions.

And the names are going to be secured. The matter has been placed in the hands of Hon. J. W. Hutchins, chairman of the executive committee, and he has begun organizing his forces along a very practical line.

Tuesday evening was spent with the members of "The State-wide Dry Campaign Committee." The executive committee are a unit in the purpose to do their uttermost to help make Michigan dry.

The committee will at once put out a circular opposing the so-called home-rule amendment, and distribute it widely over the state. As much of the five hundred dollars appropriated by the State Grange for the dry campaign, as is needed for this purpose will be used, and the balance will be turned over to the state-wide dry campaign committee. This action was decided upon after much discussion and seems to the writer the wisest course.

Worthy Master Ketcham announced his purpose to organize a force of dep-

Farmers' Clubs

Associational Motto:

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

Associational Sentiment:

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

CLUB DISCUSSIONS.

A Picnic Meeting.—The Gun Plain Clover Leaf Farmers' Club met with Mr. and Mrs. Frank Hall, August 29. At noon members and friends came with baskets well filled for dinner. Tables were spread on the lawn with edibles too numerous to mention. Following dinner the president called the meeting to order. Several songs were rendered by the Club. For amusement croquet was played by old and young. There were about 45 members in attendance. A good program was rendered. The Club was undecided where the next meeting will be held, but it will be September 26. The meeting being in the form of a picnic was very pleasant and enjoyed by all.—Mrs. Ford Myers, Cor. Sec.

The Monthly Meeting of the Conway Union Farmers' Club met at the home of Mr. and Mrs. S. R. Rickett, Friday, August 25. Clarence Fuller introduced the first topic, "What is the new farm loan law, and is it practical?" Rural credits or farm loans provide new credit for farmers for purchase of land and for improvements, the rate of interest not to be more than six per cent. Only to the farmers who now cultivate or will cultivate their land, which they offer as security for their loans, is the privilege of the new law granted. The mortgage can only cover 50 per cent of the value of the land, and 20 per cent of the value of the insured improvements. The borrower, to become a member, must take one share of stock of \$5.00 for every hundred dollars he borrows. The topic was well discussed.

"Shall we send troops or food into Mexico?" Mrs. Raymond Allen said in part: Sending troops into Mexico would mean to try and maintain law and order, something the Mexicans dislike. What they need is a competent leader and left to work out their own government. Living is very high and wages very low, but there is a vast acreage if it were cultivated; it would supply all Mexico's needs. Does not behoove other nations to interfere.—Frances Stow, Cor. Sec.

uties who will do a lot of supervision within the next few weeks.

Appearances suggest the possibility that some of the late candidates for office have not acquainted themselves with the provisions of the "Corrupt Practice Act" and a resolution was adopted calling upon the governor to investigate.

During the month of August Granges have been helping to place in nomination candidates for the various State Grange offices to which patrons will be chosen in the coming advisory primary.

A goodly number of Granges took part in this work—more, I think, than at any time during the last four years.

John C. Ketcham received endorsements from most of the Granges, although Brother C. S. Bartlett had enough votes to place his name on the ballot, if he should wish to have it so. Three other brothers received a few endorsements but not the number required to entitle them to places on the ticket.

The name of Miss Jennie Buell for secretary, and that of Mrs. Dora Stockman for lecturer, will be the only ones upon the ballot for these positions.

The members of the executive committee whose terms of office expire this year are: C. S. Bartlett, George B. Horton, J. W. Hutchins and W. F. Taylor. These were endorsed by most of the Granges, but J. W. Helme, H. F. Baker and R. M. Seward received a sufficient number of endorsements to place their names on the ticket if they so desire.

Names of candidates receiving ten or more endorsements will be placed upon the ballot unless they notify the secretary prior to September 20.

W. F. TAYLOR.

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Farmers will find splendid opportunities now for farming in the Great Pacific Northwest.

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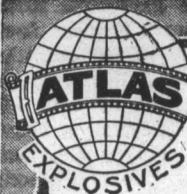
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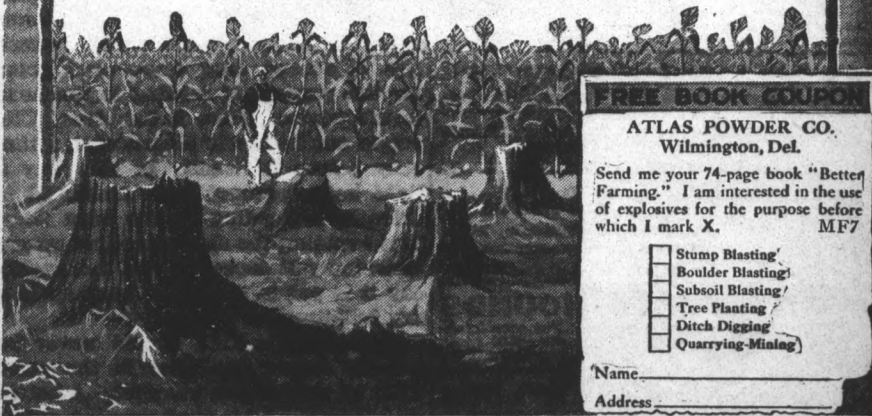
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You will find our illustrated book "Better Farming" full of helpful, valuable information. It tells how to get better crops and save money on farm work by using Atlas Farm Powder, The Safest Explosive. Mail the coupon now.

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Ferris White Leghorns for Eggs



Compare Ferris Leghorns with ordinary hens and you will understand why so many thousands of poultry keepers have Ferris White Leghorns exclusively. Order a small pen from trapped nests with records of over 200 eggs. Keep a record of the eggs they lay this fall and winter compared with your present flock. Next spring you will know that 16 years' careful breeding has produced hens that will average close to 200 eggs a year with ordinary care.

Pens of this 200 egg quality will cost as follows:

1 cockerel, 2 hens or pullets	\$9.00
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1 cockerel, 8 hens or pullets	22.50
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2 cockerels, 25 hens or pullets	60.00
3 cockerels, 50 hens or pullets	112.00
6 cockerels, 100 hens or pullets	210.00

These pens are properly mated. The cockerels are early hatched, the hens are laying and the pullets are ready to lay. Prices quoted are for September only, to reduce flock before placing in winter quarters. Regular prices are 25% higher. See page 8 of our catalog for particulars, or order direct from this ad.

All stock is shipped on approval. You can return within three days any birds not satisfactory and money will be refunded. We guarantee safe arrival any distance. (We will ship C. O. D. if you want to see the birds before paying for them. Send only \$1.50 for a pen of five and 20 cents each for large numbers to guarantee express charges.)

Free 32-page catalog gives more information than is possible in this ad. Contains photos showing 35 acres of White Leghorns; describes our methods of feed and care; how we improve laying qualities; list of winnings at 20 big shows; many letters from customers; prices of exhibition, breeding and laying stock; eggs for hatching and day-old chicks. Even if you are not now in the market for stock we will be glad to send you a copy. Mail a postal now while you have the matter in mind.

GEORGE B. FERRIS
Ferris Leghorn Farm
934 Union Grand Rapids, Mich.

ALLIEN VERMIN PROOF PERCH Farm, Willis, Mich., their **Hollow Self-filling** Kerosene oil soaked Roosts are sure death to Lice, Mites, Vermin. Circular.

POULTRY.

Barred Rock Eggs. Cock birds, hens. Four pullets laid 950 eggs in one year.
W. C. COFFMAN, BENTON HARBOR, MICH.

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

BREEDING COCKERELS White, Brown, Buff, Black Leghorns. R. I. Reds. Barred Rocks. PULLETS—White, Buff, Black. Prices reasonable. Sunnybrook Poultry Farms, Hillsdale, Michigan.

BREEDING Cockerels, Shorewood strain of Rhode Island Whites for quick sale at \$1.50 each single and Rose Combs. Deforest Peet, R. R. 1, Alto, Mich.

COCKERELS and a few cocks bred from noted 200 egg strain of Ferris Leghorns, at bargain prices if ordered at once. **Leon C. Wheeler, Barryton, Mich.**

GET YOUR ORDER IN EARLY FOR Cockerels from Cousins Northern King Strain Barred Rocks. Write **David W. Jousins, North Port, Mich.**

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

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

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

Fowlers' Buff Rocks Prices reduced one half, balance of season. Utility eggs \$3.75 for 15, \$1.50 for 30, \$2 for 50, \$3.50 for 100. **R. B. FOWLER, Hartford, Mich.**

ORPINGTONS: White, Single-Comb Keller-strass 8 wks. old chix Cockerels 75c., pullets \$1. up. **M. E. THOMPSON, Redford, Mich.**

Pine Crest, S. C. White Orpingtons. Bargain, 4 yearling hens and cock, \$8, \$12 and \$15, just one half what they will cost next spring. **MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.**

300 R. I. RED HENS, Rose and Single Comb. Write for Price List. Sell your mongrels and buy pure bred R. I. Reds. **INTERLAKES FARM, BOX 39, LAWRENCE, MICH.**

Rose and Single comb Reds, young and old, for sale. Correspondence as to your Red needs invited. **JENNIE BUELL, Ann Arbor, R. 8, Michigan.**

ROSE COMBS. Brown Leghorn Cockerels large in size, bred from prize winners and two best strains in America. One dollar each. **Mae Himebaugh, Hillsdale, 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. Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according to age \$6 to \$25, 10 eggs \$3. **A. E. Cramton, Vassar, Mich.**

S. S. Hamburg Eggs reduced prices, balance of season. Free delivery. R. C. white Leghorn hens \$1.00, Belgian Hare Bucks \$5.00 with Pedigree. **RIVERVIEW FARM, Vassar, Mich.**

SILVER GOLDEN AND WHITE WYANDOTTES. Eggs from all matings, 150 per 15, \$2.50 per 30 until July 1st. **C. W. Browning, R. 2, Portland, Mich.**

S. C. Buff Orpington Cockerels for breeding purposes. Prices reasonable. If interested write at once to **Mrs. Calvin Fuller, Bancroft, Michigan.**

White Wyandotte Cock & Cockerels. Eggs \$1, \$2, \$3, per 15, \$4 per 50, \$7 per 100. **DAVID RAY, 222 Forest Ave., Ypsilanti, Michigan.**

WHITE WYANDOTTES Eggs \$1.50 per 15, \$2.50 per 30, \$7.00 per 100. From choice stock. **A. FRANKLIN SMITH, Ann Arbor, Michigan.**

White China Geese & M. Pekin Ducks
CLAUDIA BETTS, Hillsdale, Mich.

DOGS

FOX, COON, SKUNK, AND RABBIT HOUNDS Broke to gun and field, and guaranteed. Fox, coon & rabbit hound pups, from the best of stock—\$5.00 each. Stamp for photos. **H. C. Lytle, Fredericksburg, Ohio.**

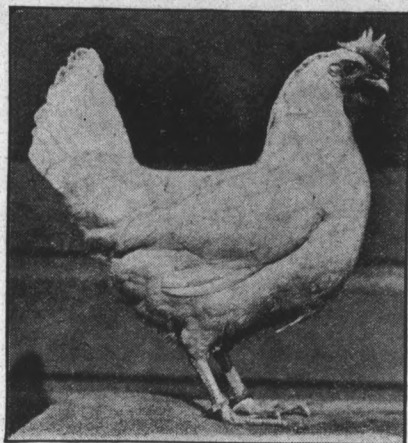
PURE BRED SCOTCH COLLIE PUPS, Belgian Hares and R. and S. O. R. I. Reds for sale. Good quality, prices reasonable. **O. E. Hawley, Ludington, Mich.**

Fox Hounds of all ages, 500 Ferrets, send 2c stamp. **W. E. LECKY, Holmesville, Ohio.**

Poultry.

THE NEW OREGON BREED.

A new breed of poultry has come out from the west and demands the attention of practical poultry keepers. The Oregon being the name of the new breed, it is hardly necessary to say that it had its origin in the state of Oregon. The crossing of White Leghorns and Barred Plymouth Rocks produced the original Oregons, which have been bred up to the present type by introducing much more Leghorn blood. Prof. James Dryden, of the Oregon Agricultural College, where the work was done, says that egg production was the first consideration in the making of the new breed, but that another purpose was to develop an all-round type of bird that would meet the market demands. The Plymouth Rocks are good table fowls and some strains are excellent layers, but the average consumer wishes a smaller sized bird. More chicken would be consumed,



An Oregon Hen.

Prof. Dryden thinks, if the purchaser could always find a bird that would suit his pocketbook and yet have more meat qualities than the Leghorn. The Oregon is medium in weight between the Leghorn and the Plymouth Rock, making it a good general purpose fowl. At the same time, its laying qualities are very high. Several hens of the new breed have records of over 300 eggs in a year. This tendency to heavy egg production is not simply the result of crossing two established breeds, however, but results from the selection of heavy layers as breeding stock, trap nests having been used as a basis.

In color the Oregons are white and they are rather close feathered, like the Leghorns, with medium-sized combs, yellow legs and a yellow skin. They lay a white egg. Yellow-skinned birds that will weigh four or five pounds and that are heavy producers of white eggs should meet the requirements of a great many poultry keepers, both amateurs and professionals. It is likely that much more will be heard about the Oregons in years to come.

Massachusetts. **E. I. FARRINGTON.**

SECOND CROP GRASS FOR THE HENS.

An eastern poultryman tells us that it has been his custom for several years to harvest considerable quantities of second crop clover and grass for the purpose of feeding to the hens in the winter. Here is his plan: Clover is cut before it blossoms and timothy before it heads. In this way a light bulky product is obtained. It is dried by spreading on the barn floor, thus avoiding the shrinkage that strong sunshine will cause. When thoroughly dry it is put in bags and hung up in a dry building.

Feed of this kind should never be thrown among the litter in the pens. That method is too wasteful. A better way is to use a piece of common chicken wire, spreading it on a flat surface and placing three or four inches of the

roughage the entire length. The wire is then rolled as tightly as possible and hung on the wall of the poultry pen at a height that the hens can easily reach. My informant says that the birds prefer this to any form of green feed he can provide in the winter. It probably comes as near to the forage of the open range as it is possible to obtain in midwinter.

New Hamp.

C. H. CHESLEY.

HOME-MADE HIVES.

I am starting into the bee business and want all the advice I can get. I have seven colonies now; they are just in box hives and not all of one size. I want to make all my hives, so please give me the correct measurements of a good ten-frame hive.

Sanilac Co.

N. F.

Many bee-keepers who are good mechanics, and have spare time, find it very economical to make their own hive bodies, covers and bottom boards. Usually they find that the frames for the hive bodies can be purchased more cheaply than they can be made, that is, taking time into consideration, and as the frames are sold quite reasonable, I think it is cheaper to buy rather than to make the frames.

Before commencing to make hive bodies, I would advise you to purchase one complete hive, known as the ten-frame dove-tailed Langstroth hive. This hive can be purchased from any of the bee supply jobbers. With this hive on hand you will notice immediately the main points in construction. The measurements for the ten-frame Langstroth are 15½x19½ inches, and 9¾ inches deep. These are the inside measurements. The frame which goes with this hive is 17½x9½ inches outside measurements. In making hives and frames, the main points are to be sure that one has space between each hive body and super. The bee space is a space one-fourth to three-eighths of an inch, usually the latter, and this space must be provided for between the ends of the frame and the hive body, and also either at the bottom of the hive body, or the frames should rest on a tin rabbit three-eighths of an inch longer than the top of the hive body. The latter is usually where the bee space is provided.

In this case, the bottoms of the frames in the hive bodies, or section holders in the supers would come flush with the bottom of the hive body or super, so that when the super or hive body was placed on the lower hive body there would be a space of three-eighths of an inch between the tops of the frames in the lower bodies, and the bottom of the frames, or section holders, in the upper hive bodies, in the case of comb honey supers.

It is not necessary to make a dove-tailed hive, as hive bodies which are made with lock corners will answer the purpose equally well, provided they are made carefully, and the joints painted just prior to nailing. Hand holds on the outside of the hive bodies are very handy, as the bee-keepers find when the bodies are filled with honey. The woods usually used for hive bodies are white pine and cypress. In some cases, redwood has been used, but the two former apparently give better satisfaction. In using lumber, be sure that the lumber is thoroughly dried, or the hive bodies will very soon get out of shape, and be a nuisance to handle correctly.

I would advise you, if you are starting out, and expect to keep bees for very long, to purchase the metal spaced frames. These cost but little more than the ordinary Hoffman frame, but are very much stronger, and there is less risk of the top bar breaking when the frames are being handled at any time.

Ingham Co.

F. E. MILLEN.

Be sure to get rid of all the surplus males and of all the hens which are too old, or which have molted too late to lay well through the winter.

BREEDERS' DIRECTORY.

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

CATTLE.

ABERDEEN ANGUS

We have a choice lot of Bull Calves, that are 6 to 12 months old and another crop coming. I will be pleased to have you visit our farm, where we have a stock show every day; we will also have a show herd at the Michigan State Fair. **U. L. OLARK, Hunters Creek, Mich. SIDNEY SMITH, Manager.**

ABERDEEN-ANGUS

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

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

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GUERNSEY CATTLE

BERKSHIRE HOGS

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

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

Guernsey (May Rose) Bull for sale, born Sept. 5, 1913. Splendid animal in every respect, Dam 520 lbs. fat class F. **J. K. Blatchford, Auditorium Tower, Chicago, Ill.**

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

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

CAMPBELL & ANGEVINE,

Coldwater, Michigan.

GUERNSEYS—REGISTERED

Containing blood of world champions. **HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.**

GUERNSEYS—10 choice yearling and two year old "Guernsey Heifers"—bred. \$250 to \$350 each. **J. M. Williams, North Adams, Michigan.**

Herefords—One Bull Calf.

ALLEN BROS. PAW PAW, MICH.

Do You Want A Bull?

Ready For Service.

From a grand daughter of **The King of the Pontiacs**. Sired by a bull that is more than a half brother to the **Champion Holstein Cow of the World**, and whose dam is a 30 lb. 6¼ fat daughter of **Pontiac Aggie Korndyke** who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

HOLSTEIN BULLS FOR SALE

3 of them 1 year old in Nov. By 31 lb. sire. Dams above 21 lbs. as heifers. Price \$100. Younger bulls by son of **Johanna McKinley Segis \$50 up.** **BLISSVELDT FARMS, Jenison, Michigan**

FOR SALE

SOME VERY FINE YOUNG BULLS Whose sires have as high as 31 lbs. of butter behind them. As they are young will make a low price on them. **BIGELOW'S HOLSTEIN FARMS, BREEDSVILLE MICH.**

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

I Have Holstein Bulls, Bull Calves and Cows that I offer for sale. I can show breeding records, in dividuality and attractive prices. **L. E. CONNELL, Fayette, Ohio.**

"TOPNOTCH" Holsteins

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

Guernsey Females of Quality: Bred heifers and cows to freshen in Sept. A. R. breeding. **G. A. Wigent, Watervliet, Mich.**

EXTRA FINE

Holsteins FOR SALE

In order to reduce my herd I will sell 20 Registered Holstein Cows, some with A. R. O. Records up to 22 lbs., and heifers from A. R. O. dams. Prices range from \$150 up. There is no better breeding in the country.

Bigelow's Holstein Farms
Breedsville, Michigan.

FOR SALE Two Holstein Bull Calves 6 months old from 20 lb. dams. **FREEMAN J. FISHBECK, Howell, Michigan.**

MORE MONEY FOR MILK.

(Continued from page 266).

the board of directors of this organization decided upon definite plans of activity. Since that time every official of the Michigan Milk Producers' Association has been giving of his time and energy to the advancement of this work.

The field secretary and his assistants have formed local organizations in many parts of the state. The demands for work have been greater than could be met, and in many instances every day has had its place of meeting and organization.

The educational side of the propaganda has been met with a splendid endorsement by educators, doctors and scientific men of the state. Thousands of pieces of literature have been sent over the state telling of the food value of milk and cost of production. Much encouragement has come from this line of activity.

Wherever a price contest has been raised the state organization has assisted the local, and not in a single instance have they suffered defeat. The price gains, while not always sufficient have been encouraging and fortell of better things. In one case where milk was selling for 12 cents per gallon, the price was raised to 18 cents per gallon or a raise of 50 per cent. In one instance where milk was selling for 12 cents per gallon the price was raised to 20 cents per gallon, a raise of 66 per cent. The average raise in the price of sweet cream has been about 20 cents per gallon, or a raise of 33 per cent. In many instances there has been about 20 per cent per 100 lbs. At one shipping station of about 48 patrons the raise of 20 per cent per 100 brought them at the first pay day of two weeks, \$732 increase over what their checks would have been. In each of these and other cases it has required a little agitation on the part of the local, which, assisted by the state organization has brought about the results.

The buyer for a large concern presented the following list of prices to the field secretary, a few days since, asking for his criticism and endorsement. This schedule which is for a common grade of milk on a 3.5 per cent basis:

January	\$2.10
February	2.10
March	1.85
April	1.75
May	1.60
June	1.60
July	1.75
August	1.80
September	1.80
October	1.90
November	2.10
December	2.10

This averages the actual cost of production as determined by the ten state experiments conducted in various parts of the nation. These prices will go into effect as soon as the present contracts expire and will give to these patrons a raise of better than 25 per cent on former prices. This alone will be many times as many dollars as it will ever require to finance the local and state organizations. So, as we look at the work from any angle we feel that advancement is made. The general knowledge of the value of our product as being the cheapest food product on the market is being broadly scattered and eagerly received by producers and consumers alike.

If you desire to assist or be assisted in the great campaign, send for literature and information to R. C. Reed, Field Secretary, Howell, Mich.

We desire again to think you who have so kindly and generously supported this campaign. We believe that a continuation of your co-operation will bring desired results.

Remember—that Milk is not a raw product.

Remember—that the cow is the most delicate and intricate machine used to manufacture human food.

R. C. REED,
Field Secretary.

Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Stringhalt—Fracture.—A few days ago my horse ran a short distance, then into the stable, and immediately afterwards commenced lifting one hind leg high up, but I failed to find any injury to the leg. He will barely put his foot on the floor. J. J., Berrien Springs, Mich.—One of two things happened to your horse; either a lesion of sciatic nerve occurred or else he fractured his pelvis or hip. Very little can be done for either ailment, other than to give absolute rest and good care.

Obstructed Teat.—I have a valuable Jersey cow that got one of her teats cut on barbed wire. Wound healed fairly well, but there is a small lump that seems to move up and down teat at milking time which interferes with the milk flow. J. H. K., Germfask, Mich.—It will perhaps require a surgical operation before this bunch can be removed; furthermore, it is work for a Vet. or a dairyman who has had experience and who has the necessary tools to do that kind of work.

Hip Joint Lameness.—Shortly after my mare had her colt last spring I thought she showed lameness in fore foot, but of late I notice that her hip is sweetened back of hip joint and when she walks the hip joint appears to be loose, playing altogether too much. So far as I know she has not met with any accident and I am inclined to believe that she never was lame in front, but lame in hip. What had I better do for her? J. F. B., Flat Rock, Mich.—Apply equal parts turpentine, aqua ammonia and olive oil to hip once a day. It is possible that she fractured her pelvis; however, she should be given rest and good care or she will not get well.

Rheumatism—Loss of Appetite.—I have nine pigs three months old, and three of them are not thriving. The first symptoms they showed was loss of appetite, soon lost flesh and now they are occasionally lame. P. B., Falmouth, Mich.—Mix equal parts of powdered charcoal, ground ginger and ground gentian together and give each pig two-thirds of a teaspoonful at a dose either in feed or as a drench in some cold water or milk three times a day for a few days, then perhaps twice a day will be often enough.

Indigestion.—What is wrong with my lambs? They first showed symptoms of frothing at the mouth, discharge of mucus from nose, stand with head up in air, occasionally jump and then duck head down to ground, acting wild. I am commencing to wean these lambs, feeding them some oats. W. W. N., Niles, Mich.—I am inclined to believe they suffer from indigestion. Give each of them enough castor oil or epsom salts to open their bowels; also give small doses of potassium bromide three times daily. One-half grain is enough for young lambs.

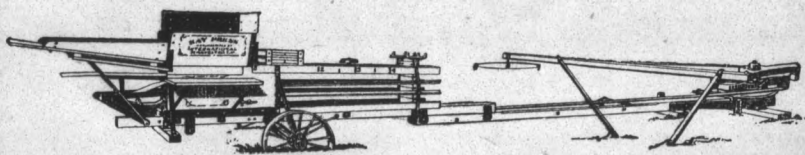
Rheumatism.—I have several pigs four months old that seem to have trouble in their back and hind quarters causing considerable lameness and stiffness. I have been feeding them stock food, ground corn, middlings and separator milk. W. W., Alpine, Mich.—The less corn and fat-producing milk you feed your pigs the better they will walk. They should have more exercise, their bowels kept open and active. Give each pig 5 grs. of potassium bromide at a dose three times a day. Feed some oats, middlings, tankage and grass. They should be kept in a clean dry place.

Chronic Sticking.—We have a mare that always sticks in lower part of one hind leg as soon as she is rested and not exercised. She is fed hay and grain three times a day while working and only hay and grass when idle. Mrs. J. E., Marion, Mich.—Bandage leg in cotton while she stands in stable and give her 1 dr. of potassium iodide and 1 dr. acetate of potash at a dose in feed twice a day.

Shy Breeders.—So far this season my cows fail to get with calf, but they come in heat every 22 days. I got some medicine from our local Vet. that I gave for five days before they came in heat and for five days afterwards, but it failed to help them. J. S., Gowen, Mich.—Dissolve a tablespoonful of bicarbonate of soda in one pint of water and inject cow four hours before she is served. Certain cows are barren, others are shy breeders.

Loss of Vision—Infectious Ophthalmia.—My cows have been troubled with sore eyes since last spring; three of them have lost the sight of one eye each. E. N. H., Gagetown, Mich.—Apply equal parts of calomel and boric acid to sore eyes once a day and give each cow that has sore eyes a teaspoonful of nitrate of potash in feed or water once or twice a day.

Buy an International Hay Press



It turns out the tight, smooth bales of hay that ship well, and sell readily, because pressed with our famous pull-power toggle-joint plunger, and smoothed with our special roller tucker.

It is made in styles to suit the needs of every farm—one-horse and two-horse presses for farmers who have no other power; motor presses for the men who wish to get through with baling in a hurry; belted jack presses for farmers who already own engines; and fast working belt power presses for baling large crops, or for custom work. The line is complete.

All working parts of International Hay Presses are made of steel. The sizes are standard, 14 x 18, 16 x 18 and 17 x 22, and the capacity of the different styles ranges from 6 to 35 tons of baled hay per day.

Write for illustrated folders and catalogues showing these baling presses in color and giving complete specifications. You can see an International press at the place of business of the local dealer who handles it. We will send you his name if you will write us.

International Harvester Company of America

(Incorporated)

CHICAGO

USA



Champion Deering McCormick Milwaukee Osborns Plano



Duroc Jersey Herd Boars

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

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

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

BULLS ALL SOLD

Holstein-Friesian Cattle A. R. O. herd, tuberculin tested annually.

PEACELAND STOCK FARM, Three Rivers, Mich.

Chas. Peters, Herdsman, C. L. Brody, Owner, Port Huron

HOBART W. FAY
Holstein-Friesian Cattle
Established 1904.
Mason, Mich.

CHOICE HOLSTEIN BULLS—all from A. R. O. dams. Entire herd on Semi of test for yearly work. Jr. 2-yr. old just finished year's record of over 15,000 lbs. milk over 1000 lbs. butter record in mature class. Cherry Creek Stock Farm, M. E. Farnelle, Prop., Hilliards, Mich.

Holstein Bull Calf. 2 nearest dams average 90 lb Reg. milk per day Pontiac Koradyke and Hengerveld DeKol breeding. Prices right. John A. Rinke, Warren, Mich.

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

MICHIGAN HOLSTEINS

4 to 12 Mo. World record sire. High testing dams—from \$99 up to \$299. Let us send you one on trial. You should not buy until you get our book.

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

ONLY \$25 DELIVERED: Handsome Holstein bull calf, 7-8 white. 15-16 pure bred. Sire, 25 lb butter bull. Dam extra good cow, 7-8 pure. ROUGEMONT FARMS, Detroit.

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

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 93124. Dam's record at 6 yrs. butter 28.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 18622 lbs. W. B. READER, Howell, Mich.

FOR SALE—My herd of 12 selected Grade Holstein Cows. Young, soon to freshen. Reasonable price. J. E. GAMBLE, Hart, Michigan.

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

Jersey Bulls for Sale. from high-producing dams, with testing Assn. records, also on semi-official test. C. B. Wahner, R. 6, Allegan, Mich.

THE WILDWOOD JERSEY FARM

offers for sale choice young Bulls by Majesty's Wonder and R. of M. cows, or cows on R. of M. tests. Will also offer a few cows for sale this fall. Write for pedigree and full particulars. Satisfaction guaranteed. ALVIN BALDEN, CAPAC, MICH.

Maple Lane R. of M. JERSEY HERD offers for sale, tuberculin tested cows, heifers, bulls, and bull calves backed by several generations of R. of M. breeding. IRVIN FOX, Allegan, Michigan.

Jerseys For Sale Bull calves ready for service and cows and heifers soon to freshen. Meadowland Farm, Waterman & Waterman, Ann Arbor, Mich.

REGISTERED JERSEY BULLS FOR SALE

1 yearling, and Bull calves from 8 to 10 months old. Also 3 cows. Write your wants. SMITH-PARKER, R. D. No. 4, Howell, Michigan.

BIDWELL SHORTHORNS

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

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

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

Shorthorn AND POLLED DURHAMS FOR SALE. Have red roan and white. Have over 100 head in herd. C. Carlson, Leroy, Mich.

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

Registered Shorthorn Cattle, young bulls and heifers \$100.00, red cows and heifers \$150.00. Write, W. J. BELL, ROSE CITY, MICHIGAN.

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

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

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

FOR SALE—Two yearling heifers, both from 27 lb. Sire and one from 20 lb. dam, the others dam not tested, but a fine individual, also a bull calf from 21 lb. 4 year old dam, sire a 27 lb. double grandson of Johanna Hengerveld Lad. For particulars address C. R. FAINE, DURAND, MICHIGAN.

HOGS.

Berkshires of best breeding of various ages, either sex, all registered stock, no akin, special reduced price. Write your wants quick. Mitchell's Lakeside Farms, R. 2, Bloomington, Mich.

SWIGARTDALE FARM HOLSTEINS.

Several choice Bull Calves, from A. R. O. Dams, with the best of Long Distance backing at Farmers' prices.

BERKSHIRES

with size, breeding, and individuality that is hard to beat. See our exhibit at the State Fair. Prices reasonable; satisfaction guaranteed.

Swigartdale Farm, Petersburg, Mich.

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

Breeders' Directory—Continued on page 277

Boys and Girls

Little Flossie Meredith, Jasper County, Iowa, sent in her name and we gave her a beautiful pony named "Pat." Now she has fun all the time.



William H. Edmunds lives in Luzerne County, Pennsylvania. He sent in his name and I sent him "Russ." William says "Russ" is a very fine little pony and he has been offered \$150 for him.



Ponies Given Free

Here Is The Chance you have been waiting for to get a beautiful, playful little Shetland Pony, with Buggy, Harness, Saddle, Bridle and Blanket—all given to you without a cent of cost.

I Am The Pony King of America, and I have given away more than 407 Ponies to boys and girls. Now I am going to give away several more Ponies, and I want every family that reads this paper to stand an equal chance to get one.

If You Are a Boy or Girl, send in your name. *If you are the Father or Mother* of a boy or girl, send in your child's name. No charges of any kind—nothing to buy. Just send in your name and address.

Children Don't put off this chance. Don't wait. Write your name and address in the corner below, cut it out and send it to me.

I will then send you the beautiful *Free Pony Picture Book* and you will have an equal chance to receive one of the real live Ponies that I am going to give away soon. You stand just the same chance as any other child, and it doesn't cost you a cent. Get a pencil and write your name now.

Parents Please show this offer to your child, and send in the Coupon. You will be interested in the *Free Pony Book* I send, and your child will enjoy it immensely and profit by it. I receive many letters from children telling me how they enjoyed reading the book. Besides, *your child may win one of the Shetland Ponies* I am *actually giving away* this season. Your child stands the same equal chance as any other child.

Just Sign Your Name

**Send Your Name
For Free Pony Book**

**A Wonderful
Book for Children**

Here is a wonderful *Pony Picture and Story Book*. It tells the stories of hundreds of children and the Ponies I gave them. It is full of pictures of these children, playing with their *Pony Pets*. It tells how the children won them, how the Ponies were shipped to them, and the good times they are having with them. It tells all about the tricks they do and what they are fed and how they are cared for. I will send a copy of this wonderful *Pony Book* free to every boy or girl who really wants a Pony and who sends in his or her name. Write your name in the corner on the left and mail it to me right away. I want to hear from every boy and girl who doesn't own a Pony.

THE PONY KING

562 Webb Bldg.

St. Paul, Minn.

PONY COUPON

THE PONY KING,
562 Webb Bldg., St. Paul, Minn.

Send me the *Free Pony Picture Book*, containing pictures and names of children to whom you have given Ponies. Also send me pictures of the Ponies you are going to give away soon, and Certificate of Membership, so I can join your Pony Club and get a Pony.

My Name is.....

P. O.

State.....

R. F. D.

**Pony-
Picture
and
Story
Book**