

MICHIGAN FARMER

VOL. CXLVII, No. 22
Whole Number 3916

Saturday, November 25, 1916

FIFTY CTS. A YEAR
\$2.00 FOR 5 YEARS



WITH THE REQUIEM OF THE AUTUMN WINDS COMES NOVEMBER;
THE BIRDS ARE GONE AND THE GHOSTLY LEAVES AT PLAY
PROCLAIM THE DIEING YEAR: YET, MAY WE ALL WITH JOY, REMEMBER
BOUNTIFUL HARVESTS GARNERED, AND GLAD THANKSGIVING DAY.



The Michigan Farmer

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The Lawrence Publishing Co.

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39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4555.

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TERMS OF SUBSCRIPTION:

One year, 52 issues.....50 cents
Two years, 104 issues.....1.00
Three years, 156 issues.....\$1.25
Five years, 260 issues.....2.00
All sent postpaid.
Canadian subscriptions 50c a year extra for postage.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.60 per inch (14 agate lines per inch) per insertion. No adv't in serial for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Mem Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, postoffice.

DETROIT, NOV. 25, 1916

Thanksgiving Day

THERE is little doubt that the first Thanksgiving Day as it has come to be known and celebrated in America, occurred in the autumn of 1621 after the little colony at Plymouth had gathered their first harvest.

The little band of courageous Pilgrims who had "landed on Plymouth Rock" in the bleak December before, had suffered many privations and the somber angel had brought sorrow to many a household in the severe winter that followed; so that the "goodly harvest" that had been yielded by the virgin soil, was indeed welcome.

We read in the old annals that Governor Bradford gave direction to the desire of the people to celebrate the occasion and sent a number of men into the woods with "fowling pieces," who returned laden with wild turkeys. It was also quite natural that the intensely religious natures of the Puritans should inaugurate the feast with the solemnities of prayer and the singing of Psalms, and behold the first "Thanksgiving Day."

Very little appears concerning the following year, but in 1623 after a disheartening drouth, there came "copious showers of rain" for which there was "very great gratitude," and the day of Thanksgiving received very solemn celebration. Again in 1632 when a shipload of stores and desperately needed food supplies came most opportunely, special mention is made of "Ye days of giving thanks, etc."

The documentary history of the Massachusetts Bay Colony indicates similar celebrations from soon after their arrival in 1629.

The day's celebration naturally became a fixed custom and was officially recognized and practically made uniform in Massachusetts by proclamations about 1680, and continued after the unification of the separate colonies in 1692 under royal appointment of William Phipps as governor.

A somewhat similar celebration in November of each year appears in the records of the governor's office in New Netherlands from the sixth year of Governor Kieft in 1644 to the close of Peter Stuyvesant's incumbency 1664, when that Dutch colony became a British possession and was renamed New York.

During the Revolution a Thanksgiving Day was recommended by the Colonial Congresses. In 1789 President Washington appointed a day of "Thanksgiving for the adoption of the Federal Constitution."

With these exceptions the day seems to have been indicated by a number of the Colonial Governors and later by the governors of many states until the year 1863, when President Lincoln, yielding to the suggestion of uniform-

ity, indicated a certain day in November by proclamation; since which time his successors have followed the example and the various governors usually by subsequent proclamations designate the day appointed by the President.

While Michigan was still a part of the territory of Indiana, under the governorship of General Arthur St. Clair, with his capital at Vincennes, beginning in 1802, the Indians may have kept the pioneers too busy to stop for thanks: but with the more settled conditions following the appointment in 1813 of General Lewis Cass as governor of the territory of Michigan there soon came recognition of the custom which the nation had inherited from the Pilgrim Fathers.

Our front page design presents a New England matron of the later Colonial period when the sons and daughters of the Pilgrims were in the enjoyment of a substantial peace and progress.

The clock indicates the hour for the feast, the most interesting feature of the day probably, for we are all human—always were and always will be.

Undoubtedly the entire family spent the forenoon in church: the sermon was probably erudite—undoubtedly it was a long one: but it could have no deteriorating influence upon the appetite that could look beyond the benediction to roast turkey and cranberry sauce.

Whether the turkey, on the occasion of our illustration, was wild or of barn yard growth there is nothing to indicate: but the attitude and expression of the matron seem to clearly indicate that so far as her responsibility is concerned, she is quite satisfied with the result of her skill.

CURRENT COMMENT.

The advancing bean market, since the marketing season for this crop opened, has naturally been a bitter disappointment to that element of professional dealers who were unfortunate enough to make a wrong guess as to the probable crop and sold beans "short" for future delivery. There are said to be a number of this class among the large operators in Michigan. The trend of the market is also a legitimate cause of worry for manufacturers who use beans as a raw material.

This situation, however, would not seem to warrant the publication and distribution of what might properly be termed misinformation with regard to the bean yield, yet such attempts are apparently being made with a view of forcing down bean prices for the benefit of these classes of bean buyers. One such statement recently circulated contains the ridiculous statement that, owing to an increase of at least 25 per cent in acreage, this year's Michigan bean crop would be around 7,500,000 bushels as compared with 4,250,000 bushels of picked beans last year. This disregard of official figures is pathetic. The November state crop report placed the bean acreage for Michigan at 435,542 acres, with an estimated total yield of 2,920,338 bushels. The national crop report for November estimated the total yield of beans in five states of important production to be 9,924,000 bushels, or less than one-third more than the claim being made for Michigan by the class of buyers above mentioned. "Antics" of this kind are a good index of the desperation of the bean "bears." The real indications are that these bears might as well go into seclusion with their hibernating namesakes, since under existing conditions tactics of this kind are not likely to have any noticeable effect upon bean values.

The history of railroad rate regulation in this country is familiar to most Michigan Farmer readers. Under existing conditions the Interstate Commerce Com-

mission has jurisdiction in the matter of the regulation of railroad rates and practices pertaining to interstate transportation, while the railroad commissions of the various states have jurisdiction in similar matters pertaining to intrastate traffic.

There is now a movement on foot which is said to have the quite general support of railroad interests to promote national legislation giving the Interstate Commerce Commission jurisdiction over intrastate as well as interstate commerce. Naturally this movement does not find favor with shippers doing business wholly within their own states, who are familiar with the operation of the present system of state regulation and who believe their interests will be best protected by its continuance.

As bearing upon this question, the action of the National Live Stock Shippers' Protective League at its meeting held in Chicago last week will be of interest to the reader. The views of this organization were voiced in the following resolutions:

"The National Live Stock Shippers' Protective League, an organization of live stock shippers of the United States and the shippers of fresh meats and packing house products, composed of organizations of stock raisers of various states, the National Live Stock Associations engaged in the live stock business, Live Stock Exchanges of live stock commission men at the various markets and the meat packers and slaughterers of live stock, and representatives of railroad commissions of Iowa, Kansas, South Dakota and Missouri, submit to the Committees of Congress having consideration of legislation pertaining to transportation rates, regulations and practices of railroads engaged in such transportation, the following resolution, as voicing the sentiments and desire of this organization and live stock shippers and other shippers generally:

"Be it Resolved by the Executive Committee of the National Live Stock Shippers' Protective League at its meeting at Chicago on November 14, 1916.

First: That we oppose any law or laws which shall take away from the State Railroad Commissions, Corporation Commissions or other rate-making bodies of the several states the right and power to regulate the rates and transportation of intrastate traffic, or otherwise to deprive the states of control over the same; and

"Second: That we urge upon Congress the passage of an Act so amending the Act to Regulate Commerce, as to define and limit the powers of the Interstate Commerce Commission so as not to interfere with the rates on intrastate commerce as prescribed by Railroad Commissions or other authorized authority of the several states to prescribe and regulate rates and transportation of intrastate traffic within such states; and that the Interstate Commerce Commission shall not interfere with such rates, regulations and practices of such state unless the same shall have first been found to be unjust and unreasonable and to place an undue burden upon interstate commerce, by a court of competent jurisdiction provided for by law, and then only to the extent that may be necessary to remove a discrimination specifically alleged and clearly proven to be unjust and unreasonable."

This is a proposition of vital interest to every producer of agricultural commodities as well as the manufacturers and dealers in the state, for which reason we shall undertake to keep our readers posted as to the development of the project.

Some statistics recently published by the National Board of Fire Underwriters contains interesting information with regard to the result of fire prevention work. Many bright spots are pointed out where organized bureaus of fire prevention have saved losses in large cities and metropolitan districts ranging from 20 per cent to 64 per cent during the past two years.

This is of less direct interest to farm people, however, than the figures presented showing the amount of the largest class of easily preventable fires. In 1915 the total loss from dwelling house fires in the United States aggregated \$39,591,227, of which amount \$6,322,813 was directly traceable to defective chimneys and flues,

the cause of which could easily have been ascertained and corrected.

The conclusion reached by analyzing the figures presented in this report is that fire prevention work is really effective, but it will not reach the optimum of success until the public takes a hand in the matter on its own account. The responsibility really lies with the individual, particularly in the country where properties are isolated and fire protection poor. A careful inspection of the chimneys and flues at this season of the year may save many a Michigan Farmer reader from suffering a more or less disastrous fire and loss during the coming winter season. This is a duty which every farmer owes to his family and to himself, as well as to his contemporaries who help to carry his insurance risk.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—After a great battle in the Balkans, Monastir, a stronghold in southern Serbia, was captured from the central powers last week. The city lies 85 miles to the northwest of Salonika and marks an important forward step in the campaign of the Allies in this region. Its moral effect will also be of importance in improving their political position with the Greeks and other Balkan states.—On the other hand the central powers have added to their victories on the Roumanian frontiers. Bulgarian forces are now 71 miles northwest from Bucharest, the capital of Roumania, with a direct railroad at their disposal to flank the Roumanians in the Transylvanian Alps, which would cut off all avenues of escape of the Roumanian forces fighting in the western districts of that country. It is reported that a large number of Russian troops used in the Caucasus region a year ago have been transported to the European front to assist the Roumanians. The Russians have captured several heights in the Carpathian mountains.—Violent artillery engagements have characterized the fighting on the western front with the majority of the efforts on either side resulting in failures.—Report comes through Berlin that Russia has lost 2,128,476 men since June 1 of this year.—The German admiralty has admitted the torpedoing of the liner Arabia, near Malta, which they claim was armed and was carrying hundreds of working men for employment on war materials when she was sunk.—Efforts are being made by the entente allies to conserve their food supplies by placing the majority of the food necessities under governmental control.

A tidal wave washed the shores of southern France, Sunday, doing extensive damage to vessels and destroying buildings and other property on the coast, particularly at Marseilles.

In a railroad wreck between Dehsea and San Miguel in Mexico, 150 persons were killed and scores injured. The wreck was caused by running the train too rapidly over a dangerous section of road.

It is reported that 100,000 Assyrian Christians chiefly women and children are starving in the lower villages of Kurdistan, whither they have been driven by Kurds and Turks.

The Balkan express which runs between Constantinople and Berlin, dashed into a party of women section hands, killing 19. The accident occurred in a suburb of Berlin.

National.

Ruth Bancroft Law broke the American cross-country, non-stop aviation record by flying from Chicago to Hornell, N. Y., a distance of 590 miles, in eight hours and 55 minutes, while making an attempt to reach New York from Chicago from sunrise to sunset.

A movement started by Former Ambassador Herrick has for its object the raising of a \$1,000,000 war relief fund for the aid of all the warring nations of Europe. The Ambassador proposes that state and federal governments make appropriations.

Hon. Lawton T. Hemans, chairman of the Michigan Railroad Commission, a remarkably well-informed student of history and practical economy, and for many years a prominent figure in Michigan political circles, died last Friday at Battle Creek. Funeral services were held at Mason, the home of Mr. Hemans, on Sunday, and were attended by a large number of state officials and other prominent persons.

The submarine merchant ship Deutschland, when starting on its return trip to Germany, met with a mishap which caused the boat to return to New London, Conn. She rammed one of the convoy tugs, sending it to the bottom with four of her crew; only one, the captain being saved.

Phosphorus for Grain Crops

By JAMES N. McBRIDE

If one could summon the power of the estimators who furnish figures which, when repeated by someone and then printed are called statistics, he could run into the millions of unused and misused fertilizer losses, in Michigan. There has been some excellent work done by the various farm advisers along this line but they are not all over the state. The discrimination must come from the farmers, for trade conditions as now carried on do not permit this. The manufacturer of fertilizer does not know the place, crop or soil where his product will be applied so he must make a shotgun prescription, that will fairly fit anywhere. It is just this misapplication of fertilizers to grain crops (not special crops) on the average fairly fertile clay loam soils which is expensive and inefficient.

The Use of Fertilizer is Profitable.

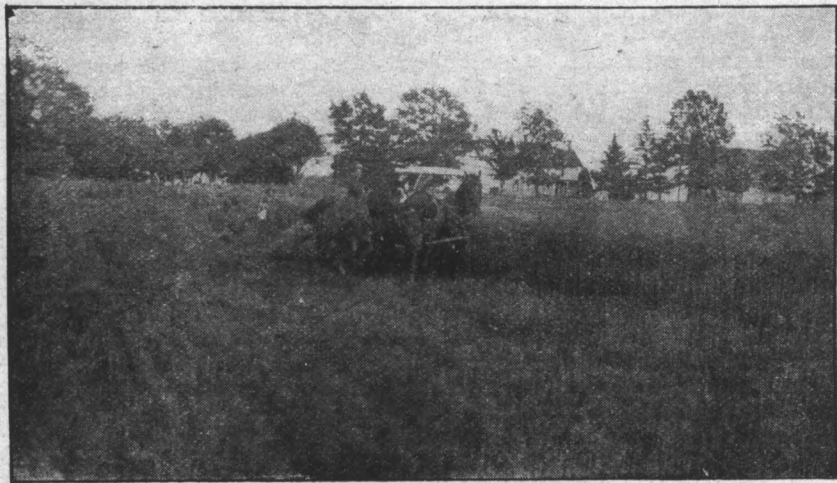
The average mixed fertilizer such as 1:8:2, is around 50 per cent increased cost over a 16 per cent phosphate, and contains one-half of the really valuable element needed for grains on good clay loam soils. The nitrogen, if needed, is bought in the most expensive form and is perishable in nature through volatilization as ammonia. This past season, with its absence of potash in quantities, has been evidence, although not as complete as one might wish, that much money is wasted in buying that element for the conditions noted in this article. The early accel-

erable circumstances with phosphate fertilizer used he had 50 bushels per acre of wheat which weighed 61 lbs. per bushel by elevator tests. The past season was not overly fair for wheat as compared to some bumper crop yields of the year 1914. It is an accomplished fact, whether by catalysis or direct action, which pays the farmer to use phosphate alone. My own impression is that the recession of wheat growing in Michigan some two decades ago was probably deficiency of phosphorus and that the revival by the use of mixed fertilizers largely was by reason of the phosphorus rather than the other elements contained therein.

It is very probable that the decline of wheat raising which is ordinarily the crop of virgin soils, is closely associated with the increasing deficiency of the phosphorus.

Making High Oat Yields.

In making a special effort to bring up the oats yield to approximate other feed crops, I early found that the use of a high-grade phosphorus was the essential element and that weight per bushel could be brought up to 38 lbs. The Bureau of Crop Estimates of the United States, while not vouching for the accuracy of these reports, credit oat yields as follows: Skagit Company, Washington, 183 bushels per acre; Logan Company, Colorado, 166 bushels; Ottertail Company, Minnesota, 165, and Skagit Company, Wash-



Good Culture, Good Seed and Proper Fertilization Made a 100-Bushel Oat Crop on the McBride Farm in 1915.

erated plant growth accorded to soluble nitrates seems to follow equally in the grains, where the acid phosphates are used and the difference is seen in check rows not treated at all. On a neighbor's farm a defective drill hoe did not deliver the phosphate and in turning this brought two unfertilized rows of oats together. The remainder of the drill round had its portion and these two rows were inferior from the start and ripened later with poorer grain development. An estimate would be 25 per cent of inferiority. This was not all. Only 125 lbs. of a 16 per cent phosphate or the equivalent in results, apparently, of an ordinary application of 250 lbs. of the average mixed fertilizer was applied.

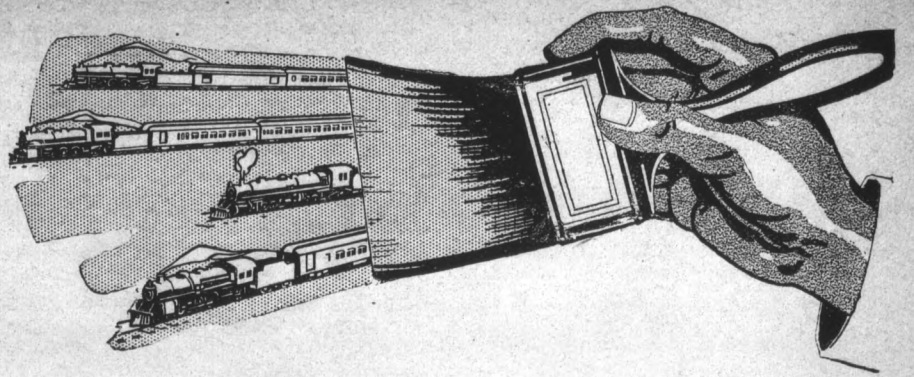
Can be Made More Profitable.

If anyone were to propose that the cost of fertilizer be cut 100 per cent on grain crops, by reduction of the use of fertilizer, he would be an ill-adviser. However, from my own experience with the conditions heretofore stated, I am under the impression that the value of fertilizer can be increased 100 per cent where now used, by buying the highest grade phosphate fertilizer. Another neighbor declares that he will use for grain crops only this phosphate fertilizer because on wheat sown the nineteenth of October, 1915, he harvested 35 bushels per acre, and where the fertilizer was not applied the wheat was poor and did not ripen early and was inferior in every way. On wheat put in under more fav-

ington, again with 141 bushels. The essential of oat growing is high phosphorus content of the soil, and ample moisture. On exceptionally good soil a mixed fertilizer is not only a waste of material and money but an excess of nitrogen will produce an overgrowth of weak straw; 200 to 250 lbs. of acid phosphate on oats will yield manyfold in quality and quantity of grain. This same observation applies to barley as well. A safe investment would be for one to furnish the acid phosphate and have one-half the increased gain over no fertilizer check plots, in fields of oats and barley. My own observation this season was that good seed and phosphoric fertilizer added 20 bushels of oats per acre. The cost of sulphuric acid used on the rock phosphate to make the phosphorus water soluble has advanced in price so that there has been some increased cost in this brand, but not proportionately to the mixed grades.

Judge Fertilizers by Plant Food Content.

I have experimented in home-mixing of fertilizers by buying the acid phosphate, nitrate of soda and muriate of potash. My conclusions were not against home-mixing but against the necessity of the added ingredients for grain crops. It would be well to forget all names of fertilizer brands but to distinguish by their proportions for example: 1:8:2 is 20 lbs. of nitrogen, 160 lbs. of phosphorus and 40 lbs. of potash. Multiply the symbols of per-



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centages through by 20 and you have the facts of the brand in pounds of the desired elements per ton. One per cent of 2000 lbs., or a ton, is 20 lbs. So the percentages, thus reduced, give us a more concrete idea of what the goods contain. The balance of the ton of acid phosphate is almost entirely gypsum or land plaster, which is an addition of lime sulphate to the soil.

Lime is a known element, essential to soil, and strong reasons exist to believe that sulphur is also desirable.

Humus to maintain nitrifying bacteria and water is a very necessary factor, in addition to the actual elements of fertility and must not be neglected. The case against fertilizers, so called, was not in fact but against the failure to maintain humus content.

Fertilizers Should be Purchased Cooperatively.

It is doubtful if the sale of fertilizer ought to be a function of the elevator man, or warehouse as managed at present, or when so handled, ought to be on positive orders from the farmer and taken off the car direct. The warehouse proprietor can not know the need or the mind of the farmer. Fertilizer is a heavy product, and the cost of rehandling and warehousing if added to the quantity sold, would certainly pay the farmer, and I think the profit to the warehouse operator would be enhanced in the increased quantity

of grain handled, as a result. There are few lines of business so well adapted to co-operative agricultural action as buying fertilizer. The co-operative creamery or even the small community had better, where there is no organization, go to their banker and let him order a carload for them. The cash discount on fertilizer is a considerable item, and this, too, could be turned to fertilizer to advantage. The biblical story of the sower going forth sowing the precious seed with weeping, but with promise of rejoicing, bringing in the sheaves, has a wider application than for use at funerals.

A new sermon could be preached from this text, that every dollar withdrawn from the farmer in production, lessens his power of reproduction of the necessities of life, which can come from no other place but the soil. It is for this reason that every aid extended to agriculture like mercy, blesses him who gives as well as the receiver.

The picture represents crop of oats growing in 1915. Where acid phosphate alone was the fertilizing agent, the crop of 1915 was 105 bushels per acre, while that of 1916, owing to exceedingly dry weather, on the best fields went 75 bushels. If there is adequate moisture good seed and 250 lbs. of acid phosphate per acre, 100 bushels per acre is not difficult to grow of an approved grade of oats.

Potato Association of America

By C. W. WAID

THE third annual meeting of the Potato Association of America was held at Washington, D. C., November 13-15. About a dozen states and Canada were represented. The purpose of this organization is to bring together for conference the leaders who are interested in the production, distribution and consumption of potatoes. Those who read the Michigan Farmer will be interested principally in that part of the meeting which had to do with Michigan problems as affecting the potato growers.

Prof. C. L. Fitch, of Ames, Iowa, gave a talk on variety types. In this talk and the discussion which followed, the fact was brought out that by selecting seed from hills which have a desirable shape, that shape can be bred into the variety.

Daniel Dean, a very successful grower in New York state, told of an instance where seed of the Triumph variety was secured from 29 different sources. One of the strains proved much superior in type as well as yield to the others. Upon inquiry it was ascertained that the seed was grown by a man who had been selecting his seed for this particular type for a number of years.

It was pointed out that good soil conditions are also essential for the development of tubers of good type. Hard or dry soils will produce tubers abnormal in shape as will a soil which is dry for a time, and later, when the tubers are approaching maturity, becomes normally moist. In spite of the fact that adverse soil conditions overcome, in some cases, the effect of good seed, it will pay the careful grower to take pains in the selection of his seed. The National Association will soon send out posters upon which the types of some of the leading varieties which were agreed upon at this meeting as being the most desirable to work toward will be printed.

Market Grades and Standards.

Another matter of much importance is the establishment of market grades and standards. Mr. H. R. Tolmadge, a large and very successful grower of Long Island, N. Y., read a paper on this subject. He gave several illustrations to show the need of better grading. He compared the present method of mixing many varieties of potatoes in a car to the shipping of a number of varieties of apples in one car. Apple men have learned that it pays to keep each variety of apples separate.

The majority of potato growers and dealers have this lesson to learn. The higher the grade of any product the greater the percentage of the selling price which will be received by the grower. In too many cases, however, this does not apply so well to potatoes as to some other products. We must have a different arrangement before the grower who has good potatoes, and is willing to have them properly graded, will get his just dues in all cases. This can only come through organized effort and by the co-operation of many growers in this general movement. The National Association appointed a committee at this meeting to determine the most practical grades of the leading commercial sorts.

Mr. Tolmadge said that good grading should begin with the use of good seed. This should be followed by suitable cultural practices.

Control Diseases by Seed Selection.

The study and control of potato diseases is of importance at all times. Dr. H. A. Edson, Plant Pathologist of the United States Department of Agriculture, gave an illustrated talk on this subject. He spoke especially of the need of careful seed selection to help overcome certain diseases. He said that the growers have it within their power to overcome, to a very large degree, most of our serious diseases by practicing known methods of seed selection and crop cultivation which have proven satisfactory in actual practice. Dr. Edson said that the powdery scab is not proving as serious a disease as it was at first thought it would prove to be. In the southern states the powdery scab does not seem to be able to develop. Michigan, however, is so located that the powdery scab might prove quite serious if it should once become established.

Uses for Cull Stock.

Dr. H. C. Gore, of the Bureau of Chemistry, United States Department of Agriculture, is doing a valuable work in trying to discover some practical way of making use of cull and surplus potatoes. He has a well equipped laboratory at Arlington where he is making dried, pressed potatoes especially for stock feeding, and potato flour, bran and shorts. He has also made a silage of potatoes by mixing two per cent of corn meal with the crushed potatoes. The Bureau of Animal Husbandry is making a feeding test of the pressed, dried potatoes. Six parts of the pressed potatoes are mix-

ed with one part of fish meal and fed in this form to swine in comparison with corn meal and tankage. The test is nearly completed and the daily gain total weight and general condition of the two lots of hogs receiving the rations are very nearly alike. Another lot of hogs is being fed six parts of pressed, dried potatoes and one part tankage, and another lot six parts of pressed, dried potatoes and one part of linseed meal. This test will be reported in bulletin form in the near future.

The Educational Exhibit.

In spite of the fact that no effort was made to stage an exhibit of potatoes quite a fine exhibit was put up. The Department of Agriculture showed a large number of seedling potatoes. Some of these are quite promising. Mr. W. F. Wright, of the Bureau of Plant Industry, had on exhibition a collection of 75 varieties of potatoes which he secured from South America. Some of them look very much like North American varieties, but most of them are of undesirable shape or color. Some varieties which he has secured seem to indicate disease-resistant qualities.

The New York State Potato Association had on exhibition a good sample of certified seed stock. Other small exhibits were brought in or shipped from several other states.

The following officers were elected: President, Lou D. Sweet, Denver, Col.; vice-president, J. G. Milward, Madison, Wis.; secretary-treasurer, Wm. Stuart, Washington, D. C.; executive committee, Daniel Dean, Nichols, N. Y., H. G. Bell, Chicago, Ill.

LILLIE FARMSTEAD NOTES.

I was afraid when the cold snap came last week that we might not be able to finish plowing the ground intended for peas next spring, but the storm only delayed plowing for a short time. The 45 acres for peas is all plowed now (finished Saturday, November 18), and two or three days will finish the 40 acres for corn.

A friend asks if it would not be better to spring-plow for corn? Many times it is better to spring-plow for corn. This year spring plowing was much the best on our farm. A portion of the field was spring-plowed and here we had much the best corn. But some years fall plowing is better. It all depends on how early you can plow in spring and whether the spring is wet or dry. In a wet spring the spring plowing is almost invariably the best, but if the spring is dry and the ground plowed late then fall plowing is much better. The farmer has to guess at this. It is a gamble. The risk is less I think, on fall plowing.

Again, some years with open winters, clay ground may puddle or run together and bake hard so it is much work to loosen it up and form a good seed bed the next spring. I have seen times when it took more work to prepare fall plowing than it would to plow it in the spring. But here the tractor helps out very much. With the big heavy disks one can pulverize almost any soil if it is dry enough to work, when it is practically impossible to do it with horses. So I have no fear on that score.

Still again I like to plow in the fall if we can, because we have so much work to do in the spring that many times we can not do it properly. On a dairy farm there is much to do in the spring. When the spring work comes on we have just as many chores to do as in the winter time and the horses are soft from inaction and can only do a little work. If it happens to be hot it is slow work plowing. Then if it is dry the soil plows lumpy and draws out so it can not be properly prepared, hence we are anxious to fall-plow if we can, though many times for corn it would be as well or better to plow in the spring.

A neighbor asks, "Will you grow peas next year?" My reply was yes. I see no reason why I should not. To

be sure, the crop here was practically a failure but that is no sign it will be next year. If a farmer quit growing a crop because he had a failure once in a while there would be no crop to grow at all. I can think of no crop during my experience in farming but what has been a failure some one year. Can anyone? I am hooked up now to grow peas. I have had fair success three years out of four, and will not stop because this year was a failure. We will endeavor to get them in early again next spring, because the co-operative judgment of the most successful pea growers say the earlier the better. That is my observation. This year this was somewhat of an exception, but this has been an abnormal year. The only way I know of is to keep at it, using knowledge gained by previous experience as best we may.

Experience the Best Teacher.

There is nothing that will take the place of experience in farming. Failures often fortify us against failure in the future. We can read of the experience of others. It helps very much. In fact, if we would study carefully enough we could avoid many, in fact, nearly all mistakes. Someone has told us sometime, and in some way, that things should be done thus and so, but we forget. The lesson does not stick. But when we have experience of our own the lesson always sticks. It is driven home with such force that we don't forget it. It is costly, but it may prove profitable.

Lima Beans.

I intend next spring to carry out my resolution of last spring and plant early sweet corn in with lima beans. I have been informed that several successful growers of white beans grow early corn with them with success. My experience in growing soy beans would warrant me in trying this experiment. The early smut corn will be out of the way of the limas almost before they form pods, and if the limas gather much nitrogen from the air it will help the sweet corn. The corn, too, will in a way protect the beans, by growing more rapidly, and helping smother weeds.

Our Live Stock.

Some of our brood sows got old and large. They did not do well at farrowing time this year. It was hot weather and they laid on some of their pigs. I made up my mind to sell them and start in with young sows. We had seven large sows to sell, they weighed 4,050 lbs. I could only get eight cents, but this amounted to \$324 and they were not fat. We sold them as soon as their udders shrunk after weaning their pigs. Had I not been afraid of the market slumping we could have made them weigh much more very quickly.

Many farmers are selling their hogs because of the high price of corn and other feed. It is a brave man who can feed \$1 corn to hogs on a falling market. But if all would hold and feed, the market would not drop off so fast. It is rushing this poorly fattened stuff on the market that smashes the market, more than anything else. Every hog will be wanted and at stiff prices. If they could only go to market as the market needs them, there need be no slump in prices. But if they are rushed to market the farmer destroys his market. This marketing is a big question, but it should be controlled in some way. The farmer plays into the hands of the packer and the packer squeezes him every time.

Butter-fat is still advancing in price. Elgin quoted 40 cents last Saturday. I don't remember that it was ever so high before. There is a great demand for all kinds of fat, lard, tallow, butter-fat. There is a good export demand for all of these and that is what boosts the price more than anything else. If grain was not so high-priced one could make some good money with a good herd of dairy cows at present prices. Even with present prices of grain there should be a fair profit.

COLON C. LILLIE.

Insect Control Methods

By DON B. WHELAN, M. A. C.

It has been well said that "an ounce of prevention is worth a pound of cure," and never was this more true than in the prevention of insect depredations. Many of the insect pests of the garden and field, as well as those of the orchard can be controlled, to a great extent, by correct farm practices. The fall and early winter presents an ideal time in which to forestall the depredations of many insects that otherwise might prove to be very serious during the coming year. During this time the insects are inactive, and can the more easily be controlled. Many insects spend the winter in the egg stage, some on weeds near their host-plants, some on the remains of the host-plants themselves, while others lay their eggs in the ground or on trunks of trees. Others spend the winter in the larval stage, most generally within silken tubes or cocoons of some sort, while still others may be found in the pupal stage. There are a large number of adults that seek shelter in piles of trash, or crevices in the ground, the bark of trees or elsewhere during the period of hibernation.

Weeds.

Thousands of insects make use of weeds in one way or another during the winter months, the weeds filling in the gap while the host-plants are not

of corn very often proves to be an ideal hibernating place, as does the protected ground under corn shocks. If corn is again planted on this ground the chances of the renewal of the pests are ideal. Even if the crop is not replanted on the same ground, the insects if not hindered will readily find their way to new fields. Both the wheat joint-worm and the corn stalk-borer hibernate in the stubble of their respective host-plants. On the leaves and stumps of cabbages, in winter, will be found the eggs and the stem-moths of the cabbage-aphis. The writer has bred the adult of the cabbage-maggot from rutabagas that had been frozen in the ground all winter. If these remnants of the garden can be eliminated either by plowing under in the fall or in some other way, the farmer will be well repaid for his labor.

Other Practices.

There are many other places where a little care or foresight will save the farmer money by lessening the chances for losses by insects. For instance, small accumulations of old grain are often left in the corners of the bin. In these accumulations may be found several varieties of insects that eat the germ of the seed, making it unfit for planting and causing it to heat and acquire a musty "old" odor that injures it for milling purposes. This old



Nine Tons of Alfalfa Hay, Cut July 3, 1916, from Two and One-half Acres on the Farm of H. Mason, of Benzie County.

growing. If all weeds were cleared from the farm, particularly from the fields where the insect pests have been bad, the previous season, some of our enemies would soon be forgotten. The corn root-aphis has to have a food-plant in the spring until the corn is ready, hence it makes use of smartweed, purslane, ragweed, crab-grass, fox-tail grass and a few other weeds growing in or near the corn field. The damage to the next year's crop will be worse if these weeds are growing in the field which is to be planted. Some insects like flea-beetles pass the earlier part of their lives on the roots of weeds, like nettles, and late in the adult stage prove to be among our worst pests in the garden. Many of the most destructive plant-lice spend portions of their lives on weeds, the remainder of the time doing damage to some economic plant. The potato stalk-borer spends the winter as an egg on ragweed, the potato tuber-moth, a very serious pest of the potato in California, breeds on weeds, as also does the potato flea-beetle. Weeds not only occupy needed space and take nourishment from the soil but they are the breeding places of many of our pests.

Clean Farming.

Generally when a crop has been harvested some remnant of the plant is allowed to remain on the land all winter. This is true of cabbages and very often of melon and squash vines that have been killed by frost. The stubble

grain with its inhabitants should be destroyed and, if possible, the bin should be fumigated before new grain is placed therein. Likewise old clover hay should be removed from the corners and sides of the mow before stowing new hay in there. Old hay is generally webbed to a greater or less extent, by the clover hay-worm. The larva eats very little itself, but ties quantities of hay into felt-like masses in which it hides its cocoons. When the hay is badly webbed cattle refuse to eat it, so that it is of no use for fodder, merely serving as a source of infestation for any other hay placed with it. The clover hay-worm will also do a lot of damage when stacks are built in the same place year after year. If possible, stack in a new place each time and destroy any remnants of the old stack. The Buffalo tree-hopper does more damage in orchards that are filled with weeds than in those that are clean, the plum curculio as well hibernates in rubbish. The codling moth and pear-psylla are found under loose bark and if all of this loose bark be scraped from the apple and pear trees the insects will be left exposed to their enemies, the birds, sleet and sprays. Piles of prunings from the orchard left from year to year will prove to be a source of infestation of fungous as well as insect enemies.

Efficiency in farm practices as outlined will prove to bring in just as great a return for the labor expended as anywhere else on the farm.

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Orchard Soil Fertility

WHEN modern apple growing had its start, comparatively a few years ago, about the only thing given attention was spraying because the introduction of spraying is what really made apple growing a science and a business by itself. Spraying made possible the production of clean marketable fruit which was not possibly produced by any other cultural method.

Many bought or rented orchards and aside from spraying did little else beside spraying to make good profits from the orchards, and even since then cultivation and pruning was done to a great extent by haphazard methods. Fertilizing has been but little thought of and the relation of pruning and cultivation to tree life given little or no attention.

Spraying a Well Developed Orchard Operation.

But now spraying has been thoroughly developed and if one does not get good results he is careless in his work, unusual weather conditions prevailed, or he has not properly carried out the other essential orchard practices, for it has been found that trees which are starved do not give the results with spraying that would be expected. Healthy, vigorous trees are more resistant to diseases and will give better results for spraying.

To develop the greater efficiency in apple growing which will be necessary on account of the greater competition, we will have to give more attention to orchard soil management, as the feeding of trees is a great factor in apple production. In this regard the Ohio Experiment Station has carried on some very interesting work in its orchard rejuvenation work.

The problem before the Ohio station was to bring back the numerous orchards of Rome Beauties in southern Ohio, whose only good feature was that they did their duty to make apple blossom time a beautiful one, and one of promise. The fall harvest time, however, would show nothing but failure to fulfill the promise. Spraying experiments and demonstrations were made which were a surprise and convincing to the natives, but the station realized that spraying was only a partial remedy and started work in fertilization and other cultural methods.

A Method of Orchard Renovation.

It was found impractical to cultivate the wornout hills on which these orchards were, therefore they were left in sod. The trees were dwarfed in growth and with small, sickly, yellowish foliage, the result of thoughtless tillage and crop production. Some of the orchards were mulched with straw and other material from the outside, but it was found that the mulching of wornout soils did little additional good. To bring about a better growth of grass and better condition of foliage the orchards were fertilized with commercial fertilizers, about five and a half pounds of a mixture of nitrate of soda, muriate of potash and acid phosphate. This was spread under the trees a little farther than the drip of the leaves. Within two weeks after the application of fertilizers containing nitrate of soda better foliage color was noticeable. At the end of the growing season the fertilized trees showed a good development of fruit buds while those not fertilized had but a few small fruit buds.

The Value of Nitrogenous Fertilizer.

The application of fertilizer greatly stimulated the growth of vegetation in the orchards so that when cut the grass furnished quite a little mulch. Apparently the course to follow on the hilly, wornout orchard soils is to leave them uncultivated and increase tree and grass growth by the use of commercial fertilizers, principally nitrate of soda, over the entire orchard space.

Other tests which the Ohio station carried on have verified the results

from the use of nitrate of soda on poor orchard soils. In one orchard there were two Rome Beauty plots, equal in every respect except that one was fertilized with five pounds each of nitrate of soda and acid phosphate per tree and the other not fertilized. The fertilized plot produced 30 barrels and the one not fertilized three barrels. The following year the same plots gave 20 and seven barrels respectively.

All of the tests showed that there was little direct effect from the use of muriate of potash and acid phosphate with nitrate of soda except in some cases where the combination of acid phosphate and nitrate of soda failed to give as good results as the application of nitrate of soda alone. Potash combinations with nitrate of soda apparently gave no added benefit.

The Value of Stable Manure.

Stable manure as a nitrogenous fertilizer did not give as good net cash gains as nitrate of soda, even when used at the rate of 250-300 pounds per tree. In one case no beneficial results were noted until two years after the first application. The cost of applying and cartage are such that whatever gains manure makes over non-fertilization are used up in the extra cost. Tankage and bone also gave much poorer results than nitrate of soda.

While a single application of nitrate of soda in early spring (April), gave increased productiveness that year it had some slight effect on the succeeding crop but the trees did not maintain their vitality and therefore it was found advisable to use the nitrate of soda every year in orchards in which the soil is depleted or worn out. Only when trees in such orchards begin to put on excess growth is there danger of the annual applications being too much.

From the above it will be seen that in orchard renovation it is necessary to get the soil in good fertility and mechanical condition. As long as the grass grows sparingly in the orchard it cannot be expected that the trees will do their best. The use of the nitrogenous fertilizer is valuable because it stimulates grass growth and thereby restores the humus content of the soil.

Many Michigan orchards whose soils have been cropped, or cultivated with but little vegetable matter turned under, could be benefited by this method of leaving the orchard uncultivated and fertilized to encourage the grass growth, which should be clipped several times a year and be allowed to go back to the ground. For a few years at least, until the fertility of the orchard and the humus content of the soil is restored this method would do well, then the cultivation and cover crop method can be used with benefit.

FRUIT GROWERS' CONVENTION.

The forty-sixth annual meeting of the Michigan State Horticultural Society which will be held in Grand Rapids, December 5-6-7, in the Coliseum, will be one of the best the society has ever had. There will be a fine display of horticultural machinery, spray material and other accessories.

The following list of speakers will take part in the meeting:

Mr. B. J. Case, Sodus, N. Y., "Does it Pay to Pack Fruit According to the Golden Rule?" "How to make an Apple Orchard Bear every Year."

Mr. C. E. Bassett, (former secretary of the society), Department of Marketing, Washington, D. C., "Some Methods of Marketing." (Illustrated with 2,500 feet of moving picture film from the Department at Washington). "Other Marketing Problems."

Prof. H. J. Eustace, M. A. C., East Lansing, "The Apple Orchard Situation in Michigan." "Horticulture in Other States."

Prof. Aubrey Tealdi, U. of M., Ann Arbor, "Landscape Gardening for Rural Homes."

George Friday, Coloma, "Michigan's Many Advantages."

Leon J. Baker, Traverse City, "The (Continued on page 518).



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Those Small Pigs

By N. A. CLAPP

IN the issue of the Michigan Farmer of November 4, on page nine, there is an article on small pigs, that should be read and given due consideration. It is a poor comment on the intelligence and skill of the North Dakota, or any other farmers, if they raise a class of pigs which, if farrowed in April or May, do not weight more than 50 to 75 pounds at the last of September.

The writer hits it right when he says that one reason for the smallness of the pigs is breeding from small and inferior kinds of stock. It looks as though there ought to be some missionary work done in that part of the country. Some of our breeders in Michigan might do well to advertise their stock in that part of the country and let some of those farmers out there, where grains and clovers are grown in abundance, see that there are kinds of pigs which, if given half a chance, after giving them a good start while young, will make twice the weights mentioned.

Another cause of small pigs and a slow growth, is the practice of breeding from too young and immature stock. Some of the pigs in the middle west which are descended from the good breeds, have been greatly reduced in size by selecting the brood sows from among the young and immature stock kept on the farm. The farmers argue that it will cost less to winter the young sows, and so they sell the old, well-grown and developed sows, because they are heavy and will bring more in the market. The young sows will not farrow and raise as many pigs in the spring as the old ones, and are not capable of giving them as good and rapid a start as the old ones. It is impossible for them to do so. In the first place, the young sows have a double duty to perform; they have to eat to grow themselves, and they have to nourish the young pigs which they are carrying. The young sows do not, and can not, give milk enough when about one year of age to give the pigs a good start, and consequently the pigs are small at weaning time, and have not had their stomachs expanded sufficiently to enable them to make a rapid growth after they are weaned.

Too many farmers do not study their animals and understand them well enough to select the best specimens from the litters, which they have, in order to get the best results from the stock which they have. There is generally one or two good, strong, thrifty sows in the litters, which, if kept well to mature years, will make much better breeders than the other sows in the litter.

The idea of thriftiness in the breeding stock is not appreciated at its full value. A farmer last week told me that his pigs at eight months of age weighed 300 pounds each. That sounds good and much better than the figures quoted in the article mentioned. But if the thrifty habit is followed for several generations much better results are obtained. The noted Berkshire boars, Longfellow and King Lee, weighed 525 pounds each when ten months of age, and were shown for premiums in the class under one year.

The importance of starting pigs while young is too often overlooked. If the mother is a mature sow, is a good milker, and is properly fed while the pigs are young, she can and will do much toward starting the pigs along to growing rapidly. The mature sow, if bred to the right kind of a boar will farrow pigs with good-sized frames, and then by a liberal flow of milk will start them along at growing and plump them up with flesh.

The time comes when the pigs are about three weeks of age when all the milk the sow can get is not enough to satisfy them and keep up a rapid growth. At that time the pigs should have a little trough by themselves and

some dainty and nutritious food that will be relished, can be supplied while it is warm, and they will eat what they want, expand their stomachs, and make it possible to attain to good paying and popular weights at from six to eight months of age.

If more attention were to be given to the proper selection and care of the breeding stock from which the pigs are raised, and the pigs were fed for rapid growth while young and kept growing until sold in the market, there would be much less complaint about undersized pigs and unprofitable ventures in the hog-raising business.

The prices now are encouraging, and certainly will continue at a high level as long as the European war lasts. Is it not good business practice to study the pig raising business, follow the best methods by which the most can be secured from them and reap a rich harvest of dollars while the high prices last?

NATIONAL BREED ASSOCIATION MEETINGS.

The following National Breed Association meetings will be held at Chicago during International week as follows:

National Conference on Marketing and Farm Credits, Hotel Sherman, Dec. 4-9.

Monday, December 4.

American Cheviot Society, Stock Yard Inn, 8:00 p. m.

National Swine Growers' Association, Fort Dearborn Hotel, 8:00 p. m.

Percheron Society of America, Florentine Room, Congress Hotel: 8:00 p. m.

Tuesday, December 5.

American Cotswold Association, at Stock Yard Inn, 5:00 p. m.

American Berkshire Association, at Stock Yard Inn, 7:00 p. m.

American Shire Horse Association, Live Stock Record Building, (second floor), 7:00 p. m.

American Shropshire Registry Association, Live Stock Record Building, (Assembly Hall), 7:30 p. m.

American Hereford Cattle Breeders, Down Town, 8:00 p. m.

American Rambouillet Sheep Breeders' Association, Live Stock Record Building, (second floor), 8:00 p. m.

Chester White Swine Record Association, La Salle Hotel, 8:00 p. m.

International Live Stock Exposition Association, Live Stock Record Building, 8:00 p. m.

Wednesday, December 6.

American Poland-China Association, Live Stock Record Building, (second floor), 1:00 p. m.

Red Polled Cattle Club of America, Live Stock Record Building, (Assembly Hall), 2:00 p. m.

American Aberdeen-Angus Breeders' Association, Palmer House, 7:30 p. m.

American Association of Importers and Breeders of Belgian Horses, Live Stock Record Building, (Assembly Hall), 8:00 p. m.

American Galloway Breeders' Association, Sherman Hotel, 8:00 p. m.

American Hampshire Sheep Association, Live Stock Record Building, (second floor), 8:00 p. m.

American Polled Hereford Breeders' Association, Live Stock Record Building, (second floor), 8:00 p. m.

American Shorthorn Breeders' Association, Congress Hotel, 8:00 p. m.

Lincoln Sheep Breeders' Association, Live Stock Record Building, (Sheep Breeders' Office), 8:00 p. m.

White Swine Congress, La Salle Hotel, 8:00 p. m.

Thursday, December 7.

Welsh Pony and Cob Society, Live Stock Record Building, (Assembly Hall), 10:00 a. m.

American Southdown Breeders' Association, Live Stock Record Building, (Assembly Hall), 1:30 p. m.

American Milch Goat Registry Association, Live Stock Record Building, (second floor), 2:00 p. m.

The Polled Durham Breeders' Association, Grand Pacific Hotel, 7:30 p. m.

American Yorkshire Club, Hotel Sherman, 7:30 p. m.

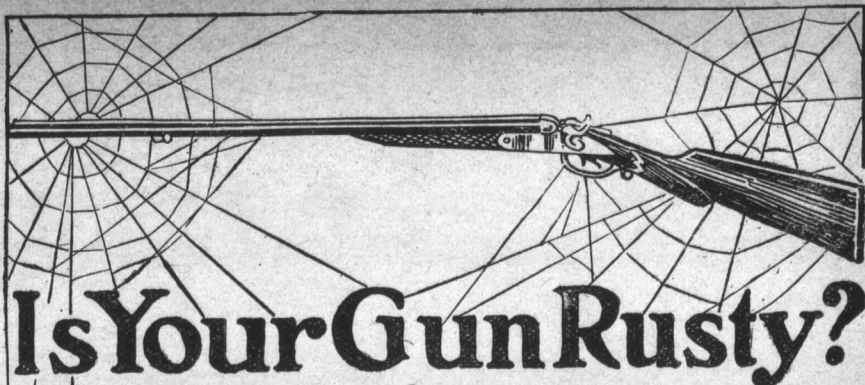
American Oxford Down Record, Live Stock Record Building, (second floor), 8:00 p. m.

Friday, December 8.

Illinois State Veterinary Medical Association, Sales Ring, U. S. Yards, 10:00 a. m.

American Romney Breeders, Live Stock Record Building, (second floor), 1:00 p. m.

American Shetland Pony Club, Down Town, 2:00 p. m.



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The Boarder Cow

IN the vernacular of the resorts and hotels, a "Star Boarder" is a person boarded free of charge because he is supposed to have such high social connections, such attractive and winning ways, or both, that he serves as a drawing card to attract and hold trade. In this brief discussion of profitable and unprofitable cows a star boarder is considered not as one that is presumed to advertise the business advantageously but as one that the owner, either through ignorance of her actual worth or because of personal attachment, is paying out something from \$30 to \$55 per year for the privilege of keeping said "Star Boarder."

A Profitable Cow.

Just think of yourself, (no, it's always the other fellow, for you would not do it), taking a friend, who is a successful business man, out to the barn an dntroducing him to your cows in something like the following manner: "This is my Bessie cow. You will notice by the daily records which we keep here on the wall that during the year ending September 1 she produced 8,113 pounds of milk, testing 4.45 per cent butter-fat, which sold for \$97.32. Her feed for that time cost \$36.71. This leaves a balance of \$60.61 above the cost of feed. Understand that I sold the feed to the cow at actual market prices, thus making a home market for all of the various grains and roughage feeds. This return of \$60.61 pays me for investment in the cow, barns, etc., and leaves a nice balance as pay for my labor and skill as manager. Put in another way, Bessie returned me \$2.65 for each dollar I gave her in feed." Mr. Successful Business Man compliments you on your skill and ability to run this cow establishment or milk factory on such a profitable, dividend-paying basis.

But you go on down the line looking at the various cows and their records. The first twelve cows all show a reasonable profit above their board and keep. Then you come to the last six cows which compose a third of your herd.

The Star Boarder.

With a broad smile of satisfaction you say to Mr. Successful Business Man: "Now, you will observe that I give these six cows fully as good care as the others. Most of them are very good looking cows. Their dispositions are fine. Really, they are the pets of the herd. They are my Star Boarders. You ask what I mean by 'Star Boarders'? Just examine the record of Old Bobby here. She produced for the year 1,206 pounds of milk, or about three and one-third pints each day. Of course, when she was fresh she gave a nice mess of milk but she was dry several months. Her milk tested 3.43 per cent butter-fat and the butter-fat sold for \$11.59. Notice, please, that she is not such a big eater as Bessie. Her feed bill was only \$21.47. It seems quite economical to have a cow that does not appear so hungry all the time, and at that will put some flesh onto her bones! It is of little consequence that Bobby's feed bill was \$9.08 more than her cream sold for. I just like to have her and these other five Star Boarders around. It is a real privilege—I am 'dee-lighted'—to have Bobby return 54 cents for each dollar I so gratefully give her in feed!"

Did I hear you say the above is overdrawn, that a man who will keep cows like "Old Bobby" has wheels in his head? Most anyone would agree with the idea that the wheels, at least, were not working right.

Good Lookers Not Always Good Performers.

Many of the readers of this have seen "Old Bobby" and doubtless not a few commented on her as a very attractive cow. She was cow No. 16 in the exhibit made by the Michigan Agricultural College at many of the Michigan fairs some twelve years ago. She was used as a fair example of a star

boarder, though in judging from an examination of her, some 50 per cent of the farmers picked Bobby as a better cow than Bessie, which was cow No. 13 in the same exhibit!

At one of the fairs where the exhibit was made a dairy farmer who had a very creditable looking herd on exhibition made a somewhat careful study of the records of the herd from M. A. C. In a confidential talk with the college professor in charge, the professor said: "Well, really now, how do your cows pay?" The farmer grinned and replied: "I never dast to figure it up."

Get the idea? The cow may be fine in appearance. She may have a pedigree, may be showy but—ah, there's the rub—she does not produce the goods. Dairymen have found only one infallible way to determine a cow's real usefulness. Outward appearances indicate certain qualities—usually—but the acid test of the scales and Babcock tester alone are always trustworthy.

Many Boarder Cows.

Figures collected on this point show that about one-third of the cows in the United States do not pay their board and keep, another third just about pay their keep. Can it be that two-thirds of your herd are not returning a profit? The only sure way to determine is to get a good spring balance and a small Babcock tester and go after the business in a business-like fashion.

The average cow kept for milk production in the United States, according to the 1910 census figures, gave 3,113.5 pounds of milk, which if it tested four per cent butter-fat, produced 124.5 pounds. Adding 15 per cent to estimate the butter, the average dairy cow in the United States has 143.2 pounds of butter to her credit. Rather, it is to her discredit.

Mr. H. B. Gurler, Ex-President of the National Dairy Show Association, estimates that at least 200 pounds of butter are necessary to pay for feed, labor, taxes, insurance, and interest on the investment in keeping one cow. He says: "No one will become rich milking 200-pound cows." He further says that a 200-pound cow has a market value of \$30. The 250-pound cow gives 50 pounds for profit, or \$10, which will pay 10 per cent on \$100. If the 200-pound cow is worth \$30 the 250-pound cow is worth \$130, the 400-pound cow worth \$430 and the championship cow, Dutchess Skylark Ormsby, is worth, considering only her butter-producing capacity, \$2,400.

Ingham Co. I. B. McMURTRY.

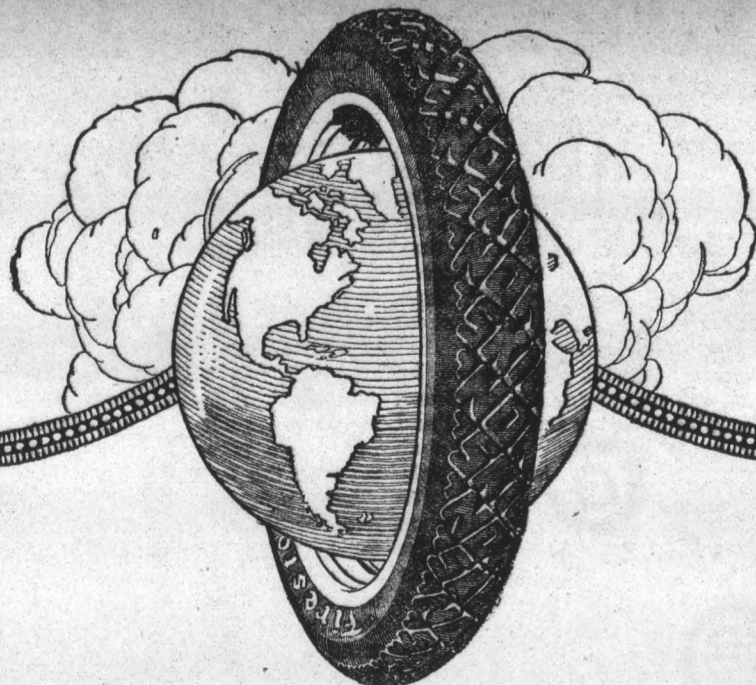
MICHIGAN CALF CLUBS.

The Cheboygan State Bank, of Cheboygan, Mich., in co-operation with the Northeastern Michigan Development Bureau, and W. C. Byers, agricultural agent for the New York Central Lines, is organizing a calf club among the boys and girls in Cheboygan county. In brief, the bank will bring in a carload of pure-bred heifer calves, place these among the members of the club, taking their note for the exact cost of the animal. At some future date all the animals are to be rounded up and sold to the highest bidder, the proceeds less the original cost of the calf and interest on the amount to date, to go to the boy or girl raising the animal. Any boy or girl wishing to retain the calf which he or she has cared for can easily bid it in at any price for all that would be necessary for them to pay is the amount of their obligation to the bank.

H. T. Glezen, cashier of the bank, after a thorough canvas of the territory, has decided that their first importation shall be Holsteins and negotiations are already under way to secure a carload from the best herds in the state.

Mr. Byers has agreed to place a pure-bred registered bull with members or sections of members of the clubs for free use on these fine heifers.

This movement is more or less the result of the inspection trip made by the New York Central Railroad officials and the Northeastern Michigan Development Bureau.



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As a prominent Iowa farmer said at a recent convention: "It's a bigger world and a better one since I learned the values in Firestone Tires. If the knocker on the binder breaks, I get to town and back in time to cut the field by sundown. All because there's never a delay in the going with Firestone."

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See page 1472

of our big General Catalog for full description of latest improvements in cream separators. Prices, \$31.85 to \$54.75. Entire satisfaction guaranteed. Ten weeks' free trial.

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Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

Sixty years ago, this country
To a large extent was woods;
Often filled with huge dense thickets
Where wild turkeys raised their
broods,
And in autumn, when well fattened
On the seeds and stolen grain,
They would shine like finest satin
And a goodly size attain.

They were very shy and cautious;
Always, while the rest would feed,
One old gobbler'd do the guard act,
And he did it well indeed.
At the first approach of danger
"Quit, Quit! Quit!" he'd cry in haste.
Hearing which, the flock discreetly
From the scene themselves effaced.

One fall evening just at twilight,
Down across the pasture field,
Dad espied a flock of twenty
By the dim light scarce revealed.

Dad's Turkey By E. R. MARTIN

Towards the woods they had been
moving
And upon the fence they stopped,
But for only a few moments
When into the trees they flopped.

Then Dad grabbed his trusty shotgun,
As the hero always should—
And as stealthy as an Indian
Soon was crawling through the wood.
He at last was underneath them—
They were roosting pretty high—
Where he finally could see one
Outlined dark against the sky.

Now Dad's gun was quite old-fashioned.
Hammer on the under side,
And of course, when Daddy cocked it
Off the cap fell as he spied!

Snap the gun went. Nothing doing.
And as well as I know Dad,
I can guess that what he muttered
Must have been exceeding bad.

But he fumbled in his pocket
And produced another cap,
Aimed and fired, quite expecting
That the gun again would snap.
But it went! It kicked! and Daddy
Struck the ground—he couldn't stop.
Just a minute, then some turkey
Landed on him there, kerflop.

Up got Dad and cut its head off.
Home he went with honest pride;
Told the folks, when he went hunting,
All the turks had better hide.
As a marksman with a shotgun,

Few with him had best compete;
Any turkey that he aimed at
Was dead sure to be his meat.

Then the cook, who'd picked the tur-
key,

Said, "Dear sir, you may be right,
But as I can find no shot-marks,
This turk must have died from
fright."

Daddy looked and o'er his visage
Spread a sort of sickly grin.
For there was upon that turkey
Not a shot-hole in the skin.

Back went Dad and picked the head up;
Found the shot that made the kill
Had explored the turkey's thought-box
Through the wishbone of its bill.
And it seemed that Dad, as usual,
Had been playing in good luck.
For the shot that killed the turkey
Was the only one that struck.

WORLD EVENTS IN PICTURES



Surgeon Nearly Exhausts Self as Human Pulmotor to Save Child's Life.



The Donkey Proves Valuable in Trench Warfare.



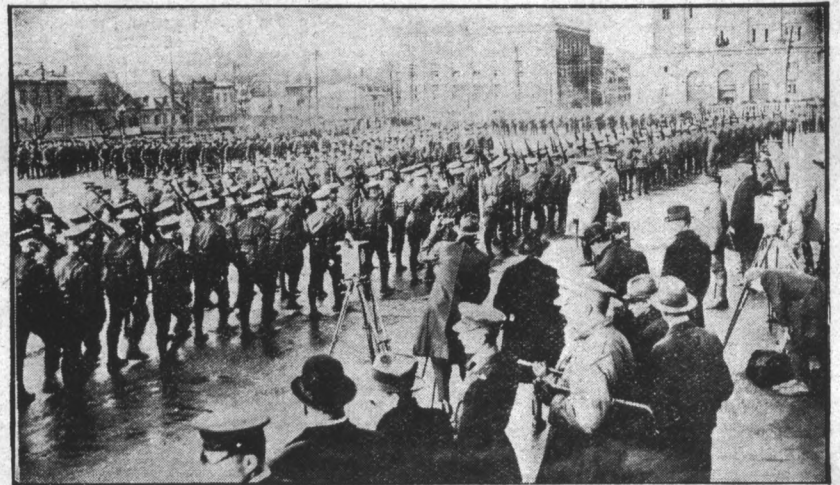
Settling an Election Obligation on the Streets of New York.



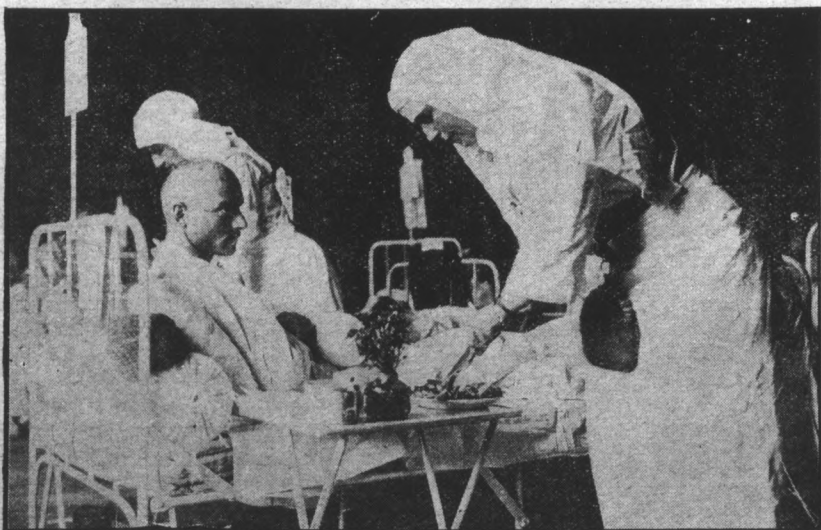
Mrs. Tom Thumb Celebrates Her Seventy-fifth Birthday.



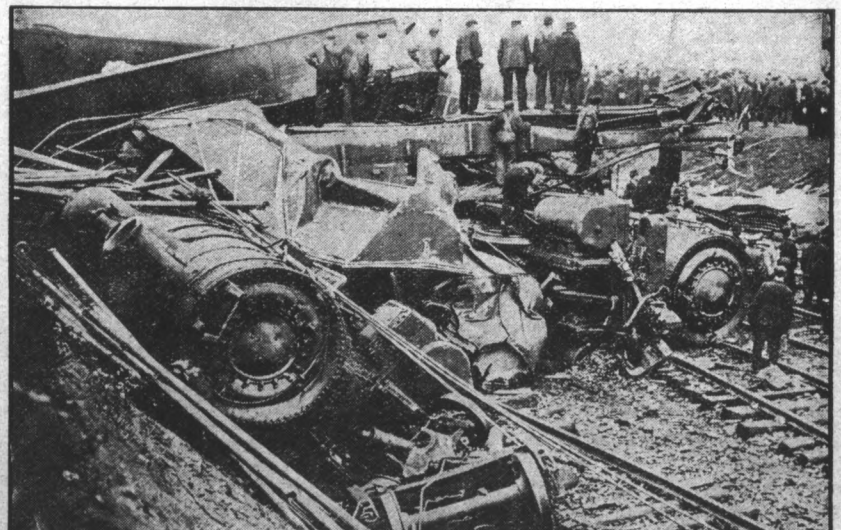
Kaiser Visiting Wounded Soldiers in a Hospital at the Front.



Canada Closes Summer Camps and Starts Finished Soldiers to Battlefields.



Queen of Roumania Doing Hospital Duty in Bucharest Palace.



Four Locomotives and Sixty Freight Cars Figure in Wreck at Altoona, Pa.

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Tell number of trees you tap.

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THAT IS FIT TO CUT into lumber (and especially if it is hard wood). I can show you that it will pay you to buy a mill and saw it yourself this winter. I did, and it paid. I'm through—and now the mill, in first class condition (used only 30 days) is for sale cheap. Can recommend to you good man who will scale and estimate it for you. He will also set up the mill and saw it for you if you want him to. Then you, in turn, can sell it.

I COULDN'T GET any price for my logs, though there were two saw mills right handy. So I bought a mill, did it myself, and if I had to scrap the mill I'd still be a couple of thousand dollars to the good. Write and I'll tell you all about it.

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"Mister 44"

By
E. J. RATH

The Substance of Previous Chapters.

Sadie, a wholesome country girl with limited social and intellectual opportunities, leaves the farm home in Ohio and seeks her fortune in Buffalo, where she finds employment in the shipping department of a shirt factory. The strength of many of the girls working with Sadie was being overtaxed by the excessively long hours and the steady application to their tasks. Against the strict enforcement of unjust shop rules, and stern demands of the corporation, our heroine courageously protests, for which she is fined by the foreman. Becoming convinced that behind factory walls is no place for a spirit like hers, she hopefully resigns herself to fate by pinning a letter applying for an outdoor job, in the pocket of a No. 44 shirt going to fill an order from Arizona, but before she could remove the letter, the foreman hastily gathers the shirt with others, to satisfy a rush order, from where she was unable to learn.

Along the Northeast arm of Deepwater Lake, in Northern Canada, Stoddard, a young but capable engineer, whose home was among the select of New York City, and who had been entrusted by his company with the erection of great bridges on almost every continent, paddles a loaded canoe carrying his city friend, Larry Livingston, who was suffering from poor health, to an island far from communication with the outside world. Stoddard unloads, erects a tent, builds a fire, and after they eat puts Larry to bed. In hunting for matches he pulls his finger against a pin in the pocket of his shirt and discovers Sadie's letter. This he reads and after much reflection answers it.

To obtain an envelope was to risk awakening Larry, but it was a chance that had to be taken. There was a small pack that contained a few envelopes; this Larry was using as a pillow. But now he was too deep in slumber to be aroused by a mere disturbance of his head, while his own snores blotted out the gentle rustling noise made by Stoddard's hands.

Stoddard stepped softly back to the camp-fire and looked at his watch. It was nearly ten o'clock. He wanted to get that letter in the mail. To-morrow there would be no chance, for Livingston, fretful and demanding attention, would be on his hands.

He remembered that the south-bound night mail stopped at Deepwater Station at eleven forty. That meant ten miles of paddling, with the issue in doubt at the finish. Nor was he particularly desirous of paddling back to camp again, even if he made the train.

There was one alternative—the Lower Station. The south mail would not reach there until eleven fifty. The Lower Station was merely a lonely platform in the woods, built where the railroad line touched one of the deeply indented bays of Deepwater. It had been established with a view to the convenience of patrons of the hotel on Deepwater Island; but, although it offered a shorter route to that hostelry, it was so little used that trains no longer made it as a regular stop, halting only on signal.

From Stoddard's camp the all-water route to the Lower Station was even longer than that to Deepwater post-office, for it involved the skirting of a considerable peninsula. But there was another route, far shorter, if more toilsome. It meant a portage across the neck of the peninsula—not more than half a mile—while the total paddling would be cut to six.

"It's the best bet," he assured himself.

Cautiously he lifted the canoe from its resting-place in the bushes and carried it to the water. As he stepped in he glanced up the slope toward the tent.

"He's good till morning," muttered Stoddard.

He paddle noiselessly until a hundred yards lay between the canoe and

the island, which now, save for the faint glow of the fire, lay a dark blur against the high ground of the mainland. Then he began to dip his blade deeply, and the canvas craft leaped ahead through the darkness.

Stoddard laid a course diagonally across the northeast arm of the lake. He knew there would be more than three miles of going before he touched the end of the portage. By daylight the trip to the Lower Station would be one of comparative leisure within the time limit allotted to him. In the dark of an early September night it became something of a problem. The portage was what gave him concern.

At best it was poor—rock nearly all of the way, with a sharp drop at the farther end, and scores of ankle-twisting holes and crevices. It was three years since he had crossed it, so that the chances of running into a tangle of underbrush and fallen trees were excellent; for Stoddard knew the route was traveled less than half a dozen times a season, and then only by the guides or Indians who were in a hurry to make a particular journey and did not mind its difficulties. As for the forest rangers, they never took the trouble to keep it cut out.

Stoddard liked to travel at night. The coolness of the air against his bare throat and arms exhilarated him. He loved the silence that enveloped him. The woods country, with only the stars looking down upon it, quickened his imagination. He felt the mystery of it; yet somehow, as if he were nearer to its secret than when the sun searched out every recess of lake and hills.

The sentinel pines that stood in isolation on the ridges were dead black against the sky; they were self-reliant, aloof, vigilant—watching over the forest that slept. The lapping of the water against the bow of the canoe had a different note at night; the faintly moving breeze had a different odor, with a fresh dampness born only of the darkness. These were hours when Stoddard felt he was permitted to touch the gentle pulse of the slumbering wilderness.

The canoe ran on swiftly. As it came within the increasing gloom of the opposite shore he altered the course slightly and ran close to the bank. The way to the portage was through a little cove, easy to miss even in daylight, and he had no time to waste in hap-hazard search. His eyes intent upon the rocks and trees at his left, he moved ahead at slower pace for a couple of hundred yards until, with a nod of satisfaction, he turned the bow sharply inland. The canoe entered a tiny, sheltered bay.

Instinctively his paddle paused in mid air and Stoddard cocked an ear forward. For several seconds he listened thus; then called in a low tone:

"Ho, boy!"

The answer was abrupt, and would have been startling to a man not expecting it.

The sharp snort of a nose came as a challenge through the darkness, followed by a heavy splash. Then, in quick succession, came a series of plunges in the shallow water of the cove. An instant later there was a tearing and crashing of underbrush, followed by the noise of cracking saplings and the thudding of heavy feet. It was as if a whirlwind had suddenly been loosed in the forest, or the mail train itself had left the steel line and was running wild.

For a full minute Stoddard sat motionless, listening to the fading din. Then there was silence again. He dipped his paddle.

"Late hours, my friend," he said with

a laugh. "But I wish I could travel like that after dark."

Moose are plentiful in the Deep-water country, and Stoddard knew the swampy little cove, with its rushes and water-lilies, to be a popular haunt.

"Queer how a voice startles them," he mused, as he pushed the canoe through a patch of grass until the bow touched the shore. "I've no doubt he heard me for a hundred yards back and never budged until I spoke."

Stoddard's fears for the condition of the portage were not without ground. He poked about for several minutes in the darkness, and finally lighted a match before he found the entrance to the faint trail. Then, lashing the paddles lengthwise on the thwarts, he lifted the canoe, swung it over his head with a rolling motion, and settled it easily on his shoulders.

"Now to see if my feet remember anything," he said as he pushed forward into the woods."

As for any aid his eyes would offer in keeping to the path, they might as well have been blindfolded. The portage was as dark as a tunnel. But Stoddard had a woodsman's recollection of places; he traveled by a series of mental maps. His legs possessed a subconscious memory of routes they had once followed, and he was putting his trust in them now.

The first two hundred yards of the carry was the easiest part, but he had covered less than half of it when he became aware that the little used trail was annoyingly obstructed with new forest growth. Underbrush clutched at his legs and tried to trip him. Young branches brushed their wet leaves against the smooth sides of the canoe, now and again pressing it so closely from both sides as to check his progress. His seventeen-foot burden gave him no concern on the score of weight, but it was difficult to guide its awkward bulk where he could not see half its length ahead of him.

There were sharp turns in the path; thus, long before his cautiously placed feet, reached them, the canoe would project into the tangle beyond, so that he would have to halt and back off until the bow swung clear again. Once the stem of the craft ran squarely into a solid tree-trunk, bringing him to a jarring stop that made his teeth click. It was slow work.

When the rise began the going became worse. He took no step without feeling well in front of him with outstretched foot. Stoddard was not inviting a sprained ankle or a broken leg. A fallen tree that he remembered well still lay across the path, but there was another of more recent date that had no place in his mind-map.

He discovered it by the simple method of falling over it. It struck him almost waist-high, and the momentum of the burden on his shoulders carried him across it. For a few seconds the impact of his head against the stony path bewildered him. As he tenderly examined the aching spot with his fingers, a warm dampness told him there was a cut as well as a bruise.

But his legs and arms concerned him more than his head, for the task he had set himself was peculiarly theirs. Stoddard was satisfied to discover that they had suffered no damage.

The canoe lay across him; when he crawled from under it he hastily passed his hands over the outer canvas. More luck; there were no holes in it.

"I'll remember that tree," he said philosophically, as he shouldered his burden again.

The path grew worse and worse as the grade increased, but he expected this. In fact, the sharper the incline the nearer he was to the top. He was thankful for the new hob-nails in the soles of his hunting-boots, for they clung faithfully where he planted them. He shunned shoe-packs where the going was rough.

The ground became level again, but he doubled his caution. The smooth

spot was one of the tricks of the portage, to delude the unwary after night-fall. It was but the threshold to a steep incline, bad enough to negotiate by day and a real danger in darkness. A few steps brought him to the edge of it.

Then he descended. Loose stones moved under his feet, and often he had to kick them aside to find safe ground. It needed not their crashing through the brush to tell him that the hillside was precipitous and treacherous.

Again he fell, but a sapling about which he flung a groping arm stopped a headlong plunge. His back throbbed where it had disputed possession of space with a boulder, and the new olive-drab shirt ripped at the shoulder. Once more he examined the canoe with solicitous hands; then grimly lifted it again to his shoulder and resumed his descent.

"Two falls," he muttered. "Usually there's a third."

There was. It came near the bottom of the hill. The canoe finished the remainder of the distance without him.

"Talk about a moose making a racket!" he exclaimed. "The noise that old bull made was like a whisper alongside of me."

He found the canoe when the end of it barked a shin, picked it up in one hand, as an impatient mother grabs a fretful child, and lugged it forward unceremoniously to the water's edge. It floated without leaking.

A few yards from shore Stoddard glanced upward at the height just crossed. It seemed fairly to overhang the waters of Island Bay. His head throbbed, his back ached, his hands and arms smarted from a score of scratches; yet he chuckled.

"Well, I beat you, old man!" he said, saluting his enemy. "But you gave me a good run for it."

Half-way across the bay he ceased paddling for an instant to wipe the sweat from his eyes and plunge his arms elbow-deep into the water.

"No. 18," he muttered reflectively, as he patted the breast-pocket of his shirt, "you'll never know what a compliment you're getting tonight."

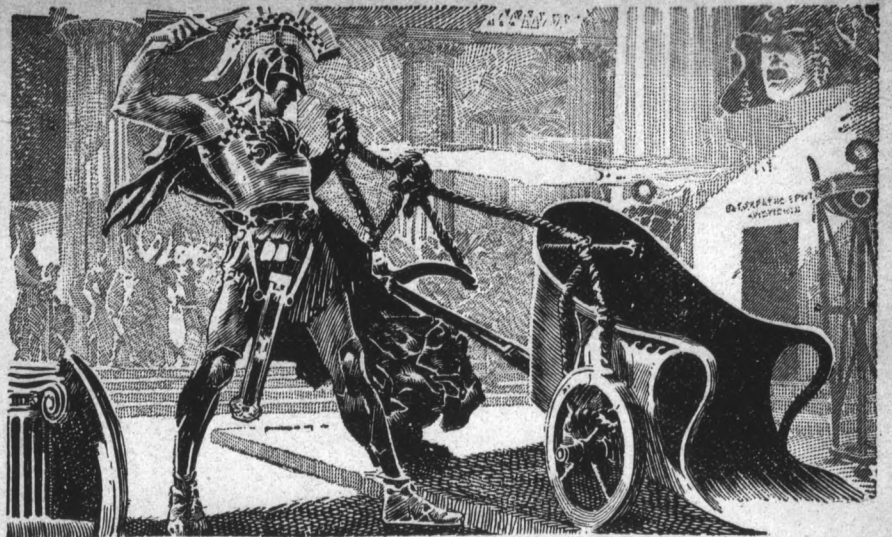
Island Bay was named for obvious reasons. It cannot be crossed in a direct line from shore to shore, for the canoe route is devious, finding its way by many turnings through the narrow channels that divide the islands.

But this was easy for Stoddard. He drove his craft onward without hesitation. He paddled swiftly, too, for all his lameness and bruises. There was boyish exultation of spirit within him. He felt that he had done something worth while.

Clear of the islands, there was but a mile to go. He lighted a match and glanced at his watch. There was still time to make the train, but none for loafing. The portage had taken far longer than the time he had allowed for it.

The distant but distinct whistle of a locomotive warned him to be alert as he ran the canoe alongside a neglected wharf. He hastened up the path that led to the Lower Station, again feeling (Continued on page 524).

After Harvest, Thanksgiving



Doing "the Impossible"

The Gordian knot is the ages-old symbol of the seemingly impossible. Alexander the Great gave it a place in legendary history when, unable to untie it, he cut it in twain with his sword.

This famous incident of antiquity has its modern counterpart in the real work of the men whose vision and unrestricted initiative brought forth the great Bell System.

In the development of the telephone, one Gordian knot after another has been met with. Yet each new obstacle yielded to the enterprise of the telephone pioneers. Every difficulty was handled with a will and a courage which knew not failure.

Man's words have been given wings and carried wherever his will directs. Electrical handicaps have been overcome one by one.

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Woman and Her Needs

Boys Will Be Boys, But There's a Limit

I'M just recovering from a visit," sighed the childless matron as she wearily sank into a porch chair, "or visitation is a better name for it. Really, I'd rather pass through a scourge of buffalo moths than to go through the like again. Of course, mothers can't be expected to stay at home all the time, and of course if they haven't plenty of help you have to ask the children, too. And of course I love my nephews and nieces most to pieces—it was my sister and her brood," she paused to explain. "But there are limits to even an aunt's patience, and if Jennie can't teach those children to respect other folks' property she can just keep them at home, so there. Children five and seven are old enough to be trained that much, aren't they?" she demanded savagely of the mother of six.

"I should think so," agreed the mother meekly. "I begin to train mine not to touch things as soon as they can creep, but there's a difference in children. Now, Jack never would touch a thing, but Bob grabbed—"

"Yes, I know," broke in the other quickly, thus shutting off further maternal reminiscences. "When we were little I never meddled with a thing, mother never set anything up out of my reach, but Jennie was always into everything, I've heard mother say. And her children are exactly like her," she added.

"Things began to hum the minute they got here," she began, and the mother of six, with a sigh for the hired man's bed still unmade, the bit of ironing to finish, the cake to stir up for supper and the potatoes to be dug for that same meal, settled down resignedly to hear the tale of woe. "They are from the city and they'd never seen a gasoline stove. They burn gas, you know. Jennie put on their old clothes and said she'd 'turn them loose,' and we sat chatting in the bedroom for a few minutes after they ran out.

"Turn them loose!" I should say she did. The first thing I knew I smelled gasoline and ran out to see what was wrong. Those young imps had turned on every burner of the stove, and then ran out and left them on. There was a river of gasoline all over the kitchen floor, and I didn't dare strike a match in the kitchen all the rest of the day.

"A lot they cared, though. While I mopped up gasoline they explored the barn, broke up a setting hen's nest, smashed eight eggs, and me getting 32 cents a dozen for them in Lansing, scared the Jersey calf almost into fits and chased poor Tabby up a tree where she spent the night.

"That was only a beginning. During the two weeks they were here they ruined my Boston fern by snipping off the ends of the leaves, knocked my Cloisone vase off the piano and cracked it, scratched all the varnish off the table legs at the end where they sat, with constant scuffling of their feet, scratched the varnish off six chair rungs, broke three window lights, marred the library table pounding it with toys, killed three young turkeys, and, thank heaven, gave themselves the colic eating green plums.

"This is a list of their major crimes. Their minor ones I overlook, in fact I can't remember half of them."

"But your sister," said the hostess, "what was she doing? Didn't she try to stop them or make the damages right with you?"

"Stop 'em!" said the childless matron wrathfully. "Stop 'em! She thought it was cute and would just laugh and ask me if I couldn't remember what little imps we used to be. I

can remember what a young imp she used to be," she added virtuously, "but I was always quiet and never got into mischief, mother says. Now I call what her children did wanton destruction of property, and I think she ought to pay me, don't you? For the eggs and turkeys, anyway. The furniture couldn't be made to look new again unless I sent it to the factory and had it all done over."

"I certainly think she should pay you," agreed the hostess. "Children that age are old enough to know better than do such things. Why, even at a year old they could be taught to keep their hands off things. Now, mine never—"

"There's your Johnny now, chasing my Starbright all around the pasture," interrupted the childless matron, precipitating herself down the porch steps, "Hi, there, John Smith, leave that calf alone," she shrieked. And over her shoulder trailed the beginning of "Seems to me children—"

"Boys will be boys," sighed the mother of six as she rose to chastise her offspring. "But why did Johnnie choose this particular time to break loose?"

And musing on the mysterious workings of juvenile minds, she led John firmly to the woodshed.

DEBORAH.

DISHES FOR THE CONVALESCENT.

BY MRS. IDA M. SHEPLER.

The recovery of the patient depends to a large extent upon his diet, and therefore the subject of cookery for the sick room is of great importance. Every girl should be taught how to cook for the invalid. While the patient just getting able to relish food may express a desire for certain dishes which, if the doctor approves can be supplied; as a rule, the kind of food is usually left to the nurse. The nurse who indifferently asks: "Oh, what am I going to get for your dinner, or supper?" as the case may be, is the nurse in the wrong place. It should not be left for the patient to worry over what the next meal is to be. Too often this results in wanting nothing, or when it comes, pushing it away untasted.

The meal, like the doctor's visit, is a diversion in the sick room, and both are usually looked forward to by the patient with pleasure and both should be made a pleasure to the convalescent.

Some element of surprise in each meal will often coax back a failing of appetite, and everything connected with the meal should be served in the daintiest, most enticing way. A pretty dish will of itself quite often induce the patient to eat of its contents. One often wonders at the great piles of victuals sent up to the rooms of those getting well in the hospitals, and thinks that such stufing will send the convalescent out with a new disease, dyspepsia likely, and yet, if you notice, these patients seldom over-eat. The sight of so much food appeals to them as something good, and next they go selecting from the quantity something they especially like, or if not this, by tasting around soon get enough of a variety to be an all right meal.

Below are some ways of preparing dishes for invalids.

Chicken Broth.—Never make the broth from a very young chicken, one a year old is best for the invalid's broth. Cut the chicken into joints, put in two quarts of hot water, then let simmer three hours. Salt to taste while cooking. Remove all scum that

risers and when done and cool, strain and remove all fat from the top of the broth. Celery seed, or a few stalks of celery cooked with the chicken adds flavor to the broth. Keep on ice and heat the broth as needed.

Toast Jelly.—Soften a little toast in hot water, put it through a sieve, add a teaspoonful of brandy or wine, and stir in the yolk of an egg beaten smooth in a little water. A piece of brown bread toasted to a golden brown and buttered, is nice served with this jelly and a cup of hot milk.

Egg Sherry.—Beat an egg as light as possible; add a half glassful of cold water, a glass of sherry, and sugar and nutmeg to taste. This is nice to serve with toasted white or brown bread, buttered.

Oysters for the Invalid.—These for the invalid should be very fresh, and if he likes them, could be served often and in various ways. Always for the invalid remove the dark part. If served raw, place them on a little block of ice, squeeze a few drops of lemon on the oysters, place a slice of lemon with them and on the dish by the ice set a tiny dish of fine salt.

Oyster Stew.—Cook the oysters in their own liquid for two minutes, remove scum, season with a little salt, white pepper, a spoonful of rich cream and a small bit of butter. Serve with crisp crackers.

Broiled Oysters.—Select the large, plump oysters, remove the dark part, grease the gridiron bars with beef suet, when hot place oysters on them, watch closely and when browned slightly on one side turn. When both sides are done remove to a hot dish, sprinkle with salt and place a bit of melted butter on top. Serve with toasted crackers.

Oyster Loaf.—Cook the oyster as for a stew, using but a small amount of the liquid. Season the same, and pour over thin slices of bread.

Birds.—A tempting dish for invalids are birds, quail, pigeons, woodcock, etc. Clean the bird nicely and soak in salt water awhile. Wipe dry, and bake in a hot oven until nearly done, after which finish by broiling over a clear fire. Serve on buttered toast.

Mutton Chop.—Most invalids enjoy an occasional mutton chop. Cut the chop thin, remove all fat, broil over a clear fire, season with salt and a little butter, lay the meat on a plate garnished with parsley leaves, put a slice of lemon on top the meat, and lay a nicely baked potato beside the meat.

GREASE MEDICINE.

BY HILDA RICHMOND.

Among the many good home remedies we have used perhaps none has been more helpful in a variety of ways than "grease medicine" as children call it. Most children despise grease, but if they can be coaxed to overcome this dread the medicine will surely help many childish troubles. Most mothers hate to use grease because it soils the bedding, but in emergencies that ought not to interfere. Old bedding can be saved for times when colds and whooping cough and such complaints run rampant and the best things will then not be greased up.

Goose grease is excellent and it is easy enough to save a supply for all winter from one roast, but I have found that common pure lard does just about as well. In colds we grease the nose and chest well, sometimes sprinkling the greased flannel cloth with liquid camphor and sometimes with powdered skunk cabbage. Our doctor laughed at us for using skunk cabbage and grease, but finally admitted that in his own family he used home remedies more than drugs. A tiny ball of lard the size of a small pea pushed into each nostril will give wonderful relief at night and prevent the dry state of the nose that results in bleeding sores, because children will pick at the nostrils as the secretion dries. The other

day I saw a very sore nose cured with pure lard in two nights and days, with applications every few hours. The child screamed with pain when any attempt was made to clean the nose, and was breathing through his mouth in painful fashion, but when allowed to "doctor" himself, rather enjoyed the greasing up.

For sore or tender feet an oil application is excellent. Slip on an old pair of socks to keep from soiling the bed and see what a night will do for the feet. Either goose grease or lard can be used, or even vaseline well rubbed in. This is also good for corns which are painful.

For burns and for obstinate sores where the dressing gets harsh and painful, a little pure grease does wonders. Often the straps used to secure bandages get tightly pasted on and refuse to let go, but a little grease will make the removal easy and painless. For the distressing scalp trouble of infants that worries mothers so much, pure lard is excellent. One baby that was so troubled with this complaint that her mother never allowed anyone to remove her little cap when away from home was easily cured by applications of pure lard. A little at a time the lard was well soaked in and then the accumulation gently washed off until the child's head was as clean as heart could wish.

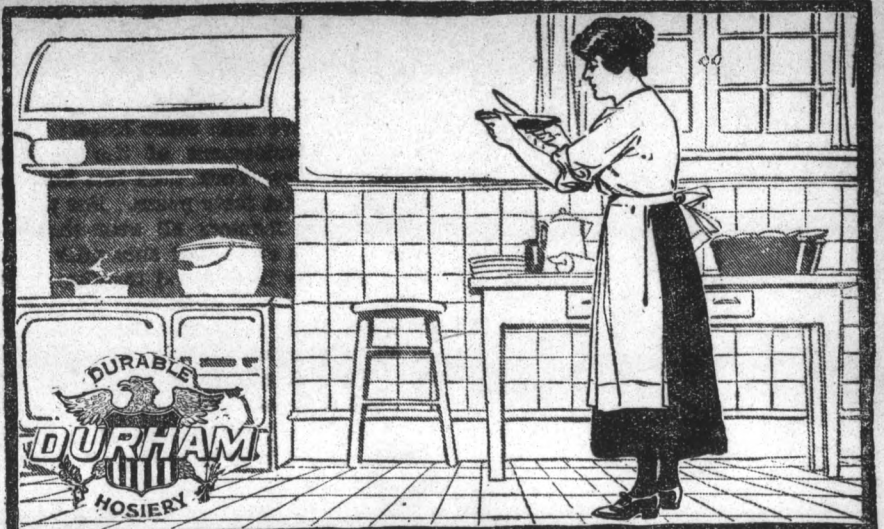
In croup a dose of melted lard and sugar will do wonders. Children fight against this mess, and no wonder, but it is one of the most effective "first aids" known to mothers of children, as well as one of the easiest to prepare. In some houses grease is such a common medicine that the children never dream of going to bed in bad weather without a dose of some sort. My small boy cries, "Get the grease!" whenever he sees seven o'clock approaching. At first it was hard to get him to submit but now he cheerfully greases himself when he has a cold, and often presents small bruises and cuts for a dose of the same remedy without any solicitation. He seems to think grease will heal most ills known to boys.

When children are getting well after chicken pox, measles, scarlet fever or any "peeling" disease a little application of olive oil or lard will help wonderfully to allay the itching. In almost every childish disease some kind of soothing ointment is needed and pure lard is one of the best. We have used it for years with the best results and we think have often saved doctor's bills by the use of this humble remedy. At any rate it can do no harm and that is more than can be said of many drugs.

SHORT CUTS TO HOUSEKEEPING.

A novel dust cloth is made by taking two yards of cheesecloth and folding twice, making the piece the width of the cloth and one-half yard in length. In the center of one side stitch the outline of a hand so the one using the cloth can slip it on as she would a glove, her hand being protected both palm and back by two thicknesses of cheesecloth. The dust cloth is then used as one would any ordinary cloth. If the dust cloth is for a gift, button-hole the edges loosely with silkolene. An initial may be outlined in one corner.—L. M. T.

A novel and practical way to enclose a stamp with an envelope or sheet of paper, is to cut a little slit with a knife the width of the stamp. Moisten a very small corner of the stamp and fasten just above the slit, slipping the stamp through the opening. This brings the unsmudged surface against the paper and prevents sticking. When the recipient comes to use the stamp, it is but the work of a moment to release the small corner and slip the stamp through the opening. Many people prefer to use their own envelope, bearing a return address, when answering a letter.—E. G. W.



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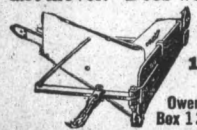
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How the New York Milk Fight Was Won

THE first two weeks of October, 1916, have seen more history in the development of the milk business in New York than has been made in the past forty years. For the first time the farmers all over those sections of the state that ship milk to New York City have stood together in a firm, solid front and have fixed a moderate, living price on their product and have said to the big dealers in milk, "Take it at our price, or leave it." And they have won out.

The dealers had no idea that the farmers would hold together, or that they could handle their own milk for any length of time to advantage, and they withstood their demands. For a period of years past farmers have known that they were producing milk at an actual loss to themselves. The price of milk had not increased in anything like relative proportions to the increase in cost of feed, help, and the necessary equipment. Many dairymen had closed out their business entirely. Those continuing in it have been forced to eke out their living by raising cash crops, and intensifying the dairying as far as possible.

The Dairymen's League of New York, the most comprehensive organization in the interest of the milk producers, decided that the first of October, the time of signing contracts for the coming six months' milk, should see a gigantic effort to secure better prices from the milk trust. The farmers have thousands of dollars invested in the equipment for milk production to one invested by the dealers or distributors, yet the latter were absorbing nearly three-quarters of the price paid by the ultimate consumers.

After long and careful deliberation the League fixed the following schedule of prices which should be paid the farmers for Grade B milk testing three per cent butter-fat, all other grades to take the same relative value above or below this grade, with an increase of three cents per 100 pounds for each one-tenth point increase in butter-fat:

	1st Dist.	2d Dist.
October	\$2.15	\$2.05
November	2.25	2.15
December	2.25	2.15
January	2.15	2.05
February	2.10	2.00
March	2.05	1.95

One of the leading purchasing and distributing agencies handling liquid milk in New York State and adjacent territory has been the Borden Company. This company has been in the habit of contracting the milk with the producers on October 1 for a period of six months and other distributing companies have keyed their prices largely by Borden's. This year the Borden's were warned of the agitation in milk-producing circles and refused to sign contracts for more than a month at a time—offering \$1.90 for October milk. This was an increase of ten cents a can over the price paid one year ago, and they hoped to still the demand for better prices.

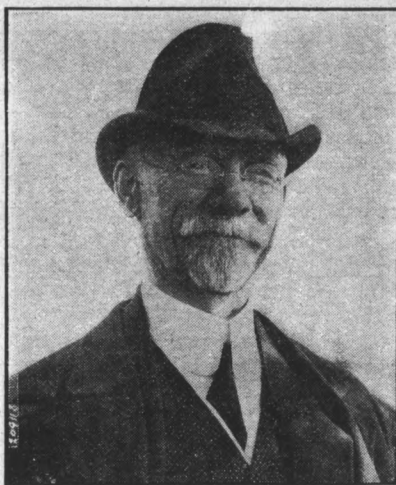
Farmers Refused to Compromise.

Membership in the league includes the pledge of the members not to sell any milk except by permission of the league and through the exclusive agent of the League. State Commissioner of Foods and Markets John J. Dillon was given power of attorney and instructed to act as the selling agent of the League.

An active campaign was started a few weeks prior to October 1 and the membership of the League grew apace. They soon had control of 300,000 cows, or about seven-eighths of the entire milk supply of New York City. A milk famine was accordingly visited upon the city as the big dealers absolutely refused to compromise or recognize the farmers' right to deal in a body, although they would sign individual contracts. This the farmers refused to do. Even those who did not belong to the League recognized the grave

crisis in the milk question and with the exception of a few individuals stood firm with their friends who were of the League and withheld their milk from the New York trade.

The big dealers had no idea that the farmers would hold out. The former filled their vats with milk and cream for days in advance, keeping it cold for future delivery. They were sure that 48 hours would see a break, and they would win out. In the meantime the smaller dealers were willing to pay the reasonable price asked by the League and they began contracting for milk through Commissioner Dillon—the only way any milk was finally allowed to enter the city, excepting that brought from distant markets by the trust—and for which they paid as high as \$2.40 in their effort to break the strike. Those few individuals about the state who for a few days continu-



John J. Dillon, New York Commissioner of Foods and Markets Helps Farmers to Secure a More Reasonable Price for Milk.

ed to deliver their milk were seen by local dairymen and the milk withheld by moderate measures when possible and by other measures when necessary. Thus the supply soon dwindled from a few cans a day to none at all.

Distributors Finally Yield.

Milk shipping plants and the railroads were idle for about ten days. The situation in New York was, of course, acute. This the farmers deplored, but they realized that the more complete the famine the shorter it would be in duration. The small dealers began to do a big business and they were getting the trade of the former autocrats in the milk world, and the latter were forced to do the fair thing in order to save even a small share of their former trade. At the end of the first week, twelve distributing concerns had signed the League's contracts, and others were continuing to fall into line.

The "big four" companies, Borden's, Sheffield Farms, Stevens and the Mutual MacDermott Companies, continued to stand out. It was a closely contested tug of war for several days before these companies gave in. But at last they did so, after endeavoring to sign up for two months, then for three months, with the privilege of arbitrating the price for the next three months. The executive committee of the League consented to no compromise.

All manner of reports were current during the second week in October—as agents of the "big four" sought out the farmers and tried to sign contracts with them, doing so in many cases under what was thought by League leaders to be misrepresentations. Later it transpires that the League was the victim of treachery in camp, in that their president, Jacob Brill, is alleged to have made verbal contracts with the Borden's and other distributors for three months. This the League repudiated as soon as they discovered it, declaring that President Brill was beyond his rights and had no power of

attorney for the League, and his resignation was demanded. No harm was done to the cause, however, except to delay adjustment of the difficulties and keep the city from its supply of milk a few days longer.

Orders were telegraphed to every branch of the League to make no contracts except by permission of R. D. Cooper, chairman of the executive committee, or through Mr. Dillon. Those farmers who had signed short-term contracts were prevented from delivering their milk until conditions were satisfactory.

Prosperous Farmers Help General Business.

Through all this conflict many interesting incidents have taken place throughout the state. The farmers feel that their victory has placed farming on its feet for the first time, and they are jubilant. They have found their strength for the first time, and have learned how to use it. Never again will they be so helpless in the marketing of their things. And they really surprised themselves in the easy victory. Very few men met with any great loss for the few days or weeks they were obliged to hold their milk.

Creameries, condenseries, and other milk products companies all over the state doubled their output, most of them putting on a night shift. Factories long unused were quickly equipped and worked to full capacity. Those who had cream separators ran them night and day for the benefit of their neighbors. Others bought new separators and learned to ship their cream to nearby city markets twice a week, having the skim-milk to feed to stock. Many like this plan so well they say they will not go back to selling whole milk.

The public has been awakened as never before to the injustice done to the farmer, not only through the milk question but in general produce. As never before the business world sees the necessity of giving the farmers a fair chance. They are the greatest buying class in the world and hard times for the farmers mean hard times in all lines of industry.

The Experience in Organization is Valuable.

The farmers have learned how to organize. Counties have been the unit in most cases, with the farm bureaus acting as leaders of organization and co-operating most heartily with the branch Leagues. Meetings were held in every milk center in the state, so far as possible. Leading dairymen in each section gave generously of their time and talents, going day and night in squads with others who spoke to the dairymen in every community, each man taking an active interest in the campaign. So carefully was the campaign carried out and so quickly did the farmers respond that the organization was enabled to do thorough work.

The Wick's investigation committee, acting for the state, has taken a large amount of evidence, and is now considering this before further action. The dealers have asked that a committee of eleven be appointed to arrange future price schedules, to avert future milk wars. This committee, as recommended by them, would consist of one member appointed by the mayor of New York, one each by the governor, the Commissioner of Agriculture, the wholesale dealers, the retail dealers, the State Grange, the New Milk Committee, the Wick's Investigating Committee, the health commissioner of New York, and two by the Dairymen's League. The League is considering the proposal but Mr. Dillon states that he considers that the farmers would lose in such a committee, that the majority of such a committee, by reason of their lack of experience in the milk industry, would

be more liable to stand for the interests of the distributors.

Preparing for Future Contingencies.

One of the most significant results of the campaign is the active preparation that the farmers have already under way in many localities for building locally owned and controlled shipping plants, which shall be equipped with pasteurizers and machinery for making butter and cheese. Many of these plants are to be ready for use early next spring, so the farmers will be able to take care of and market their own output with the ultimate view of eliminating the distributor as a dominating factor in the business.

There is great promise of better times for both farmers and consumers, the two great classes most to be considered. The former hope to get more for their product, and the latter will be required to pay less for a necessary article of food; while the former's pasteurizing plants will enable them to crowd out the heretofore obnoxious middleman, with his all absorbing greed.

New York.

M. G. FEINT.

BEAN SPECULATORS WANT FARMERS TO STAND LOSSES.

The Michigan Director of Markets is advised of the distribution by persons interested in breaking the bean market, of circulars representing that the bean crop in Michigan is above normal. The director is in possession of one of a circular issued by a buying concern, which reads in part as follows: "Last year's crop of beans ran seven bushels per acre of good beans and we harvested 4,250,000 bushels. This year's crop by the most conservative estimate, shows an increase of 25 per cent in acreage and the beans are threshing out ten bushels per acre on an average. This would make the crop harvested around 7,500,000 bushels."

Director of Markets James N. McBride calls attention to the fact that the above statement is in direct contradiction to the federal and state crop reports which indicate a crop that is smaller than last season's by 500,000 bushels.

The November state crop report makes the bean acreage for Michigan 435,542 and it estimates the total yield at 2,920,338 bushels, with an average yield per acre of 8.71 bushels.

It is the opinion of the director that any private agency which desires to influence the market price of beans by adding 4,580,000 bushels to the duly published crop report, which is an amount that is greater than the total crop for 1915, is actuated by but one purpose, namely to deceive the producers and bring the farm price of beans down.

The director has been informed that the "shorts" on October delivery have had their contracts extended into November and are now endeavoring to break the bean market that they may have the chance to fill their October orders at a price much below that which represents the real value of the crop. It is urged in opposition to the arguments of the "shorts" that the constant advance in the price of food-stuffs, together with the damage done to the California bean crop by rains need not give the Michigan bean grower concern as to his market. The director thinks that buyers who can buy foreign beans will do so when they can and without spending overmuch time in circularizing the trade concerning the subject, nor find it necessary to give mis-information as to the Michigan bean crop. The acre value of beans is not higher than other crops this season.

Circulars which are apparently intended to misrepresent the crop situation in respect to beans, together with other documents, are in the possession of the federal government, for determining whether or not the mails have not been used in these instances to restrain trade.

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M. V. McINNES

178 Jefferson Ave., Detroit, Mich. Canadian Gov't Agt.

NOTICE

Hastings, October 28 th., 1916
Notice is hereby given that there will be a special meeting of the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company to be held in the city of Hastings, Michigan at the city hall on December 5 th., 1916 at one o'clock P. M. for the purpose of voting on the revised charter of this company as adopted by the board of directors October 3 rd., 1916.
By order of the Board of Directors.
D. W. Rogers, Sec.



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Markets.

GRAINS AND SEEDS.

November 21, 1916.

Wheat.—By taking a recess of a few days, foreign buyers were able to bear the American market and reduce prices from the high point of last week. On Monday, however, it became apparent that these foreigners were quietly accumulating stocks at the reduced quotations and the market immediately gained strength and advanced over 3c during that day's session. Statistical news is all in favor of higher prices with the smallness of the world's wheat supply and the unsatisfied needs of Europe as the dominating factors in the trade. It is rumored that an embargo may be placed upon wheat in Argentina for limiting shipments. Primary receipts were 2,475,000 bushels Monday, compared with 3,941,000 bushels a year ago. No. 2 red wheat sold at \$1.11 on this date in 1915. Last week's Detroit quotations were,

	No. 2 Red.	No. 1 White.	Dec.
Wednesday	1.88	1.83	1.90
Thursday	1.86½	1.81½	1.88
Friday	1.85½	1.80½	1.86½
Saturday	1.82	1.77	1.83
Monday	1.85½	1.80½	1.86½
Tuesday	1.85½	1.80½	1.86

Chicago.—December wheat \$1.81½; May \$1.88½; July \$1.58½.

Corn.—Corn values declined last week. High prices have stimulated more liberal selling on the part of farmers, and offerings have been of sufficient volume to force quotations to a lower level. While the Detroit market sagged heavily on Monday of this week, at Chicago prices for the same day advanced nearly 3c. The visible supply for the United States increased 79,000 bushels last week. A year ago No. 3 corn was quoted at 63½c per bushel. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.06	1.08
Thursday	1.06	1.08
Friday	1.06	1.08
Saturday	1.01	1.03
Monday	.97	1.00
Tuesday	.98	1.00

Chicago.—December corn 93½c per bu; May 95½c; July 95½c.

Oats.—Recent advances in oat values were maintained in the face of a weaker trade in corn and wheat. There is a good eastern demand as well as a strong domestic call for this grain. While the United States visible supply gained 482,000 bushels, that of Canada decreased 311,000 bushels last week. One year ago standard oats were quoted at 40c per bushel. Last week's Detroit quotations were:

	No. 3 Standard.	No. 3 White.
Wednesday	60½	59½
Thursday	60½	59½
Friday	60½	59½
Saturday	60½	59½
Monday	60½	59½
Tuesday	60½	59½

Chicago.—December oats 58½c per bu; May 62c.

Rye.—Market is firm at last week's advanced quotation, which was \$1.50 per bushel for cash No. 2.

Beans.—Trading in this product is reduced to small proportions by reason of the very limited stocks on hand. Local quotations were up 25c more last week, and now cash beans are nominally quoted here at \$6.50 per bushel. The Chicago market reports a brisk inquiry for beans, with offerings insufficient to supply the needs. Pea beans, hand-picked, Michigan stock, are quoted there at \$7@7.25; red kidneys \$7.50.

Peas.—The market for dried peas is strong at Chicago. Field peas are quoted there at \$3.50 per bushel.

Seeds.—Prime red clover \$10.70; al-sike \$10.40; alfalfa \$9@10; timothy \$2@2.50.

FLOUR AND FEEDS.

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

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$31; standard middlings \$31.50; fine middlings \$35; cracked corn \$45; coarse corn meal \$42; corn and oat chop \$39 per ton.

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

Straw.—Rye straw \$8.50@9; wheat

and oat straw \$7.50@8 per ton in carlots.

DAIRY AND POULTRY PRODUCTS.

Butter.—Small supplies and active demand brought an advance of 4c. The market continues firm at the advance. Prices for extras 1c higher. Creamery extra 40c; do. firsts 39c; dairy 30c; packing stock 27½c.

Eggs.—Bids of 40c failed to produce any butter, as holders think prices are going higher. The present market price is estimated at 40c.

Chicago.—A firm feeling continues to exist and prices are 4c higher on account of the shortage of supply. The creamery extras are quoted at 40½c; extra firsts 40c; firsts 38@39½c.

Eggs.—The market is firm with the price 2c higher than last week. Receipts are light. Firsts 40c; current receipts 38c.

Chicago.—Fresh eggs are scarce and the demand is strong. Prices are 4c higher with the market firm. Firsts 39@39½c; ordinary firsts 37@38c; at mark, cases included 33@38½c; firsts, storage paid, 36½@37c.

Poultry.—Market is steady with increases in prices for most all kinds. Turkeys are slightly lower. Live, spg chickens 17@17½c; No. 1 hens 16@17c; others 13@14c; ducks 15½@16c; geese 16@17c; turkeys 22@24c.

Chicago.—The liberal receipts have brought lower prices for everything except turkeys, which are 2c higher. Good turkeys 22c; others 15@16c; fowls, general run 12½@13c; others 12@15c; spring chickens 15½@16c; ducks 14c; geese 12@14c.

FRUITS AND VEGETABLES.

Apples.—Market steady with prices unchanged. Barreled stock \$3.50@4 for fancy; choice \$2.50@3.50; No. 2, 75c@1 per bushel. At Chicago trade is fair. Good stock sells well but the cheaper-priced goods are hard to move. No change in prices. Fancy stock sells for \$2.50@6 per bbl; No. 2 stock \$1.75@2.50.

Potatoes.—At Detroit potatoes are steady with prices unchanged. Quoted, carlots, in bulk at \$1.60@1.65; sacks \$1.65@1.75. At Chicago Michigan white are quoted at \$1.50@1.70; others \$1.35@1.80. Market is steady with a good demand for nice stock. Many receipts show frost damage.

GRAND RAPIDS.

Fresh eggs have advanced almost to the 40c mark and dairy butter is higher, being quoted at 28@29c. Potatoes sold on the city market early this week at \$1.75, and the prices at outside buying stations have not changed materially from last week. The bean market continues firm with some markets quoting as high as \$6.65. Indications are that poultry will be in good supply for Thanksgiving, with young turkeys 20@22c; ducks 14@16c; fowls 12@14c; No. 2 red wheat is quoted at \$1.72; rye \$1.25; barley \$1; corn \$1; oats 55c.

DETROIT EASTERN MARKET.

Plenty of buyers made trading at the Eastern Market active on Tuesday morning for the majority of the products offered. The bulk of the apples were selling from 75c@1.25, with the better grades up to \$1.50 and above. Cabbage \$1.40@1.75; potatoes \$1.25@2; carrots \$1.40@1.60; pork 14c per lb; chickens \$1@1.25 each; eggs 53@55c per dozen; loose hay \$17@19 per ton.

LIVE STOCK MARKETS.

Buffalo.

November 20, 1916.

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

Receipts here today as follows: Cattle 252 cars; hogs 180 d. d.; sheep 70 d. d.; calves 1200 head.

With 252 cars of cattle today, the quality was very common and what few strictly good butcher cattle were here sold about steady, but the bulk of the medium and common grades were very slow and a quarter lower. There was a good demand for the best quality stockers and feeders and they sold fully steady, but the common kinds were very slow sale. There was a liberal run of canners today and good canners with the cutters left in sold around \$3.90@4, but the fair and common ones were very slow and bulk of them sold around \$3.75, with throw-outs at \$3. We look for a liberal run of cattle next Monday and no more than a steady market.

The hog market was glutted today with the heaviest run of the season, following a liberal supply of Saturday, and market took another slump, prices averaging a strong quarter lower than last week's close. The bulk of the sales were around \$9.50, with a

few selected at \$9.60@9.70, but sales above \$9.50 were very scattering, quite a number of light yorkers selling from \$9@9.25; pigs and lights \$8.25@8.50; roughs \$8.25@8.75; stags \$7@8. Quite a good many hogs unsold at the close and with a fair supply in sight for the next few days we do not look for much if any improvement.

With a liberal run of lambs today our market opened slow and 25c lower than the close of last week, and we look for steady prices balance of week.

We quote: Best lambs \$11.25@11.50; cull to common \$9@11; yearlings \$8@9.50; bucks \$5.50@6.50; ewes \$7.50@7.75; cull sheep \$4.50@6; wethers \$8@8.50; top veals \$13@13.25; heavy \$7@9; common and light \$8@11; grassers \$5@5.75.

Chicago.

November 20, 1916.

Cattle. Hogs. Sheep.
Same day 1915..33,000 65,000 23,000
Same day 1916..23,245 44,759 21,455
Last week.....92,685 278,778 127,989
Same wk 1915..58,769 219,614 89,389

Shipments from here last week amounted to 26,812 cattle, 42,101 hogs and 20,942 sheep, comparing with 13,806 cattle, 19,517 hogs and 23,168 sheep for the preceding week. Hogs received averaged only 195 lbs.

This week's cattle market opens at steady prices for butcher stuff and fat steers, with other kinds slow and largely lower. Hogs are largely a dime higher, with some sales only a nickel lower, sales ranging at \$8.40@9.95. Fat lambs advanced 15c, prime lots selling at \$11.75.

Cattle receipts last week rose to such extremely large proportions that maintaining prices for the bulk of the offerings was an impossibility, grassers, short-feds and warmed-ups predominating, and sharp breaks took place in values. As has been the rule all along, the small percentage of well fattened cattle, whether steers, heifers or cows, sold satisfactorily for their fortunate owners, and the best steers brought the highest prices ever paid, if cattle fattened for the International Live Stock Exposition are excepted. The greater part of the steers offered found buyers at a range of \$7.50@10.50, with fair sales of the best heaves at \$10.60@12.05, cattle going at \$11 and upward being classed as choice, while good steers sold at \$10 and over, a medium grade at \$9 and over, fair killers at \$7.60 and over and sales down to \$6 for thin undesirable lots, while a limited number of steers of the canning kind sold as low as \$5. Yearlings were active and firm, good to fancy offerings bringing \$9.75@12, with a medium grade going at \$9 and over and inferior lots at low priced as ever. Butcher stuff was salable at \$5.30@8.10 for cows and at \$4.90@9.75 for heifers, with a sale of five head of fancy heifers averaging 1086 lbs. at \$11. Cutters went at \$4.70@5.25, canners at \$3.75@4.65 and bulls at \$4.75@8. The calf trade was lively at much higher prices for the better class, light vealers going at \$11@12.50 and sales all the way down to \$4.75@7.75 for the coarse to pretty good heavy lots. There was a moderate demand for stockers and feeders, with sales ranging at \$4.75@7.65 for inferior to choice offerings. Western range cattle were salable at \$6.50@10.40 for steers of ordinary to prime quality, and an exceptionally superior consignment of Canadian range steers from Alberta averaging 1432 lbs. brought \$10.75, making still another high record for rangers. Cattle that were not fat sold 25c or more lower.

Hogs were forced last week to much lower prices on account of the greatly increased receipts, 52,487 hogs arriving on Monday, while the Wednesday receipts footed up 62,617 head. Eastern shippers took hold much more freely, 9,891 hogs being shipped from here on Wednesday, but it was impossible to maintain values under such heavy loads, and even the best lots had to sell much lower than a week earlier. The receipts averaged very poorly as a rule, the offerings embracing a large proportion of pigs and light weight hogs, and these sold very unsatisfactorily invariably, pigs especially so. Many hogs were left over at the close of trading hours, thereby adding to the depression, and on Wednesday about 77,350 hogs were on sale, including 14,730 carried over Tuesday night. There was a widening out in prices between choice heavy shipping barrows and prime light shipping weights, the former topping the market and bringing about 30c more than the best light hogs. At the close hogs brought \$8.60@10, comparing with \$8.90@10.20 a week earlier, pigs bringing \$6@8.55. Prime heavy shipping hogs sold highest, with prime light shipping hogs at \$9.75.

Lambs of the best grade continued extremely high sellers last week, with not many prime lots offered, although the aggregate receipts were greatly increased. Prime fat yearlings and sheep also sold at a big premium for the

same reason, but the general market was decidedly lower because of the increased supplies. A number of long trains of Montana and Idaho lambs, yearlings and sheep arrived, including a good percentage of feeders, and the feeders sold well, but the season for range stock is over, and supplies now consist almost entirely of native lambs and sheep and fed westerns. Closing week sales were as follows: Lambs \$8.75@11.60; range feeding lambs \$9@10.50; yearlings \$8@10; wethers \$7.50@8.50; ewes \$3.25@7.70; bucks \$5@6; breeding ewes \$6.50@8.50. Prime yearlings advanced, but lambs and sheep ruled lower.

Horses were in large supply last week, and there was a good outlet at about recent prices, with army horses going at \$150@175 for "gunners" and \$115@125 for riders. Loggers sold at \$150@215, drafters at \$240@285, southern chunks at \$50@80, southern mares at \$90@125, commercial chunks at \$190@235 and expressers at \$175@210.

The offerings of choice to fancy beef cattle on the Chicago market are diminishing all the time, and their scarcity at a time when the demand from local packers and eastern shippers is strong has sent prices up to the highest altitude ever known on the open market except when fancy beefs were being shipped in for the Christmas holiday trade. Plenty of inferior to fair middling grades of cattle have been moving to the Chicago and other western markets, but in a short time the movement of grass cattle from the pastures and ranges will be over for the year, and thereafter there will be a much better chance for sellers of the cheaper class of cattle. Great numbers of cattle are going to be roughed through the winter season, but unquestionably there will be a very small production of choice beef, and prices will undoubtedly rule higher than ever in the past. Under such circumstances it will pay handsomely to fatten well-bred steers in first-class shape. There is a fairly large demand for medium-priced stockers and feeders at ruling prices, but the high-priced offerings are in very poor demand.

U. S. SANITARY LIVE STOCK ASSOCIATION.

The twentieth annual meeting of this association will be held at Hotel La Salle, Chicago, on December 5-6-7, 1916. This association includes leading federal and state live stock officials, farmers, stockmen and many persons interested in various lines of live stock work in this country. The program for this meeting combines a variety of topics of the greatest interest and importance to everyone concerned in the prosperity of the animal industry of the United States. The regular sessions of the meeting will be open to the public. Farmers and stockmen are especially invited to attend. Anyone desiring additional particulars regarding the meeting or program should write the Secretary, John J. Ferguson, Union Stock Yards, Chicago, Ill.

MILK PRODUCERS' MEETING AT DETROIT.

All dairymen contributing to the Detroit milk supply should attend a milk meeting at the Burns Hotel, Detroit, called for December 4, 1916, at 10:30 a. m. This is a very important meeting, and every reader should take it upon himself to notify his neighbors and friends of same. Local organizations should meet and appoint delegates, and as many dairymen as find it at all possible should attend the meeting in person.

R. C. REED,

Field Secretary, Michigan Milk Producers' Association.

FRUIT GROWERS' CONVENTION.

(Continued from page 506).

Necessity of Advertising Michigan Fruit, and How to do it."

Eugene Hart, Middleport, N. Y., "The New York Apple Law."

George Low, Bangor, "Is Orchard Heating a Success?"

C. F. Schneider, Section Director of Michigan Weather Bureau, Grand Rapids, "The Use of Water as Protection Against Frost."

A. J. Rogers, Jr., Beulah, "Solution of Some Market Difficulties."

Prof. R. H. Pettit, M. A. C., East Lansing, "Injurious Insects, Old and New."

J. H. Carmody, M. A. C., East Lansing, "Recent Developments in Spraying."

The special session will be held by the ladies of the society.

Mrs. Alta L. Ludwick and Miss Letitia Foster, of Cloverdale, will give their experiences in the fruit business.

For further particulars and information, address Robt. A. Smythe, Secretary, Benton Harbor, Mich.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.

November 23, 1916.

Cattle.

Receipts 2874. There will be no market at these yards Thanksgiving Day, Thursday, November 30. Anything arriving will be unloaded and cared for, but the scales will not be opened and no business transacted.

Another large supply of all kinds was on sale and as usual everything was very late owing to the congested condition of all Detroit terminals. Stock makes good time to Detroit but it is a hard struggle to get it to the yards after arriving. Until the supply of dead freight of all kinds in the yards are cleaned up there will be trouble handling the stock.

In the cattle division the quality was common and the market opened steady with last week on all grades and continued so until Thursday, when it became dull and draggy and at the close everything but good prime steers was a dime lower. Good milch cows are in active demand at slightly higher prices but common grades are dull. The close was dull as follows: Best heavy steers \$8; best handy weight butcher steers \$7@7.50; mixed steers and heifers \$6@6.75; handy light butchers \$5.25@5.75; light butchers \$4.75@5; best cows \$5.50@6; butcher cows \$5@5.25; common cows \$4.50@4.75; canners \$3.50@4; best heavy bulls \$5.50@6.10; bologna bulls \$5@5.50; stock bulls \$4.50@5; feeders \$6@6.50; stockers \$5@6; milkers and springers \$4@95.

Sandel, S. B. & G. sold Bray & B. 8 cows av 885 at \$4, 2 do av 1005 at \$4.25, 6 stockers av 666 at \$5, 2 do av 565 at \$5, 3 cows av 843 at \$4; to Hammond, S. & Co. 3 do av 1136 at \$4.35; to Mason B. Co. 6 do av 1036 at \$5.65, 4 steers av 997 at \$6.25; to Brewer 15 stockers av 647 at \$5.25; to Corletts 6 do av 670 at \$5, 8 butchers av 746 at \$5.35; to Parker, W. & Co. 3 do av 863 at \$5.25, 18 do av 713 at \$4.75; to Watts 5 steers av 982 at \$6.25; to Mich. B. Co. 5 cows av 1014 at \$5.50, 4 butchers av 837 at \$6, 1 bull wgh 1610 at \$6.15, 1 do wgh 730 at \$5, 1 do wgh 980 at \$5.75, 1 do wgh 780 at \$5, 11 butchers av 862 at \$6.75, 20 do av 679 at \$5.40, 2 bulls av 1070 at \$5.50; to Hammond, S. & Co. 3 cows av 910 at \$4.25, 3 do av 887 at \$4; to Sullivan P. Co. 2 do av 1020 at \$4.25, 8 canners av 860 at \$3.85; to Mason B. Co. 1 bull wgh 1410 at \$6; to Fineman 11 butchers av 514 at \$4.25; to Feldman 6 do av 766 at \$5.25; to Goodgold 7 do av 644 at \$4.75; to Fineman 17 do av 620 at \$4.50; to Prentiss 4 do av 855 at \$5.75, 10 do av 760 at \$5.75; to Hammond, S. & Co. 1 bull wgh 1200 at \$6; to Sutton 9 feeders av 762 at \$6, 13 do av 650 at \$5.85, 5 do av 754 at \$6; to Stark 12 do av 901 at \$6.75, 7 stockers av 607 at \$5.50.

Veal Calves.

Receipts 902. The veal calf trade was active from start to finish, with bulk of the good grades selling at \$11.50@12, with now and then a small bunch of fancy as high as \$12.50; common dull, and heavy selling at \$5@6.50.

Erwin, S. J. sold Parker, W. & Co. 2 av 160 at \$11.50, 1 wgh 150 at \$11, 3 av 180 at \$11, 1 wgh 150 at \$10.50, 1 wgh 160 at \$10.50; to Burnstone 5 av 165 at \$12, 5 av 155 at \$9.50.

Sheep and Lambs.

Receipts 9661. The sheep and lamb trade was active all the week, bulk of the good lambs bringing \$11.25, which was top. Sheep about \$6.75. Quite a large number were bought for Swift & Co., and Nagle P. Co. bought freely. The close was steady.

Bishop, B. & H. sold Swift & Co. 582 lambs av 75 at \$11, 132 do av 73 at \$10.75; to Thompson 30 do av 65 at \$10.25; to Mich. B. Co. 73 do av 55 at \$9.50, 146 do av 60 at \$10, 91 do av 63 at \$9.50; to Parker, W. & Co. 23 do av 90 at \$10, 17 sheep av 85 at \$6.50, 95 do av 105 at \$6.35; to Nagle P. Co. 5 do av 115 at \$6.25, 56 lambs av 75 at \$10.60, 14 do av 72 at \$10.65, 38 do av 70 at \$11; to Kline 47 sheep av 100 at \$6.50; to Hammond, S. & Co. 15 lambs av 50 at \$9.75; to Swift & Co. 868 do av 75 at \$11.25, 29 do av 85 at \$10.85, 13 do av 70 at \$11.

Hogs.

Receipts 12,132. The quality in the hog division was common, there being a very large number of pigs and light yorkers in the receipts. The general market was the same as last week and steady with Wednesday. Pigs \$8; yorkers and heavy \$9@9.30.

Veterinary.

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

Chronic Garget.—My cow has been troubled with caked bag and obstructed milk flow through one teat for some time. I am obliged to use a milking tube to draw milk from blocked teat. H. G., Dearborn, Mich.—Apply one part iodine and 14 parts lard to caked portion of udder and directly to upper part of teat three times a week. Give her a teaspoonful of hyposulphite of soda twice a day.

Sore Feet.—Have a driving mare which limps slightly on left fore leg when traveling fast on hard roads. I have noticed when standing she is inclined to point sore foot and she has been worse for the past two days. M. E. G., Carson City, Mich.—If you will stand her in wet clay or pack foot with wet clay and keep it moist for an hour or two a day, she will perhaps obtain relief; furthermore, it is possible to relieve her soreness by proper shoeing.

Cow Gives Bloody Milk.—Would like to know the cause of a cow giving bloody milk from all four quarters? Am I to believe that giving her drugs will correct this trouble? She appeared to be all right up to two months ago. Mrs. M. B., Merrill, Mich.—Usually the passing of blood from one or more quarters of the udder is the result of an injury of some kind. One cow hooking another, stepping over logs, low fences, out of ditches, lying down on hard substances, such as pieces of wood, rocks, bricks, or uneven frozen or hard ground. Rough milking is perhaps as common a cause as any. Rapidly increasing the food supply of a thin cow will sometimes cause her to give bloody milk. Giving and applying drugs is done with a good deal of speculation in the treatment of this ailment. Better ascertain the cause and remove it.

Indigestion.—I have a four-year-old horse that is fed three quarts of oats and seven ears of corn at a feed three times a day; also all the hay and corn fodder he will eat. He is inclined to be pot-bellied and occasionally shows symptoms of colic, but does not bloat much. T. C. B., Ravenna, Mich.—Mix together equal parts cooking soda, powdered charcoal, ginger and gentian, and give him a tablespoonful or two in feed two or three times a day. Perhaps you are making a mistake in feeding him too much bulky food.

Hide-bound.—I have a light driving mare ten years old that commenced to lose flesh three weeks ago; now she has a rough coat and is hide-bound. Her appetite is fairly good and she seems to grind her food all right. Her work consist in traveling 15 miles a day. S. A. C., Flint, Mich.—Mix together one part ground nux vomica, one part salt, one part fenugreek and three parts ground gentian, give her a tablespoonful at a dose in ground feed three times a day.

Chronic Indigestion.—Can you tell me what is wrong with our cows and how to cure them? They chew pieces of wood and are inclined to tear out buildings down, and I might add that we salt them often. R. G., Crosswell, Mich.—A complete change of food is required; besides, you should give them some ground bone, cooking soda and air-slaked lime in their feed. All they require is a balanced ration; therefore, you should change frequently and endeavor to satisfy their appetite.

Dysentery.—I wish you would tell me how to treat a calf six weeks old that has been troubled with scours for one week. This calf has a very poor appetite and is losing flesh rapidly. We feed him three quarts of separator milk and a tablespoonful of flaxseed jelly at a feed. Have given him brown flour, raw wheat flour, but it fails to check his bowel movements. C. F. B., White Cloud Mich.—Give calf 10 grs. of salol at a dose four times a day, but first of all give a dose of castor oil, not less than two or three ounces.

Barren Heifer.—Part of my cows are regular breeders and some of them do not come in heat. One of my cows I have been giving medicine that you prescribed in this column, but she has not yet come in heat. What would you advise me to do? G. W. S., Holland, Mich.—First of all it is well to keep in mind that contagious abortion, persistent clinging afterbirth, and ulcerated vaginitis are all causes of barrenness; besides, many cows have cystic ovarian trouble which render them barren. Certain cows are shy breeders and will not raise a calf every year. I would advise you to employ a competent Vet. to make a careful examination of your cows that do not breed, for it is not possible to successfully treat them through these columns.



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Geo. B. Ellis, formerly secretary of the State Board of Agriculture says "This is destined to become the greatest stock feeding country in the world." C. D. DeField, of East Prairie, Mo. says "I raised 40 mules last year without doing any winter feeding at all." Cattle and hogs go through the winter here without feeding. Mr. DeField gets 5 cuttings of alfalfa each season, averaging one ton per cutting and says that a man can raise any kind of feed or have any kind of pasture there.

Luther Conrad furnishes further evidence on this. "I left a great country to come here and we demanded a great deal of this new soil. But I have found this land will raise everything that can be raised in north Missouri (where he came from) and other crops besides. The big advantage here is the short winter which gives us a long pasture season."

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Practical Science.

POPULAR FOOD DRINKS.

BY FLOYD W. ROBISON.
(Continued from last week).

Tea.

As a beverage we have been in the habit of considering tea in the same class with coffee. They are distinctly different beverages, of course, but have two or three points in common, so that it is common to speak of tea and coffee as indicating almost the same relationship.

Tea has always been considered a milder type of drink in a sense, although its composition would indicate that it would be more severe in its physiological action, particularly when improperly brewed. One advantage tea has over coffee is that it is attractive to people, even in exceedingly dilute solutions. Coffee is very undesirable to many people unless sufficient coffee is used to make a rich-bodied, full-tasting drink. On the other hand, while some prefer strong tea there are a great many who like such a weak solution that the tea itself is scarcely noticeable.

The characteristics of tea which are similar to those of coffee are of course caffeine and tannin, except the caffeine in tea is not called caffeine, but thein, and the tannin, of course, is not called caffeine tannic acid in tea although it has the same properties. The tannin, caffeine and the other extracts of tea yield themselves much more readily to hot water than they do in coffee. This may be easily understood when it is realized that tea is simply the carefully dried leaf, together with some of the buds of the tea plant, whereas coffee is a product obtained from the seeds of the fruit.

Black and Green Tea Come from the Same Plant.

There are two general kinds of tea—black tea and green tea. These differ from each other more in the process of preparation, or the manufacture as it is called, for both black and green tea are obtained from the same plant. According to Leach, green tea is prepared by first steaming and then drying the leaves while they are still fresh, thus keeping the bright color characteristic of chlorophyll, the characteristic green of all growing plants. Black tea is fermented in the sun and exposed to the direct rays of the sun for a period of time and this turns the leaves black. If a solution of coffee is allowed to stand for a considerable period of time it also will become dark. Hence, undoubtedly it is the action of the sun perhaps upon the tannin in the tea which is responsible for this change in color, although it is stated that there is less tannin in black tea than there is in green tea. Peculiarities of brewing whereby bitter undesirable results were obtained were discovered much sooner in the case of tea than with coffee. Consumers have been content to boil coffee, thinking that by so doing they were getting added strength, whereas they are very few at the present time who will boil tea. The popular, common method of the preparation of tea at the present time is to put the required amount of tea in an earthen pot and cover it with boiling water, allowing it to steep in this way. It is considered that the flavor is ever so much superior to the flavor of tea which has been produced by boiling the water with the leaves or boiling the extract for a period of time, which develops the distasteful bitterness which is so objectionable to most tea drinkers.

Improper Brewing of Tea Responsible for Most Objections to it.

We think that most of the objection which has been found to the drinking of tea has arisen because of improper methods of brewing. Many have in-

sisted that the only way to get a strong cup of tea was to boil the grounds and the extract for a considerable length of time, and have supposed that the deepening of the color through prolonged boiling and the increased depth of bitterness which develops is evidence that more and more material is being extracted from the leaves. This idea is decidedly erroneous, for after the tea has been in contact with the water for a short period of time it has yielded up practically all of its soluble constituents to the water and subsequent boiling is simply a breaking up of the combinations as they exist in the original tea leaf, and with very disastrous results, physiologically.

Carefully prepared tea, like carefully roasted coffee, is an exceedingly delightful, aromatic drink and if brewed properly we think very little can be said against it.

The drinking of very weak tea is a very excellent means of increasing the amount of water that one drinks during the day, for comparatively few people, particularly during the winter time, drink anywhere nearly as much water as they should drink to permit of the normal optimum activity of the digestive fluids.

Old Forms of Adulterations.

At the present time tea is practically unadulterated. An old form of adulteration was the admixture with fresh tea of spent or exhausted leaves—tea leaves which had served their purpose once. We believe this practice has been entirely eradicated. Another common form of adulteration was the practice of "facing" the dry leaves, by which term was understood the treatment with certain pigments or colors to make an inferior grade appear brighter and of better quality. Such substances as Prussian blue, tumeric and indigo, together with such mineral substances as gypsum, have been added to produce weight and color. This condition we believe to be practically obsolete at the present time due to the operation of the federal and state food and drug laws. Another form of adulteration which one has to be on his guard against is the presence of other leaves than tea leaves, and when leaves of similar shape and size are mixed in, it requires an expert with a microscope to differentiate between them.

The genuine tea leaf has very characteristic marks as far as the network of its veins and the width compared with the length are concerned. All of these points must be taken into consideration in the laboratory in determining whether the leaf is a tea leaf. With exhausted tea leaves, to make up for the fact that much of the astringent matter has been removed in the first steeping processes, it has been said that essences such as catechu, have been added to bring back an imitation of the original astringency.

It's Simply a Question of Quality Now.

But all these forms of adulteration are practically things of the past and the tea drinker at the present time need concern himself with practically only a question of quality. One of the most inferior grades of tea is tea dust, consisting of stems and fragments and, as its name implies, tea dust, or the finely pulverized portions of the tea.

Of course after the selection has been made and the grading and blending, one would expect that the dust would contain the rejected matter from all the rest, which it does in fact and many times is found to carry as much as 50 per cent of some forms of actual mineral matter.

Besides caffeine and tannin, tea has a considerable amount of nitrogenous matter, consisting perhaps of 50 per cent of true proteins. It has a tea oil which may be compared to the caffeine of coffee. The characteristic flavor of tea is quite like that of new-mown hay, which is imitated very well by the extract from the tonka bean, the active principle of which is coumarin.

Aside from this, it has resin and chlorophyll and certain other convertible carbohydrates.

Coffee and Tea Deserve their Popularity.

The two by far most popular non-intoxicating beverages in this country are coffee and tea. Many people will drink coffee who think tea is injurious to them; likewise some will drink tea who will not touch coffee. But the prevailing methods of brewing of tea have been found so desirable that even the coffee roasters have become interested in what can be done in the preparation of a uniform and desirable cup of coffee, so that in all probability the custom of preparing coffee more as tea is now prepared will gradually come into general use.

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Collie Pups Bred for business from best cattle driving stock. Females \$5, Males \$8. Send for yours today. G. A. Wigent, Watervliet, Michigan.

Farmers' Clubs

THE ANNUAL MEETING.

The annual meeting of the Michigan State Association of Farmers' Clubs will be held in the Senate chamber of the capitol building at Lansing, on December 5-6, 1916. An unusually interesting program has been prepared. A wide range of subjects of importance to the agricultural interests of the country will be discussed by men who are peculiarly competent to handle them intelligently. Every Club in the state should be represented at this meeting.

Many delegates from local Clubs have been elected at the November meeting and in all cases where delegates have not been elected, the president of the Club should designate some member or members to represent the local organization at this important meeting. The associational secretary has mailed report blanks to the secretaries of all local Clubs, and these should be promptly filled in and returned to her in order to facilitate the compilation of Club statistics for presentation at the annual meeting. Every local Club in the state should be identified with the state organization and should have one or more delegates in attendance at this meeting. The complete program will be published next week.

CLUB DISCUSSIONS.

Woman's Day.—The November meeting of the Ingham County Farmers' Club has been designated as Woman's Day since its reorganization and the dinner consists of chicken-pie and other "fixings" so well known to the farmer's wife. The meeting was held with Mr. and Mrs. Albert Laycock at the Homestead Farm in Alaledon. Dinner was served promptly at noon and as soon as the inner man was fully satisfied, President Allen called the meeting to order and with Mrs. Watts at the organ, all joined in singing America. The first business of the meeting was the election of delegates to attend the State Association of Farmers' Clubs at Lansing early in December. Mr. and Mrs. Frank McCormick were chosen, with Mr. and Mrs. Laycock as alternates. President Allen then turned the meeting over to the vice-president, Mrs. Melton, who introduced as the first speaker, Mrs. Bessie Bowden, who gave a paper full of interest, "Women in England." She said in part: "Since 1866, when the Normans, Saxons and Danes all united, it has been England and English people; that there are four distinct classes: Royalty, one must not marry outside the royal circle without losing his rank; second, Wealthy, who keep an immense army of servants; third, Farmers and Merchants; fourth, Laboring class. This latter class have five meals a day, but not so much cooking as we do here. All of the bread, buns and cakes are bought at the bakers. There are now 1,500 women and girls employed in munition factories in Birmingham and many more in other places. War is helping the suffragette and women will have more rights and privileges than ever before. The next paper was by Mrs. Harriett Casterlin, "Women in Politics." She thought that politics may not be improved by equal suffrage, but they certainly will not be any worse. Experience shows in local affairs women do as well or better than men and now there are 11 states where women have the full vote, and in many others a restricted vote. These 11 states control 91 electoral votes. Equality of opportunity is what we ask. The last paper of the afternoon was by Mrs. Lucy Shafer, who told about war and women. She gave Webster's definition of war, but she thought christian principles would quench the spirit of war. She spoke of Deborah, Joan of Arc, and that the bravest battles are fought by the mothers of men. Today women are doing the work of men that more can go to the front. Great good comes from wars, it gives greater respect for the rights of others and asked if we are teaching true patriotism. The next meeting will be held with Mr. and Mrs. Morse at the Poplars and will be the annual meeting for election of officers and reports of committees.—Mrs. Tanswell, Cor. Sec.

Grange.

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

THE STORY OF A HOME-COMING.

When Brother N. P. Hull was master of the Michigan State Grange, he requested each Grange in the state to arrange for a home-coming. He asked them to make a special effort to secure the attendance of all former members who were within reach, to try to get out just as large an attendance of the present membership as possible, and at the meeting to use every effort to secure the re-instatement of all former members.

Much was accomplished through the home-coming and I wonder that it has not been emphasized more forcefully during the past few years.

Keene Grange of Ionia county, held a home-coming on Friday, October 27. The writer was present and is telling the story of this meeting in the hope that more Granges will follow the example of Keene Grange.

The people began to arrive quite early in the afternoon, and this gave time for a good long program. The Worthy Master called the meeting to order and gave the Worthy Lecturer charge.

The reading of the charter list of members brought back the old days to the minds of many present. If we recollect rightly there were 57 names on this list. Only one was present at the meeting and but 13 still survive. The Grange was organized in February, 1874.

While but one charter-member of the Grange was present, there were several who joined just a little later, and these were called on for reminiscences of early days in the history of the Grange. We have not space to tell again these stories of the past, but it was good to be there and listen. Truly those people "Built better than they knew." I suppose they had their discouragements, like Grange workers of today, but these are forgotten now and memory treasures instead their forms and faces, their words of encouragement, and their efforts to make the old world a better place in which to live.

Much was said of one good old brother who used to be master of the Grange, who was never absent from his post, whose store of good will was never exhausted, but was spread among the members.

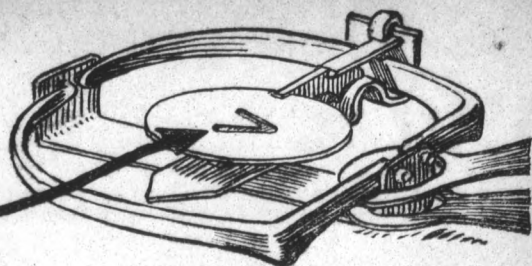
Sister Earl Curtis, past lecturer of Kent County Pomona, was there to join her old neighbor in the happy event, and she told many things which we have not the time to retell, but which were good to hear. She spoke feelingly of her father and mother who were members of this Grange, and read several of her mother's poems dedicated to Keene Grange. Sister Curtis was called on again in the evening and contributed more helpful things to the program.

The writer spoke in the afternoon upon the "Elements of a Successful Grange," and in the evening upon "The Grange and the Community."

A feature of the evening program which should not be overlooked was the music. Several numbers were rendered, all of them choice. The local pastor gave a talk upon Sunday and his work, which was appreciated. Some good recitations were rendered also, and with all it was late before we said good night.

It would be out of place not to speak of the supper hour. A hint of what was coming was given at the close of the afternoon program when wafers and tea were served, but those who were able to stay at the hall got much more than a hint. It was truly a great supper, it was nicely served, and the extreme of good will prevailed.

(To be continued.)



Only Skunks and Muskrats! —but they brought \$368 to Farmer Jones and his Son

He has a forty acre farm and last Fall and Winter his son set a dozen Victor traps every evening in likely spots.

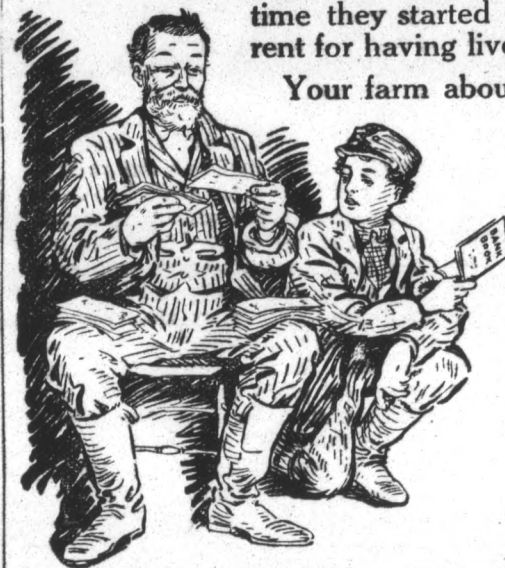
The Victors grabbed the little pests by the leg and held them tight—and then was the time they started to pay Farmer Jones rent for having lived on his farm.

Your farm abounds in valuable fur.

Catch it and cash in this Fall with Victors. It's a spare-time job anyway.

Start with a half dozen Victors. (You can get them from any hardware dealer.) They will pay for themselves—and a profit besides in your first week of trapping.

Oneida Community, Ltd.
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HOGS

Francisco Farm Poland Chinas Big Types With Quality

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

F. P. POPE, MOUNT PLEASANT, MICH.

NOW IS THE TIME TO BUY

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

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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.

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

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

Large Type P. C. Largest in Mich. Young boars ready for service. Of Mar. and Apr. farrow, from large litters, weighing up to 275 lbs. Come and see, expenses paid if not as represented. W. E. Livingston, Parma, Mich.

Large Strain P. C. One extra good fall yearling 2 cracker jacks by Oakland Equal Jr. and a fine bunch sired by Big Defender the hog that everybody goes wild over, sold at farmers prices. H. O. Swartz, Schoolcraft, Mich.

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

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

WALNUT Alley Herd, Big type Poland Chinas headed by Hadley Desmains No. 21025 and Smothe Jumbo Jr. No. 24387. Sows represent blood of 2 wonders. Pigs of either sex ready. A. D. Gregory, Ionia, Mich.

Big Boned Poland China boars shipped C. O. D. call or write for photo, weights, pedigree and price. E. B. Leonard, St. Louis, Michigan.

Large Stiled Poland China spring and fall pigs; also B. P. Rock cockerels at special low prices to quick buyers. Robert Neve, Pierson, Mich.

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

BIG Type Poland Chinas. The smooth, easy feeding Bkind that will grow big and get fat. Apr. pigs weighing up to 275 lbs. E. B. Moore, Hanscom, Michigan.

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

BIG Type P. C. Three extra good yearling boars, good B1000 lb. prospect. Sired by Big Type King our 1000 lb. boar. Spring pigs either sex. Special three Mouw breed boar pigs. W. Brewbaker & Son, Elsie, Mich.

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

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

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

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Friday Dec. 1st. 40 head. Boars, Open Sows and bred Sows. Sale at my farm, free conveyance from depot to sale. WM. WAFFLE, Coldwater, Michigan.

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

HAMPSHIRE Boars, sows, glits and choice stock. A. E. BACON & SON, Sheridan, Michigan.

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

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

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

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Registered Oxford Down Rams For Sale. Direct all mail to Olmsted and J. Spaans, Muir, Michigan.

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

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Percherons, Holsteins, Angus, Shropshires, Durocs DORR D. BUELL, Elmira, Michigan.

FOR SALE—Registered Percheron Stallions, Mares and Fillies at reasonable prices. Inspection invited. F. L. KING & SON, Charlotte, Mich.

The Fairfield Stock Farm, Percheron and Belgian and Oxford Down sheep. H. B. Peters, Carland, Mich.

Registered Percherons. Stallions from one to four years old and two 2 year old mares. Priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

FOR SALE Stallion colts by Imposant—7943 (79835) weight 2340 lbs. From mares as good. Ages from two months to three years old. As you can find any where. Chas. Osgood & Sons, Mendon, Michigan.

Shetland Ponies HARTZELL BROS., Solving, Ohio. Oldest herd in biggest Shetland Producing County in U.S. \$50 to \$150.

Economical Egg Production

By R. G. KIRBY

THE problem of economical egg production is now confronting the poultry keeper on the farm. Eggs are bringing excellent prices but some poultrymen, after considering the price of feed, have doubted their ability to make the farm hen pay its way during the coming year. It has been predicted by some poultrymen of experience that eggs will sell as high as sixty cents per dozen in Michigan this year and the same eggs will be worth around eighty cents per dozen on the New York market. Considering the small quantity of cold storage stock on hand it is easy to believe that fresh eggs will be in great demand this year. Reports indicate that the cold storage stock will in no way meet the demand and the farmer who can produce his egg crop at the least possible expense should make some money from the farm hen.

Economical egg production does not mean scrimping on the hen's food supply until the bird approaches a condition bordering on starvation. To produce eggs in an economical manner it is necessary to get as many eggs as possible at the least expense per egg. Ten dollars worth of poultry, feed given to a farm flock might produce no eggs. Twenty dollars worth of balanced feeding distributed in the same period might produce thirty dollars worth of eggs. Of course, no breeder will agree that feeding the ten dollars' worth of feed was an economical method of caring for that farm flock.

The Kind of Foods to Use.

The first point in economical feeding is to study the kind of poultry feeds produced in the community. Corn, wheat and oats are the staple crops for producing eggs along with the products from the above grains, plus beef scrap, sour milk, bone, green food, etc. This year wheat has been very high and while it is one of our best egg foods some poultrymen have been leaving it out of the ration. Some years barley has been substituted for wheat but this year barley is also high, and nothing is gained by the substitution, as barley has a feeding value of about 15 per cent less than wheat. Some poultrymen are confining the grain feed of the flock to corn and oats and find that such a method pays, considering the high cost of wheat.

Green food is one of the important items in the ration and this year we find that clover hay is not a profitable crop except when fed on the farm and turned into meat products or eggs. Clover is one of our best poultry feeds and should be considered of especial importance in this year of high prices for both eggs and grain. Clover may be finely cut in machines which are not expensive and are especially designed for the use of the poultryman. This fine cut clover can be incorporated in the dry or wet mash and the birds will consume large quantities of it, which will reduce the amount of grain necessary to keep the birds in laying condition. Clover can also be wrapped in fine mesh poultry wire and suspended in the coop, where the birds can pick at it without any being wasted in the litter.

Green Foods.

Cabbages and mangels are two important crops for the farm flock, but this year cabbages are high, and are scarce at any price, and the farmer cannot afford to use them for poultry feed unless he is lacking in other green food and the local market for cabbages is not good. Mangels furnish the birds with green food at little expense if the crop is raised on the home farm. Well filled oats are a good investment and I believe that this crop is an excellent feed for the economical production of eggs. This year oats of excellent quality were sold in our section for forty cents per bushel, and at this price they can be turned into eggs

with profit. Sprouted oats are also the best of green food during the winter, and very desirable for feeding the young chicks on the stormy days in the spring when the newly hatched birds must remain in brooder houses.

Purchasing the Grain Supply.

If all necessary grain crops are not produced on the farm it will pay the poultry keeper to buy as much as possible of his yearly grain supply from neighbors soon after threshing time. In this way hauling to market is avoided, the middlemen are cut out of the deal and you are fairly sure of filling your bins with first class grain at the minimum price. If you raise one kind of grain on the farm do not confine the flock ration to that grain, but sell or exchange a part of it for other grains. It will not be economy to use but one kind of grain because it is produced on the farm. I have heard it stated that you can make money on hens by raising all of your own food, but you will lose money if much of the poultry feed has to be purchased. That argument would seem to prove that the money was made on the grain and not on the hens, for grain has a standard market value whether you sell it at the elevator or feed it to the home flock and the poultryman who cannot turn grain purchased from neighbors into eggs worth more than the grain cannot hope to succeed in the poultry business. Such a farmer might make money on grain crops but he would certainly make no more money for his trouble in caring for the hens and it might be just as well to dispose of all the hens which could not be largely fed on table scraps and the general food gathered by the birds in ranging.

Important Protein Foods.

One of the most important items in the economical production of eggs is the proper feeding of beef scrap or sour milk. Experiments carried on over the country by the various college stations prove that eggs can be produced more cheaply with beef scrap than without it. Some of these experiments also prove that the supply of skim-milk, buttermilk or sour milk on the farm is about as good as beef scrap and, of course, it is much cheaper. When there is a plentiful supply of skim-milk I should not feed beef scrap except in limited quantities, but without the milk I should never expect to make a flock pay a profit in the winter without the aid of the protein contained in good clean beef scrap. Bone is another item which is necessary. Occasionally arrangements can be made with a local market to supply scrap bone and this can be ground up on the farm and fed in the ration. Some poultrymen never forget the bone in the ration and consider it necessary for a maximum egg yield. They are usually the poultry keepers that are sending out their crates of eggs to high-class markets, even in zero weather, and they are not worrying about the high cost of feeds as their egg returns are ample to pay all the bills and leave a good profit. Eggs like all other products, seem to rise and fall according to the law of supply and demand and when grain is high farmers cull their flocks more closely and reduce their flocks, and this means a reduction in the flow of eggs toward the city markets.

Many farmers may state that it is a good theory about turning high-priced grain into eggs at a profit, "but it won't work," and, of course, if it will not work it is not a good theory. As poultry keepers we can study the theory and then work it out on our own flocks and if it works in our own individual cases we will know that the theory is good and be thankful to the experiment stations and practical poultrymen who have been developing "good theories" for feeding poultry.

(To be continued.)

Get Eggs Now

Fall and winter eggs bring big money. Start your early-hatched pullets laying now—keep them at it all winter. Hurry along the late ones. Help the hens through the critical molting period when they are weak and liable to contract many diseases. Make every bird a producer by using

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It makes hens lay by supplying the tonics they need at this season and quickly putting them in laying condition. It induces them to eat better—hastens digestion and assimilation—prevents disorders of liver and bowels—stimulates the egg-producing organs into activity. Used by successful poultrymen for nearly 50 years. The cost is small—one cent a hen per month—results are big.

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

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

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

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

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

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

FERRIS WHITE LEGHORNS
Best winter layers. 5000 pullets, hens and breeding males at low prices. Trapped to lay 200 eggs or more. Shipped C. O. D. and on approval. Chicks and Eggs. Catalog explains all. Send postal.
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JOHN'S Big Beautiful Barred Rocks are all hatched, developed quick, good layers, each \$3; pair \$5; sold on approval. Circulars, photos. John Northon, Clare, Mich.

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

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

One Fine S. C. Buff Orpington prize Cock, also Cockerels and Pullets. Prices reasonable. Mrs. G. D. Ellis, Clinton, Mich. R. 3.

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

RHODE ISLAND REDS and **PLYMOUTH ROCKS**. Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1 to \$2. Mammoth Bronze Tom Turkeys, 8 to 10 lbs. according to age \$6 to \$25, 10 eggs \$3. A. E. Cramton, Vassar, Mich.

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

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

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

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

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

S. C. WHITE LEGHORN PULLETS FOR SALE. We are offering 200 S. C. White Leghorn pullets, May hatch, in lots of 50 or more at 75c each. These birds are a bargain at the price offered but we need space and will sacrifice. References given if desired. Write Krentel Bros., P. O. Box 624, East Lansing, Mich.

White Wyandotte cocks and cockerels snow white from fine stock and A.I. layers, \$2, \$3, and \$5 each. DAVID HAY, 202 Forest Ave., Ypsilanti, Michigan.

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

BREEDERS' DIRECTORY.

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

Flanders Farm, Orchard Lake, Mich.

CATTLE.

ABERDEEN-ANGUS

Bulls by BLACK QUALITY ITO, sire, First prize, Breeders and Calf Herds Mich. State Fair 1916. We also won first on Exhibitors Herd, Jr. Champion Bull, Jr. Champion Female and Grand Champion Cow. Also breeders of Percheron, Ha. kney and saddle Horses. WOODCOTE STOCK FARM, IONIA, MICH.

Aberdeen Angus Bulls For Sale

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

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

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

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

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

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

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

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

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

CAMPBELL & ANGEVINE,

Coldwater, Michigan.

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

Reg. Guernsey Bulls two gr. sons of May Rose King of Lenda Vase (the \$400 bull) one 12 mo. old dam May Rose breeding one 6 mo. old, others of serviceable age. Satisfaction guaranteed. Alfred Anderson, Holton, Michigan.

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

Cluny Stock Farm

100—Registered Holsteins—100

Bulls for sale, of ages from a few weeks to 14 months, from 30-lb. sires and choice A. R. O. dams. Have some special bargains for quick sale. Come and see them or write for pedigrees and prices.

R. Bruce McPherson, Howell, Michigan

Do You Want A Bull?

Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 1/4 fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

"TOPNOTCH" Holsteins

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

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

HOLSTIENS

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

Holstein Friesian Cattle

A. R. O. herd tuberculin tested, headed by grandson of King Segis Pontiac.

PEACELAND STOCK FARM, Three Rivers, Mich.

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

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



Purebred Registered HOLSTEIN CATTLE

Purebred registered Holstein cows hold all records, and the bright and shining high marks of production which enthrall Holstein owners and admirers the world over, forty-four and forty-two hundredths lbs. butter and 38.5 lbs. milk in 14 days; one hundred seventy-one and four hundred ninety-seven thousandths lbs. butter and 3,242.6 lbs. of milk in 30 days; and fifteen hundred and six and thirty-six thousandths lbs. of butter and 3,239.4 lbs. of milk in 365 days. The Holstein cow in her rapid forward march of progress is so profuse with remarkable achievements that even the above wonderful figures are "subject to change without notice."

Send for FREE Illustrated Descriptive Booklets
The Holstein-Friesian Association of America,
P. L. Houghton, Sec'y., Box 164, Brattleboro, Vt.

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.

Bull Calves

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

Greatest Bulls in the World

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

The Fifty Thousand Dollar Bull

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

BERKSHIRES

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

SWIGARTDALE FARM,
Petersburg, Mich.

FOR SALE

Bull No. 1—Firestone Pontiac DeKol H. B. 183152, born January 21, 1915, was sired by Rose Hall Pontiac Pieterje H. B. No. 59369, a son of the famous King of the Pontiacs H. B. No. 3937, who sired 129 A. R. O. daughters among whom was the World's Champion cow, King of the Pontiac's Lass. His dam is Grace Pontiac DeKol Firestone H. B. No. 18436, bred by H. S. Firestone, and a daughter of Greta Hengerveld DeKol Firestone H. B. No. 121580, who holds a record of 596.50 pounds of milk and 24.48 pounds of butter in seven days at the age of 54 years.

Bull No. 2—Rose Hall Pieterje Lyons H. B. No. 183153, born February 23, 1915, is also sired by Rose Hall Pontiac Pieterje H. B. No. 59369. His dam is Queen Montpelier Lyons H. B. No. 183207, owned by H. S. Firestone. She holds a record of 497.20 pounds of milk, and 21.34 pounds of butter in seven days at the age of three years. For further particulars write, H. S. FIRESTONE, Akron, Ohio, T. H. Howes, Farm Manager.

EXTRA GOOD Holstein Bulls For Sale

I have some from A. R. O. dams with records of from 16 to 22 lbs. with the best milk producing blood in them that can be had. These are from 4 to 7 months old and I will make a cheap price to move them. Also have a few females for sale. Let me know what you want.

Bigelow's Holstein Farms,
BREEDSVILLE, - - MICHIGAN

Having Disposed of My Farm

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

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure, 85 weeks old, beautifully marked, \$20.00 each, crated for shipment anywhere. Edgewood Farm, Watervliet, Wis.

Registered Holsteins. 30 lb. bull ready for service. Guaranteed. W. B. Jones and J. F. Lutz, Cohasset, Mich.

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 83124. 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.

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

HOBART W. FAY MASON, MICH.

Been breeding better Holstein-Friesian cattle since 1904.

\$40 Buys Registered Holstein Bull Calf whose three nearest dams averaged 25 lb. butter in seven days, first check gets him. Riverview Farm, Vassar, Mich., Route 2.

The All-Around Jersey

is the farmer's cow. She's his friend and pride—the beautiful, gentle, ever-paying milk machine that lifts the mortgage, builds up the fertility of the farm, and puts the whole business on a sound, paying, permanent basis. She adapts herself to all climates and all feeds and does not need fancy care. She matures early and lives long. And she's so sleek, clean cut and handsome, as to be the family pet and pride. She produces well and sells well. Learn about her in our fine, free book, "About Jersey Cattle." Write for it now.

THE AMERICAN JERSEY CATTLE CLUB
846 West 234th St., N.Y. City



Auction Sale 65 Head of Registered Holstein Cattle

TUESDAY, NOVEMBER 28th., 1916

This herd includes 35 head of Milch Cows; 20 will have calves by their side. Headed by the Herd Sire Johan Hengerveld Ladd 4th., No. 105300 A. This herd represents some of the best Blood Lines in the state as I have been a liberal buyer of the best Breeders of Michigan. A number of these cows have good records. All cattle are Tuberculin tested.

Location 2 1/2 miles West of Northville on Base Line Road, Wayne Co. Also 20 head of High Grade Cattle.

All farm tools nearly new that it takes to run a 300 acre farm. 6 Unit Waterloo Boy Milking Machine, 2 1/2 H. P. Gasoline Engine and everything complete. All registration papers and transfers free.

Three high class matched Teams, 2600 to 3000 lbs.

Sale begins at 9 a. m. sharp. Free lunch at noon. Will meet cars from 9 to 12 o'clock, D. U. R. Waiting Room, Northville.

Send for illustrated catalog with extended pedigrees. Address

HARRY B. CLARK, NORTHVILLE, MICH.

PUBLIC SALE

—OF—

60 Registered Holsteins 60

On Tuesday, November 28th., 1916

Having rented my farm I am closing out my entire herd. The offerings will include my herd bull, **Maple Ledge Korndyke Count**, a grandson of Pontiac Korndyke and Pontiac Pet; the first two daughters to freshen made 15 lbs. butter in 7 days as Jr. 2-year-olds. My cows have records from 15 lbs. as Jr. 2-year-olds and one 20 lb. Jr. 3-year-old, up to 24 lbs. butter in 7 days as full aged cows. Among the cows there are several close up to Springers and several 2-year-old heifers that are giving over 1,000 lbs. of milk in 30 days. Also 15 yearling heifers and heifer calves, and 4 bulls.

If parties coming by train will stop at Gregg Hotel they will be provided with free transportation to the farm. Purchasers' hotel bills will be paid.

C. E. Winne, Prop., Adrian, Michigan

Auctioneers, Col. D. L. Perry, E. M. Hustung.

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.

Little Farmstead Jersey Cattle. Bull calves from R. L. 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 Assoc. records, also on semi-official test. C. B. Weiner, R. 6 Allegan, Mich.

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

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

The Wildwood Farm

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

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

Long Veiv Farm Reg. Jersey Cattle Herd sire Oxford's Flying Fox. R. of M. record of dam 788 lbs. butter in one year. Moderate prices. C. S. Bassett, Kalamazoo, Mich.

FOR SALE REGISTERED JERSEY BULLS

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

Jerseys. Registered bull, dropped Apr. 13, 1916. Solid color, choice breeding \$27. Also small calves \$10. Bronze turkeys. Peter H. Douma, Holland, Mich. R. 10.

BIDWELL SHORTHORNS

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

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

DAIRY BRED Shorthorns of best Bates strains, young bull 8 months old for sale, price \$150. J. B. HUMMELL, MA SON, 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. Gram Secy. Cent. Mich. Shorthorn Breeders' Assn., McBride, Mich.

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

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

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

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

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

Cattle For Sale

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

SONS of Grand Champion male Mich. State Fair 1916, his 5 dams are 30 50 lb. Butter 7 days. A. R. O. Dams. Price right. John A. Rinke, Warren, Mich.

HOGS.

Durocs and Victorias

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

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

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

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

Berkshires. Of various ages, either sex, open or bred, price. Elmhurst Stock Farm, Algonk, Michigan.

DUROC JERSEYS

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

Heavy Boned Duroc Jersey Boars

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

J. W. KEENEY, Erie, Mich. Males, good ones for Dec. Swine. D. M. & T. local from Monroe or Toledo, Keeneey Stop.

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

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

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

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

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

Durocs Fall yearlings, boars and gilts, weight 200 lb. \$30 to \$35. Some good spring stuff at \$25, weight 175 lb. H. G. REESLER, Casopolis, Michigan.

Choice Duroc Boar

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

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

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

Duroc Stock hogs. Spring gilts, tried Sows, August Pigs. Percheron Stud Colts. E. J. ALDRICH, Tekonsha, Mich. R. 1, Bell Phone.

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

Duroc Jersey Spring boars with the best of breeding and individuality; also a few choice spring gilts. E. D. Heydenberk, Wayland, Mich.

D UROC Jersey: One extra choice spring boar, sired by The Model Pal owned by Watt and Foust, Reg. and Del. anywhere in the state for \$30. J. Robert Hicks, St. Johns, Mich.

Big Type Boars:

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

O. I. C. SWINE: 20 gilts due to farrow for part of April. Will be sold at knock-down price. Have also fall pigs. Write me your wants. Satisfaction guaranteed. A. J. GORDEN, R. No. 3, Dorr, Mich.

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

Raise Chester Whites

Like This
the original big producers

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

CHESTER WHITE March pigs either sex. Booking orders for Sept. 1 pigs, 2 year old sow farrowed 3 pigs Sept. 5. Herd boar is 2 yr. old. Ship C. O. D. W. A. Searcy, Mt. Pleasant, Mich. R. 4.

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

Registered O. I. C. Swine

Stock For Sale—All Ages

Correspondence Solicited, Visitors Always Welcome

Brightside Farm
Grand Lodge, Mich.

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

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

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

O. I. C. Swine and Reg. Holsteins, few boar pigs of O. I. C. May farrow at a reasonable price, quality considered. ELMER E. SMITH, Redford, Michigan.

O. I. C. HOGS

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

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

O. I. C. & Chester White

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

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

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

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

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

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

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

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

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

Breeders' Directory—Continued on page 521

"MISTER 44."

(Continued from page 511).

in his pocket to make sure that his letter was safe.

"I feel like writing a postscript," he said as he stepped upon the dimly lighted platform. "I will!"

Standing under the station light, he withdrew the letter from its unsealed envelope and added a few words to the bottom.

"Wonder if she'll understand that?" he remarked, laughing, as he sealed the envelope.

Then he turned the signal-light so that the red eye, instead of the green, looked up the track.

"Good. Catch um train for me," said a quiet voice at his elbow.

Stoddard whirled quickly and looked down at a small man whose approach had been noiseless.

"Why, hello John," he cried heartily.

A white man would have winced under the hand-grip bestowed upon him, but the Indian merely grinned, though he was not insensitive to the viselike pressure.

"You come yesterday," he said.

"That's right. Camped over on the Northeast Arm."

"Sure," nodded the Indian. "I know. Go back tonight?"

"Not much. I'll be here for a month, I imagine. Just came over to mail a letter."

There was a flicker of surprise in the Indian's eyes.

"Hurry-up letter—eh? You run short of something?"

"No, we're not short. But the letter happened to be important, so I brought it over to catch the train."

The condition of Stoddard's clothing and the marks upon his hands and arms were not lost upon John.

"How you come?" he asked.

"Took the old portage across the neck. No time to go around."

Again the Indian gravely inspected him.

"Big hurry-up letter!"

The headlight of an approaching train dazzled Stoddard's eyes for an instant, and the sound of grinding brakes reached the pair on the platform.

"Mail letter for you?" asked John.

"I wish you would," said Stoddard gratefully, feeling in his pocket for money to pay the postage. "You won't forget it?"

"Mail him first thing," promised the Indian as he took the letter.

"And where are you going?"

"Red Lake. Back tomorrow maybe. Next day, anyhow."

The train stopped and the Indian swung aboard.

"Come over and see us, John,"

"Sure. I come. Mail letter now."

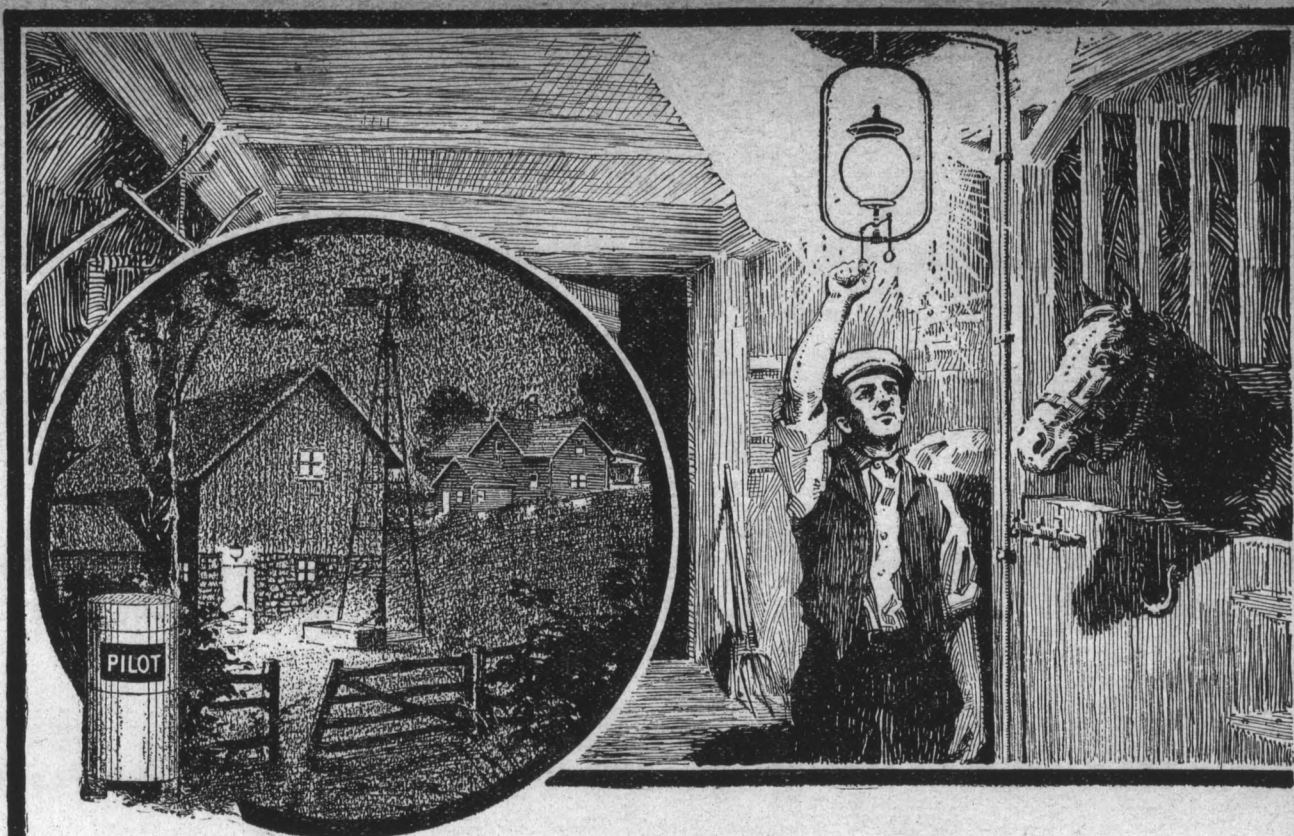
Stoddard stood on the lonely platform until the tail-lights of the retreating train vanished in the blackness. It was midnight, and camp was a long journey. Were it not for Livingston alone on the island he would have stripped a few hemlocks for bedding, stretched himself under the canoe, and made a night of it where he was. But Larry, helpless and timid novice, could not be left to shift for himself. He could not even make tea for breakfast.

(Continued next week).

WE THANK THEE.

BY L. MYRTLE SOURS.

My thanks are Thine, dear Father
For air and sunshine sweet,
For long walks in the out of doors
Down town and on the street;
And for the precious meeting
In the old church once more
The night I rode with mother
Right down to the church door;
The blessed, sweet communion,
Foretaste of gifts Divine,
So full of rich, sweet blessing
In that dear house of thine;
For greetings fresh and hearty,
Glad welcomes given, sweet,
For every earnest, kindly wish
From all the friends we meet;
For quickened life we thank Thee,
For health returned once more;
For all the loving blessings
Poured from thy boundless store.



Some Farmers Still Use Oil Lanterns to Light Their Barns

Of course — back in the old days — 30 years ago — you couldn't get anything better. But—these last few years have so changed living conditions that up-to-date farm families won't be satisfied any longer—with poor light.

The modern farmer is quick to see the value of good light—its safety and the convenience it brings him and his family. There are now hundreds of thousands of farmers who have chosen the

Pilot-Carbide-Outdoor Lighting and Cooking Plants

for it gives them not only all the fine, bright, inexpensive light they can use—but cooking fuel as well.

This wonderful machine stands out of doors—on top of the ground, anywhere. It has totally changed the old-fashioned methods of barn and house lighting.

You can now flood your barn with safe brilliant light—instantly. No matches needed. No dangerous lanterns to tip over or upset.

Think what this means to you! Think how much better and quicker you can work, with plenty of good, bright light in place of a smoky, dim oil lantern.

You will find the barn lighting feature alone worth the entire investment for the PILOT. And its use in the house, as well,

means added happiness—safety—comfort and convenience for your whole family.

Just because your father and grandfather used oil lamps and lanterns is no reason why you should, any longer, put up with their danger and poor light. Light the modern way, the safe way, with the PILOT.

Find out today about this modern light plant. You owe it to yourself. You owe it to your good wife and to your children. You can well afford the little it will cost.

Write for our illustrated catalogs and descriptive booklets giving all the facts.

A. R. GRAHAM, Supervisor

810 Mason St., FLINT, MICH.

OXWELD ACETYLENE COMPANY, CHICAGO

Largest Makers of Private Lighting and Cooking Plants in the World.

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