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The Country's Live Stock Problem

WHEREAS, Honorable David F. Houston, Secretary of Agriculture, and Honorable Herbert C. Hoover, Food Administrator, have called us to Washington to consider certain problems of live stock production vital to the national welfare, and have requested from us suggestions upon such problems, and especially those relating to the production and marketing of live stock and live stock products, therefore

Be it Resolved, That as a result of our conference here we submit the following statement for the consideration of those government officials named above.

1. We are impressed with the seriousness of the war situation and of the obligation which rests upon all citizens to serve the common good. And for ourselves and for the sincerely patriotic live stock producers whom we represent we hereby pledge to the President of the United States and to his administrative officers our loyal cooperation in carrying out such measures as they may consider necessary to the successful prosecution of this great war for world-wide democracy.

2. We approve the efforts which have been made under the leadership of the Department of Agriculture to encourage live stock production, and we believe that in this work the department should have the liberal support of federal and state authorities.

3. The live stock business is no different from all other business, in that it is governed by economic laws. Production in a large way increases or decreases as the cost of production and the price of the finished product rise and fall. When the margin of profit is replaced by a positive loss the length of time the live stock producer can continue in business is measured solely by his financial condition.

4. If there has been a reduction in live stock in proportion to the needs of the country, the cause must be sought in the unremunerative prices which the live stock producer has received in recent years. A continuation of prices which are below the cost of production will intensify the shortage.

5. The live stock producers will loyally acquiesce in whatever measures the government may find necessary to adopt and will cheerfully and as speedily as possible adjust their business to the conditions brought about by such measures. We suggest to those who must bear the heavy burden of responsibility that while liquidation of live stock can take place very rapidly, as shown by the experience of the past year, the re-establishment of the herds and flocks is a matter of years. If, therefore, it seems desirable to hasten an increase in our live stock production definite policies looking to that end should be adopted and made known at the earliest possible date. Even with normal conditions the production and feeding of live stock is carried on under uncertainties which do not prevail with other kinds of business. The cost of the raw material is determined

Resolutions Adopted at the First Meeting of the United States Live Stock Industry Committee Appointed by the Secretary of Agriculture and the Food Administrator, Washington, D. C., September 5, 6 and 7, 1917

largely by the sunshine and the rain and cannot be known in advance. The price of the finished product is subject to the most violent fluctuations, caused not only by rapidly changing business conditions, but by a system of marketing in which the seller has no voice as to the prices which shall be paid for his finished product. Under war conditions live stock market uncertainties are intensified and the cost of production is very greatly increased. Therefore, in the absence of reasonable assurance of prices which will

cerns do not by their present control of the central markets deprive the producer of a just profit, and that every agency of the government should be employed to eliminate all manipulative and speculative efforts in the handling of live stock and its products; that all waste in distribution should be ascertained and stopped to the end that the consumer secures his meat supply at the lowest possible price consistent with sound economic principles. We believe that careful consideration should be given to the establishment

live stock industry should be based on such sound economic principles as to adjust themselves readily after the war to the needs of our steadily growing population, which should be maintained as a meat-eating nation.

9. We urge upon the Food Administration and the War Department the need of conserving both the garbage and manure produced at the various cantonments. A wise use of the garbage for hog feeding will result in the production of some millions of pounds of pork from food which would otherwise go to waste. The distribution of the manure upon lands near such cantonments will produce additional food values equivalent to from \$2.00 to \$5.00 per ton for all the manure so distributed.

10. We recommend that central retail markets under effective governmental control and regulation be established in the larger cities of the country where meat and meat products may be sold to the consumer at cost from the packing house plus a reasonable percentage of profit.

11. We earnestly recommend the saving as far as practicable of heifer calves, ewes and sows suitable for breeding purposes.

12. We urge that every possible effort should be made by the government to stabilize conditions on the range and encourage by liberal regulations increased stock production within the national forests, the Indian reservations and on the unappropriated public lands.

More specifically we recommend:

Beef Cattle.

a. That a sufficient emergency appropriation be made by congress to be used for the prompt selection and withdrawal of live stock trails and watering places, as contemplated under the recently enacted 640-acre Grazing Homestead Law.

b. That an effort should be made by the proper authorities to arrange for the discount by federal reserve banks of live stock paper drawn for as long a period as twelve months.

c. That the drought conditions in the western range country should be brought to the attention of the Interstate Commerce Commission, with the request that the Commission exercise its authority to put in force a special freight rate on live stock which will permit the moving of such stock from the drought areas to districts where feed may be obtained for a time, and its return. A special freight rate, properly safeguarded, would make it possible to conserve large numbers of live stock which may otherwise be sacrificed.

d. Reliable daily information as to market conditions is most necessary. We therefore recommend that the Bureau of Markets of the Department of Agriculture, at the earliest possible date, arrange to furnish such information by wire to the press and to all markets, and that when such arrangements are completed the sending of

(Continued on page 256).



The Proper Method of Selecting Seed Corn. (See Page 239).

cover the cost of production, a decrease in live stock seems inevitable.

6. If in the present emergency the paramount consideration is an increase in production, we feel the government should announce and adhere to the policy that in the huge purchases of meats and other live stock products which are to be made through a common purchasing agency of our nation and its allies, such prices will be paid as shall assure the producer a reasonable margin over the cost of production, and we believe that the government should take effective measures through the licensing power granted in the Food Bill to see that the large packing con-

of a definite relation between the values of hogs and corn.

7. We thoroughly endorse Mr. Hoover's efforts to prevent reprehensible speculation in food products of all kinds.

8. The Department of Agriculture, based upon its study of marketing conditions, is most valuable and we urge its continuance, to the end that market abuses may be done away with and that all unnecessary expense between the producer and the consumer be eliminated.

We feel that it is most necessary that whatever methods are adopted as war measures in connection with the

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DETROIT, SEPTEMBER 22, 1917



CURRENT COMMENT.

Because of the importance of the issues involved, the resolutions adopted at the first meeting of the United States Live Stock Industry committee appointed by the Secretary of Agriculture and the Food Administrator, one of whom is a well-known Michigan man, are given prominence in this issue. Every reader of the Michigan Farmer should carefully read the recommendations made by this committee, to the end that he may become familiar with conditions as they are in the live stock industry, and the steps which are being taken by the Department of Agriculture and the Food Administration to insure that the industry may be conserved with a minimum of present and future hardship to the ultimate consumer.

As supplementary to the information and recommendations contained in these resolutions, the reader will find in another column a statement regarding the total decrease of meat producing animals in the world as compared with pre-war conditions. This decrease, according to a recent statement of the Food administration, amounts to a total of 115,005,000 animals. In our own country there has been a comparatively small increase in the number of cattle and hogs, and a very noticeable decrease in the number of sheep as compared with pre-war conditions. Recent estimates, however, show that the number of hogs on the farms of the country is rapidly decreasing under present conditions of high-priced pork and dear grain. These estimates should be of great value to Michigan farmers in the matter of determining their own course in live stock conservation in the near future. A careful analysis of the situation will indicate to the thoughtful man that the growing of live stock and particularly of meat-producing animals upon the farms of Michigan and the country is bound to be more profitable in the future than it has ever been in the past.

Notwithstanding the comparatively liberal receipts at primary markets, prices for live stock have continued to advance until at present the index figure of prices for meat animals on August 15 was 47.1 per cent higher than a

year ago, 75.7 per cent higher than two years ago, and 70.1 per cent higher than the average for the past seven years. With the very large shrinkage in the number of meat animals in the world which is sure to stimulate a world-wide demand for meat products at the close of the war, and with the country now being taxed to the utmost to supply the demands for domestic consumption and for the use of our own armies and those of our Allies, there can be no question about the future stability of the live stock business. Prices for meat animals will continue on a high level for many years, and will undoubtedly be slower in their return to normal levels, should this ever occur, than will prices for edible grains. From the standpoint of a safe and stable business then, live stock production holds out as good if not a better promise for the future than any other line of agricultural production in which our farmers might engage.

There are other and just as potent reasons why the live stock on our farms should be conserved and increased to at least a normal basis at the earliest possible date. One of the most potent of these reasons is the labor situation which the farmers of the country must face. With the withdrawal of perhaps millions of physically fit men from the industries of the country to create the necessary army for the successful prosecution of the war into which we have been unavoidably drawn, the labor situation is certain to become more acute in every department of industrial life. The country has found it necessary to engage in the most stupendous ship-building campaign in the history of the world, as a means of defeating the submarine menace. Great fleets of airplanes must be built as a means of bringing the war to a more early conclusion. Army equipment and munitions in almost incomprehensible volume must be provided in record time, all in addition to the normal industries of the country, which cannot be permitted to slacken to any great degree.

This program means that a greater degree of man efficiency must be maintained upon the farm as well as in the factory, and this efficiency can be best maintained upon the farm by following a well-balanced system of agriculture in which live stock plays a prominent part, which will distribute the labor requirements over the entire year to as great a degree as is possible.

The permanent maintenance of soil fertility is another potent reason for the conservation of the live stock upon our farms. Nearly as great a volume of other products can be produced to supply the immediate needs of the world if a normal amount of live stock is maintained as would be the case if the industry is permitted to shrink to still smaller volume, while in the long run, better results can be obtained in the production of other staples through a well balanced system of farming in which live stock plays an important part. Michigan also has a large acreage of yet undeveloped land well adapted to grazing, in the improvement of which live stock is an economic essential.

Considered from any angle, as a matter of business as well as of patriotism, the conservation of live stock upon our Michigan farms is the first duty of our farmers, both to themselves and to their country.

The Food Production Act.

So much emphasis has recently been placed on the food control act passed by congress, and the subsequent organization of the National Food Administration, that little public consideration has been given to the Food Production Act which was signed by the President and became law on August 10. This is an entirely separate measure from the food control act, although it became law on the same date. This law will be administered through the Depart-

ment of Agriculture, and largely contemplates the extension of the present activities, although certain new undertakings will be inaugurated under the law.

One of the most important steps to be taken is the extension of the existing force of county agents to practically every county in the United States. These agents will co-operate to advise and assist the farmers of their respective counties in every way possible on matters of production, conservation and marketing. Through co-operation with the United States Department of Labor, the farm help activities designed to bring farm laborers and farmers who need them together will be extended. An important feature will be added to the work of these county agents in the making of a survey of the food situation for the purpose of ascertaining as accurately as possible the condition of the country's food stores and the normal consumption.

Michigan Farmer readers are familiar with the fact that in this state the War Emergency Board provided the funds for the appointment of special agricultural agents in every county in which a regular county agent was not located. These men were employed for a period of six months, and their activities are more or less familiar to every Michigan Farmer reader. In a great many counties much valuable work was done in the distribution of needed labor among the farmers of the country. In a few counties the work has not been so universally popular. The services rendered by these emergency agricultural agents are, however, not to be compared with the work done by the regular county agents in the counties where county farm bureaus have been organized and a specialist employed cooperatively by the United States Department of Agriculture and the Agricultural College to act as a county agricultural agent. It is a notable fact that the farmers of these counties become more enthusiastic with regard to this kind of work with each passing year which has demonstrated its value. The permanent agricultural agent will be able to render more varied and valuable services than the special emergency agents could possibly do. These men are to be supplied by the national government under the food production act, and their services should be utilized to the fullest possible extent by the farmers of every county as soon as they are regularly established.

Stimulating Consumption of Potatoes.

One of the greatest benefits of food administration may be demonstrated by the stimulation of consumption of wholesome products of which there is a large national production, thereby in a measure eking out the supply of other staples of which there is a marked shortage.

Recent advice is to the effect that a representative meeting was recently held at the Food Administration office in Washington for the purpose of providing ways and means of assisting in moving the excellent crop of potatoes which is now approaching maturity. Representative men from every branch of the grocery trade were present, and plans were laid for the carrying on of a steady selling campaign of potatoes during the months of October and November by the grocery trade of the country. To this end the grocers have agreed to handle potatoes at a very moderate margin of profit so that a steady movement and heavy consumption of potatoes may begin with the movement of the late potato crop.

Through the cooperation of all concerned for the early movement of the potato crop at a fair price, all parties interested would be benefited from the potato grower to the consumer. It is a part of the plan to encourage family storage of from three to ten bushels of potatoes, according to home facilities. No attempt will be made at price stan-

dardization, due to the different conditions which will obtain in different sections of the country. Producers and consumers may well cooperate with the Food Administration to secure a large early distribution and consequent increased consumption of potatoes, which promise to be an abundant crop.

LEGAL ADVICE.

Because of a law enacted by the last legislature which prohibits the giving of legal advice by corporations or their employees, we are obliged to discontinue our arrangement under which legal advice was given to Michigan Farmer readers at a nominal cost.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Italians have been able to hold their recently acquired positions about Monte San Gabrielle. On Sunday they gained ground along the southeastern edge of the Bainsizza plateau. All counter-attacks have been successfully repulsed. The Russians have stiffened their lines and beaten off attacks on both the Roumanian and Riga fronts. In these encounters, of which there were several, the Russian soldiers showed great firmness and stability, according to the official report.—Operations on the western front have been of a local character. In no instance, however, have the Allied forces suffered any disadvantage. On Sunday the British troops penetrated the German lines near Cherisy and in the region of the Ypres-Menin road. The Germans are apparently preparing for a drive on Vimy Ridge where fighting has been renewed.

A Russian republic has been proclaimed. The provisional government following the lead of the recent conference held at Moscow where the sentiment seemed unanimous for the formation of a representative form of government control, has so decreed. Premier Kerensky, who has thus far been successful in directing the destiny of the nation through the troublous times since the fall of the autocratic regime, and four ministers have been placed in charge of affairs until the new government can be organized. The despatch with which Kerensky disposed of the recent revolt headed by General Korniloff has increased the public confidence in his ability to handle the situation. Notwithstanding the reported defeat of the revolutionaries some of the Cossacks are still holding out and refuse to arrest their leader. The crew of one of the Russian battleships executed four officers when the latter refused to pledge loyalty to the new government.

Letters patent have been decreed by the German and Austrian governments creating a new state of Poland. The type of government will be a constitutional monarchy. Direct universal suffrage is provided for, but the people are not to come into the enjoyment of the new privilege until after the war. The central powers maintain that the people will have to gradually develop the capacity for self-government and that war conditions necessitate the control of the country by the central powers until peace has been established.

Reports declare that the Belgian inhabitants of three towns have been exiled by the Germans recently. The towns are Ostend, Roulers and Courtrai. It is also stated that Belgians have been compelled to work on the defenses of Tourcoing.

National.

Mortality statistics for the month of July show that there were 3,481 deaths in Michigan during that month, making a death rate of 13.0 per thousand on the estimated population. The number of births number 7,815, making the birth rate 29.1 per thousand.

During the week 194,800 men who constitute forty per cent of the citizen-soldiers selected for military service will arrive at the sixteen military cantonments of the government. The moving of these soldiers will require all of the 1,500 sleeping cars available, and 5,000 additional coaches.

The Thirty-second Regiment of Infantry from Michigan has left Grayling and is now enroute for training quarters at Waco, Texas.

According to statistics furnished by the federal government, nearly twenty per cent of all dairy animals in the world have been slaughtered for beef within the past year.

Sites for "constructive" hospitals have been selected by agents of the United States army in nineteen cities throughout the country. These institutions will facilitate the return of wounded soldiers either to the firing line or to useful positions in civil life.

Seed Corn Selection

By I. J. MATHEWS

THIS year there is no one simple enough to ask whether or not it would pay to select seed corn for next year and there never was a time when it was more necessary to have on hand next spring a sufficient supply of viable seed to plant the acreage intended for corn. In times when corn is a good crop the seed corn question is passed over with but little thought because it is sure that the corn brought to the crib will contain a large number of good ears and, lamentable as it may seem, there are many thousands of growers who depend mainly upon the crib selection of seed corn.

How to Select.

Sometimes seed corn is selected as it is brought from the field in the wagon and the biggest objection to this sort of selection is that one cannot tell the environment of the stalk upon which this ear grew. We have come to recognize the plant as the unit of improvement in corn breeding and we know that two plants which may stand side by side may vary greatly in their ability and tendency to draw plant food from the soil. One plant may grow by itself in the hill and still it has only one good ear and a nubbin. The next hill, however, may have three stalks in a hill and two of these stalks may each bear a good ear. It is, therefore, evident in this case that the stalks in the hill last mentioned have a tendency to produce two good ears and they back up this tendency with the ability to draw from the soil the foods that are required to constitute the grain. Here is the latest conception of crop improvement and the conception that has given rise to the strains of pedigreed oats, wheat, barley, etc.

The practice of selecting seed corn in the spring from the crib is a most pernicious one, despite the fact that farmers often say the results obtained from the crib corn are more pleasing than from corn carefully selected from the field. Corn that is selected from the crib has been subjected to both the uncertainties of selection in the fall and the injuries caused by freezing and thawing during the winter. It is probable that the freezing and thawing in itself does not do a great deal of harm unless there is considerable moisture in the corn and the harm that any frost does is probably only because of the surplus moisture contained in the plant cells. In this connection it may be pointed out that plants growing very rapidly are always injured more than plants that have completed their growth.

Field Selection Best.

A number of trials have been made to determine the value of field selection as compared with crib selection or selection at husking time and these trials have shown that carefully selected corn from the field has out-yielded corn selected in other ways. It would be natural to expect this if we accept the theory of plant improvement as before stated to be true. I like to have selected the stalk that has two ears. I believe in the long run there will be a greater yield from such a stalk than there will be from the one that has a single ear, although it may be somewhat larger, for the weight of grain is the ultimate end. Then again, there enters into the selection the question as to whether or not the ears are on a stalk that appears singly in the hill or whether they are on a stalk that has company. The ear on a single stalk ought to be a good one from the standpoint of the advantages it has had. It has fed upon from ten to twelve square feet of ground and the plant food nutrients contained in this soil certainly ought to make at least two good ears and if two are found it is only what can be expected. In the plant world as in the animal the im-

provements in breeding come through the exceptional and not through the commonplace or ordinary. Things that are entirely out of our expectations often mean progress if handled judiciously. The stalk from which we select our ears should have at least one hill mate. The two ears that are on the plant do not necessarily need to be saved for seed, although one of them should be, and if a plant could be found that had grown two ears, both of which were suitable for seed the hereditarity of that plant should be so much more valuable.

The position of the ear is assuming

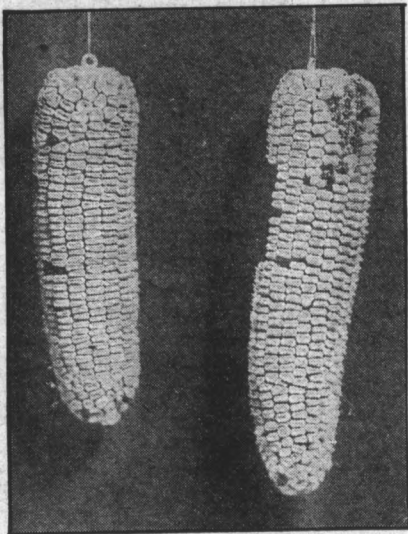


Fig. 1.

more importance each year. We are coming to a general acceptance of the fact that one good way to conserve the labor supply is to allow the hogs to get their corn from the field, husk it and leave it there. This gets around the work of husking corn, storing it, shoveling it out again, and finally drawing the manure back to the field. It is necessary, however, to have corn ears borne low enough so that the hogs can get hold of them if the field is intended for hogging down. Ears borne six feet high would scarcely be satisfactory for this purpose. Probably all things considered, four feet is about as near a suitable height as can be stated for all conditions. At this height, the ears are seldom broken off by the corn harvester and they are low enough for the pig harvester.

It is an important thing that the ear be pendant. The pendant ear means that there is a small shank and much grain or that the grain is heavy enough to bend the shank. Further than this I have observed that generally the upright ear has an excessively large cob which, of course, does not make very desirable stock feed and may therefore be eliminated as much as possible. Added to this, the pendant ear is protected naturally from the autumnal rains. In going through a corn field late in the fall, I have often noticed that the upright ears have been damaged by the frost more than those that hang down.

How to Store.

The one point to be remembered in storing corn is to have the ear itself not subject to the freezes and thaws of the winter. It makes but little difference where this condition prevails and corn can be kept stored as well in the basement near the furnace as it can be stored in the attic. One thing is sure, however, that the stringing up of the corn by the husks and hanging the same to the windmill for four or five weeks in the fall has but little to commend it except that the corn may dry out more rapidly here than it does inside. The drier corn is made in the autumn the less it will be harmed by the freezing and thawing of winter. Of course, due precautions should be taken so that mice shall not have access to the corn and there are so

many ways of accomplishing this that it would scarcely seem worth while to enumerate them here.

The situation as it is this fall, and as it will be next spring, demands that each one of us save as much of our best corn for seed as the situation will permit. While it might not be necessary to make a very large gain, with a careful selection of the corn a gain of only a single bushel on an acre next year, and providing that each one grew only ten acres, would mean that a very handsome profit had been made upon the time used in selecting the corn from the field. Corn so selected ought to show the ears at a good height. The stalks ought to be found in a normal hill and the ear ought to be hanging down. After corn has been so selected the better ears can be sorted out and stored under conditions that will not detract from the viability and productivity of the seed.

IMMATURE SEED CORN WILL GROW IF GIVEN PROPER CARE.

Seed corn from ears having shrunken kernels, poor tops, and chaff sticking to the kernels sprung a surprise when they tested 100 per cent germination and showed good vitality. One would never suspect this from the appearance of the ears shown in Figure 1; in addition to the above defects note the open spaces between the kernels. Figure 2 shows that the kernels from these ears are undersized and have chaffy tips.

"These ears were field selected and placed on racks so as to dry properly," was the remark of the farmer who brought them along with others for testing. The reason for the germination of the immature ears was now evident; they had been properly dried. Although green and full of moisture, when the stalks bearing the ears were struck by the frost, they had given perfect germination because the excess moisture was evaporated before freezing. It is the expansion of this excess moisture in the germ that kills or reduces its vitality; not only is this true



Fig. 2.

of immature seed, mature seed as well is likely to be injured in germination. This year when there is likely to be a good deal of immature corn it may be necessary to select the best and place it immediately where the air will circulate through it freely. Some farmers place their drying seed corn in a warm place, but this is not necessary, all that is required is a free circulation of air. Emphasis should be placed on "immediate drying" of immature seed corn as it moulds quickly.

In an ordinary year it is not advisable to use immature corn for seed if one can get mature seed. Because of its small size, it will not plant evenly and it does not contain as much food for the young plant as full-grown seed, but with favorable soil and weather conditions the immature seed will do well.

The growing of immature seed is not confined to corn; potatoes for seed purposes are often planted late because of necessity, and sometimes purposely, beans though frosted when green will grow, if dried before freezing weather comes. This is not strange. To reproduce the plant is the first aim of nature, she first forms the embryo of the young seed and then packs plenty of nourishment to give the young plant a push, but if anything happens before the nourishment is fully formed the seed will grow, provided the embryo is not ruptured by freezing while containing an excess of water.

It may be advisable to save some of

the immature seed for next year's planting; it should be an axiom, an instinct, or an acquired habit to guard jealously the seed supply.

Blistered Kernels Will Not Grow.

An ear having blistered kernels is worthless for seed purposes. These kernels will not grow if planted because they have been frozen while containing too much water and the germ has been injured.

This is the pith of the results of testing hundreds of ears each year for several years for farmers by the Agri-



Fig. 3.

cultural Department of Central Normal at Mt. Pleasant. Last spring after finishing a test of seven hundred ears for germination power, they were carefully examined for some rule, some test, to guide one in selecting ears that would grow.

Various tests were applied, ears with loose kernels, ears with poor tips, kernels having chaff adhering to the tips, shrunken kernels, etc.; these rules were applied, some found to be worth something but not infallible. Ears with some or all of the above defects were found to grow many times and to give good results. Finally it was found that no ear with blistered kernels would grow and give good results.

What is meant by a blistered kernel? If one examines a kernel closely on one of the flat sides a depression is noticed, this is the germ or chit, this is usually blistered or wrinkled, the shrinking of the germ naturally causes this. On the opposite side of the kernel, the back of the kernel, it is generally smooth, but on the kernels from some ears the skin or surface seems to be elevated, wrinkled, or blistered in patches; such kernels will not grow. With a little practice one can tell at a glance the blistered kernels.

Note that the kernels in Figure 3 are well filled, the surface is smooth, showing that the kernels are mature and that they have been properly dried. Note closely in Figure 4, the puckered, wrinkled, or blistered surface, the surface is said to be blistered similar to blisters, formed from bruises on the body, there is, of course, no liquid under the blistered portion. These kernels apparently have not been dried properly and have been frozen while containing too much water. The expansion of the water has injured the germ.

Figure 2 shows small, shrunken, chaffy, immature kernels, but the back of the kernels are smooth, although somewhat wavy, and there are no blisters. These kernels came from immature ears but they have been properly dried before hard freezing weather. These kernels will grow. It may not be advisable to use them for seed unless there is a shortage because they



Fig. 4.

do not have enough stored food to give the young plant a proper push.

Let us understand this clearly; the discarding of the ears having blistered backs should be done, they will not grow. There is no use of wasting time to test them. There is no rule to tell to a certainty whether ears will grow if the kernels are not blistered, because other ears than those with blistered often will not grow, no reason being known for this defect. The discarding of the blistered ears will eliminate, perhaps, ninety per cent of the poor ears.

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Eradicating Quack Grass

THE tenacity with which quack grass holds onto life makes any information on the ridding of lands of this weed of interest to every farmer who has had experience with it. Consequently a report of the methods employed by Mr. S. A. Foster, of Ingham county, will be of general interest inasmuch as the grass is giving trouble to farmers in every section of the state.

In a fifteen-acre field on Mr. Foster's farm was a patch of the troublesome grass covering a full half acre. Different methods of fighting the plant had failed him. For instance, he had understood that the growing of sand vetch on land occupied by quack grass would assist in its extermination, but he was convinced after trying the vetch that it had little if any effect upon the weed. Again, tarred papers were laid over some of the plants but the stems merely grew in a horizontal direction until they were beyond the edge of the covering and then turned upward with almost full natural vigor.

Vigorous Treatment Required.

It became apparent to him that some heroic treatment was necessary, since he had observed that in spite of extreme precaution to prevent spreading of roots while preparing for wheat during 1915 that twenty-six new patches had been established. He went to the trouble of lifting the plow out of the soil every time he came to the patch and did not permit the point to touch the ground until well beyond the limits of the grass, yet the number of new patches mentioned was the result.

In the spring of 1916 a different, and what proved to be a more successful, plan was tried. As early in the spring as it was possible to get onto the land he started a regular series of weekly discings which continued until about the tenth of July. Each discing was thorough, that is, he lapped the disc half and went over the patch both ways every week during this period of cultivation.

To give the reader an idea of the healthy stand of quack grass on this parcel of ground, he needs but to know that the roots and stems of the plants offered such resistance to the disc the first time over that very little impression was made until the second or third week. After that the cultivation gradually became more ideal.

About the tenth of July buckwheat was sown. This crop was allowed to mature seed and fall back upon the ground where it remained until freezing weather arrived, when the straw, and what seed remained in it were raked up and thrown into the chicken yard.

Finishing the Job.

The twenty-six new patches were given a treatment different from that applied to the parent patch. On the larger of these new patches salt was spread over the plants. This was used at the rate of a barrel for each two square rods of surface. The smaller patches were dug out. A fork was carried on the plow and when a patch was reached the plants were dug up before the plow run through them and the stems, roots, sod and all the dirt that clung to them were piled upon the plowed ground. These piles were later collected on a wagon and drawn to the parent patch where they were stacked with perpendicular sides and a flat top. On this a liberal quantity of salt was put—the stems containing too much dirt to permit their being successfully burned.

The entire field was planted to beans this year and as a result of the different treatments given it, it is possible to find only a few spears of the grass. Of the eight cubic yards of material gathered from the smaller patches and treated with the salt, only three or four pieces of roots showed any signs of life, and on the other places

where the salt was sown at the rate of a barrel to every two square rods, it was almost impossible to find any live quack grass. Of course, this last treatment killed the other vegetation, but Mr. Foster is of the opinion that with further cultivation and leaching the effect upon the later crops will not be apparent.

He is satisfied that a way has been found whereby he can bring this tenacious grass under subjection. With the start made in the one year he reasons that it lies well within the range of possibility to care for the remaining plants by digging them up whenever discovered.

ANOTHER SUCCESSFUL METHOD OF KILLING QUACK GRASS.

I saw in the Michigan Farmer of August 11, 1917, an article about eradicating quack grass, by C. M. Buxton, of Isabella county. I had about two acres well fixed up with quack grass, which had been sown to fall rye and as soon as the rye was harvested I plowed the field about three inches deep and left it lay over. The next spring I applied seven loads of stable manure to the acre and plowed it about seven inches deep and planted it to potatoes. I grew 200 bushels of potatoes per acre and killed the quack. My experience is to choke the quack grass by plowing the land twice. The roots are parted in two layers and the top layer will grow and choke the lower layer. I know this by experience, as I dug through the three-inch plowed surface and found that the roots below the three inches were dead. Then by turning the growing roots and grass under about seven inches deep the next spring I did away with the quack.

Lenawee Co.

HENRY KAHS.

FARM NOTES.

When to Sow Sweet Clover.

I have a gravelly, sand soil on which I want to sow rye and sand vetch, and then sow sweet clover. When should I sow the sweet clover, in the fall or in the spring, and how much seed per acre?

Osceola Co.

F. McC.

Sweet clover, like other legumes of its class, can be sown at almost any time with a fair chance of getting a good seeding. In the writer's experience, however, the early spring has proven the best time to seed same. We have secured good stands by seeding in the spring on fall sown rye, but have found it advisable to soak the seed in warm water previous to sowing, as this tends to insure more even germination.

As sweet clover requires a firm seed bed for best results, this condition is better provided by sowing in the spring on fall sown grain. On sandy ground the best method would be to drill the seed in shallow, or sow and harrow in if a suitable drill is not available. About ten pounds per acre is ample seeding.

The instilling into the minds of our farmer boys wholesome sentiments in regard to our bird life, will go farther in the long run, than prohibitive laws, toward preserving the birds. Impress on the farmer and his boys the value of a bird in its relation to agriculture, and you have taken the gun from their hands, nine times out of ten. Do not neglect either, the aesthetic side, which, in its way, is also powerful. Create the right sentiment, the right attitude of mind, the desire to preserve and protect rather than to destroy, and laws will not be needed.

Illinois owners of 3,000 acres of cut-over lands near Ralph, in Dickinson county, will place 3,000 goats on feed there, as well as cattle.

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Profit From the Cull Pile

THE dangerous probability of food shortage the world over this year only emphasizes the fact that waste must be eliminated in harvesting the crops. It is, however, a fact, that the waste going on in the orchard is appalling when one thinks of the bushels and bushels of apples which are left on the ground to rot. There are thousands in the cities, and even in the nearby towns who will be willing to pay high prices for this fruit, if it were only put up in the form of sweet cider, boiled cider, cider syrup, apple butter, apple jelly or vinegar.

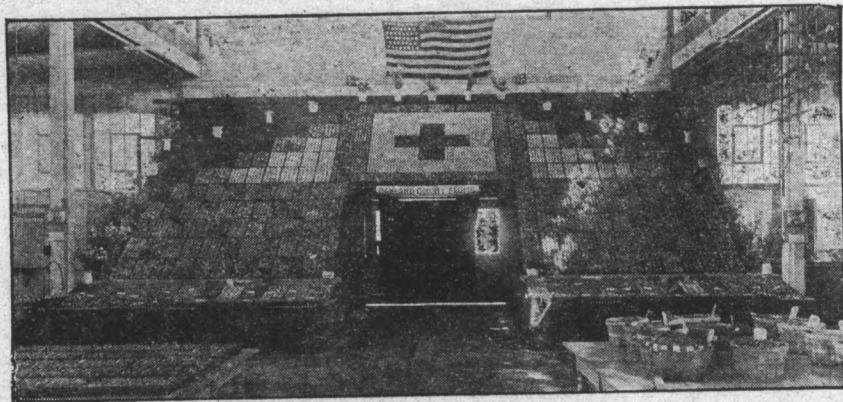
Besides the apples that are allowed to go to waste in the orchards are those that are necessarily rejected in packing the fruit for market or storage. This fruit is just as good food as the fruit which is packed or stored, but its condition makes its value less because deterioration sets in more quickly and unfits it for food. The call of the nation at this hour is so apparent that the saving of every windfall apple and those unfit for packing or storing is imperative. Not only does the nation need the food products which such apples will give, but there lies in them

will remain in a perfect state of preservation for years. In this way two great advantages are secured: First, the product can be stored in much less space, and second, it will keep indefinitely. When the cider has been reduced in volume in the ratio of five gallons to one, the product is of such consistency as to be suitable for handling and in no danger of fermenting. This product is called boiled cider or cider syrup, and is widely used in making apple butter, mince pies and the various products of the culinary art.

Apple Jelly.

When evaporation is carried further, reducing the volume in the ratio of about seven to one, the product is known as apple jelly. In this form it is quite acceptable to those who like a jelly somewhat tart. By adding sugar it may be made to please the taste of those who like jelly of a milder, sweeter taste. The jelly may be flavored to suit the various tastes by using any flavoring material that will not evaporate readily. Apple jelly is usually marketed in glass jars holding two or three pints and has an excellent market.

Who has not known the joys of



The above picture shows the fruit exhibit of Oakland county at the Michigan State Fair this year. This exhibit won first premium and indicates the progressiveness of Oakland as a fruit county. At the other end of the horticultural building Oceana county had a very fine exhibit, which was awarded second premium. Kent county received third premium, Van Buren fourth and Washtenaw fifth.

a goodly profit to the grower if they are only made up into marketable products. This can be easily done at a custom cider mill.

Apple Most Popular Fruit.

No fruit known can take the place of the apple as a food product. It graces the dining-table in a greater variety of forms than any other fruit and, as an important part of many very delicious culinary products, few are its equal and none its superior. Some of the delicious culinary products which come from the apple are vinegar, cider syrup, cider jelly, apple butter, etc. A brief description of these products is given below:

The process of transforming apple juice into good cider vinegar is easily accomplished and can be produced in every household where the necessary temperature can be controlled. For vinegar the windfalls may be used or the pomace of later pressing may be repressed, but for a superior article only ripe apples should be used.

Common experience teaches that if cider is exposed to the air it will soon ferment. Now by proper handling after the first state of fermentation the cider may be converted in a very short time. It is well understood now that fermentation is the work of myriads of bacteria that infest the cider and behave very much after the manner of yeast in bread making. Cider, in changing to vinegar, passes through two states: First, the sugar of the juice is changed to alcohol. Next the alcohol is changed to acetic acid or vinegar by further fermentation.

Cider Making.

Evaporation is another method of treating cider. By this process the vinegar is greatly reduced and the resultant product is so concentrated that it

"bread, butter'n apple butter?" This is a very popular product with an ever-ready increasing local market to supply.

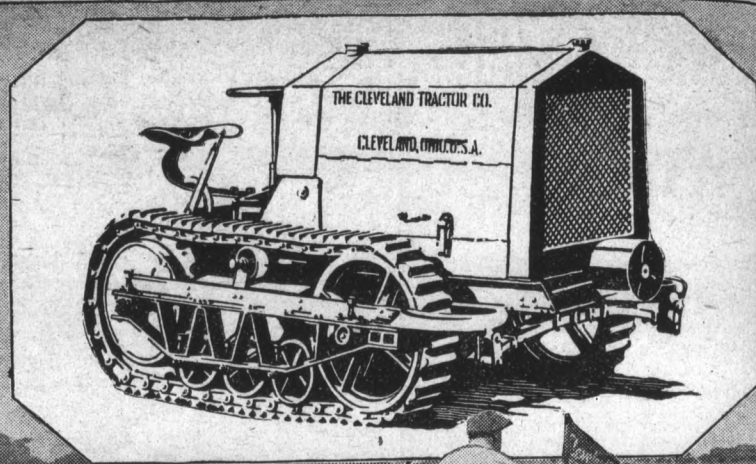
Of all the products of the apple, apple butter pleases the most people. Everywhere fondness is manifested for it and it is generally used by all classes of people. Our forefathers made apple butter by a slow, difficult and wasteful process, but the old methods have disappeared before the marked success achieved by steam cooking. This makes a butter with the right flavor quickly, and with the least amount of labor. The lessened work pleases the women, and the good color, uniform density and natural flavor pleases the user.

Ohio. F. B. McMILLAN.

STORING VEGETABLES.

The best conditions of winter storage differs somewhat for the different vegetables. Beets, carrots and parsnips dry out readily. Packing in moist sand and keeping at a temperature just above freezing is an ideal condition. Onions keep best spread out in thin layers in boxes in a dry, but cool atmosphere. These vegetables will keep better if dried in the sun before storing and select only those free from cuts and bruises. Squashes and pumpkins keep best where it is dry and the thermometer about fifty. Cabbages keep best in a temperature just above freezing, but at the same time moist.

It is important that good ventilation be provided where the vegetables are stored. The cellar is the most common storage place. If it contains a furnace it will be too warm for most vegetables, unless a room is partitioned off so that the heat can be kept out of it.—N. D. Ag. College.



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The Cleveland Tractor has proved that it can plow—and plow well—at 3½ miles an hour.

At the Fremont Tractor Demonstration, over land that was literally muck, it pulled two 14-inch bottoms running 8 inches deep at an average speed of 3½ miles an hour.

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Small and light, and hauling two bottoms instead of three the Cleveland Tractor is remarkably easy to handle. It works with such speed that it does as much and in some cases more than 3-plow tractors—and more economically. At plowing the Cleveland Tractor actually does the work of three 3-horse teams and three men. Its speed can be applied not only to plowing—but to any one of a wide variety of tasks—even to riding in to dinner or home when work is through.

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The Cleveland gives 12 h. p. at the draw-bar and 20 at the pulley—plenty of power to meet the requirements of any farm.

It only costs \$1185, yet it is constructed of the best materials.

It is built by Rollin H. White, one of the country's greatest motor truck engineers. All gears are identical with those used in the finest trucks and all are protected by dirt-proof, dustproof cases.

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Dollars and Cents Cow Feeding

NOT every dairyman takes kindly to an increase, preferring to do what they can do themselves and let the rest go undone," is a favorite saying of Dean Cook, of Canton, New York, Agricultural School. There seems at present, however, no easy way to cut off the grain bill. If the farms were up to the limit of production the situation would be different, but they are not, and some of the waste land, coupled with a small increase in yield per acre, would produce all the grain feed required. Suppose we feed the cows an average of ten pounds of grain a day for a year, eight pounds of it can safely be from a mixture of barley and oats, home-grown, and the remainder of some highly nitrogenous concentrate. This eight pounds a day equals 2,920 pounds for the year. As good, wholesome care will give a per acre field of 1,500 pounds of grain, this could doubtless be grown on two acres. The average number of cows per farm is about twenty, let us say, result, forty acres of oats and barley. These figures of grain fed are probably considerably higher than an average, and would no doubt cover all the grain fed to young stock and horses, not an impossibility by any means.

This grain, even at prevailing labor cost, may be produced at a cost of not over thirty cents per bushel, the straw being free. Oat straw is fairly good cow feed, if fed in small quantities, say four pounds per day per cow, together with ripe corn silage and clover hay, or more may be fed, letting the stock sort it over, and the refuse used for bedding. The oat straw feed can be fed at a greater profit if the timothy hay is sold; the market is always good for this product, and the cash returns from this thus made large enough to pay the expense of the small amount of nitrogenous feeds used to balance this home ration. The figures are two pounds per cow per day at \$34 per ton; for a twenty-cow dairy, 730 pounds per cow, 14,600 pounds total, costing \$248.20. At \$12 per ton the farm would have to sell 20.7 tons of timothy hay to pay this bill.

Corn and Oat Ration.

Does this plan disagree with our teaching that corn and oats were not a good feed? No, the old system of feeding corn and oats and timothy hay was not sound. The ration was wide,

and did not maintain a normal condition of the bowels. Ripe cornstalks and ears in a succulent condition from the silo, and clover hay will keep the animal normal. Oats and a couple of pounds of oil or cottonseed meal or distillers' grains, depending upon the animal, her period of gestation, and the cost of these feeds, will make a very good balance. Does this mean if we do not grow the oats that we should buy them? No, it would not pay to buy oats to feed the herd; a combination of mill feeds will be cheaper. We can, however, grow the oats at a profit, but we cannot grow the mill feeds. Then why not sell the oats and buy the mill feeds? No objection if the farmer is a good buyer and seller. The chances are, however, against the change. He will probably sell the oats at a low wholesale price and buy the mill feeds back at a large retail price, paying the dealer a good commission on both ends of the trade. Let us, therefore, begin a campaign of developing our own feed stuffs along the lines mentioned, save our north country the great drain now going on for western feeds, improve our own soils at the same time, and increase the tonnage of timothy hay, which we sell to the city markets, and not decrease our total milk production by a single pound.

Grow More Grain.

Dairy farmers in the middle states need particularly to emphasize at this time some very old-fashioned things; namely, more ripe corn silage, more clover hay and more oats and barley grain mixed. We have departed from the ways of our forefathers who had no thought of going south or west for their seed corn. They raised, to be sure, only a small acreage, one, two or three acres, but the crop was carefully attended to. The land was most thoroughly plowed and fitted, and very often it was summer fallowed the year previous to planting. The best manure was saved and the corn manured in the hill. In order to insure a good stand the seed had been carefully selected in the fall, nicely braided into "traces" and hung away to dry. Did it grow? Why, of course, it grew and ripened. We have now learned of better methods of corn culture, but we do not all practice them; at any rate, the is, has demoralized corn growing in introduction of the silo, valuable as it many dairy sections of the north. The old home-grown seed has largely and in many instances been wholly replaced by purchased seed grown elsewhere. We buy our seed most anywhere. We have lost our father's knowledge of varieties to a point where the most flagrant imposition is practiced before our very eyes; varieties that are popular and valuable maybe, somewhere in the country, are exploited by smooth talkers with the result that we go to growing cornstalks, if we grow anything, but grow very little corn. The crop, as a result, is hard to handle after we get it housed and the value mighty uncertain.

Improving Varieties and Tillage.

Our only hope is in the return to the days of our fathers and the growing only of such varieties as we can ripen on our farms. In nine cases out of ten we shall find ourselves growing the Flint corns. Occasionally a farmer with a warm soil, will successfully grow and mature some of the small early dents, but he will probably not materially increase the total digestible dry matter from an acre. The length of a stalk by no means determines its value; more than one-half of the value is found in the ear, and it is concentrated feed we need, and not coarse cornstalks. Therefore it would seem a wholesome thing to combine the home-grown seed and the good tilth of our fathers with our present increased acreage, and the silo, eliminating the

hill manuring and hilling, broadcasting all manures and fertilizers and giving level culture. Such practice would solve the grain and feed bill.

Fertility Needed.

Our next problem is to insure a crop of clover. Our losses in clover growing are enormous. The chief cause is lack of available fertility, which will be largely supplied by the extra fertility required the year before, if we put on enough to thoroughly ripen our corn. We should sow not to exceed one and a half bushels of grain per acre when seeding with clover, using always a grain drill, fertilizing with 300 to 400 pounds per acre of a mixture of 1,500 pounds of acid rock and 500 pounds of muriate of potash; and then if the weather is exceedingly dry, cut the grain before ripening and cure it for hay, thereby giving the clover plants full possession of the fertility and water supply.

Dairy farming does not need any new-fangled systems injected, but it needs to go backward about a generation to find how to keep cows more naturally and produce feed more sensibly. Farmers are becoming too accustomed to buy their feed at the mill and raise a lot of worthless roughage. Very little calculation will solve this problem and make greater profits for the farmers and less for feed dealers.

New York.

E. W. GAGE.

ANNUAL PICNIC OF HOLSTEIN BREEDERS.

The annual mid-summer picnic of the West Michigan Holstein Breeders' Association was held at Grand Rapids August 24, and the misty rain and cold weather drove the members from John Ball Park to the Association of Commerce building down town, for the afternoon program. President M. W. Willard, of Grand Rapids, was in the chair and the first speaker was John C. Ketcham, Master of the Michigan Grange, on the topic, "The Dairyman and Pure-bred Cattle Breeder as a Factor in Our National Crisis." He had a worth-while message and gave it in a rapid-fire, impressive manner. It was asserted that there is a national crisis and it is the farmer's duty to produce the largest and best crops he can. The world must have a cheap food product and the Holstein breeder is an important factor in the situation.

R. C. Reed, of Howell, secretary of the Michigan Milk Producers' Association, followed with a strong plea for the dairy industry which is being choked almost out of existence because of low prices. Government figures were given showing the startling decrease in the dairy herds of the country, due to nothing more than to growing unprofitableness of the business. People are wont to cry "robbers" when milk is raised, who say nothing when paying \$1.20 a peck for potatoes and high prices for other stuff. It was figured years ago that milk was worth twenty-two cents a quart on the unit basis in comparison with other common foods, and of course this figure would be much higher now. Mr. Reed emphasizes that the consumer should understand that his interests are linked vitally with the producer in this effort to put this great industry on a living basis. The farmer runs against organized industries on every hand and yet he is still trying to go it alone. The efforts of the Michigan Milk Producers' Association have seemed slow of reward and yet the secretary of the Illinois Association says that we have accomplished as much in fourteen months as they were able to do in nine years.

It was voted to hold a consignment sale of Holstein cattle in October and the sales committee named is composed of Secretary W. R. Harper, of Middleville, as manager, and M. W. Willard, E. W. McNitt, B. E. Hardy, and Wm. Kaboos.

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"There's a Reason"

Increasing the Breeding Stock

By W. MILTON KELLY

EVERY effort possible should be made to hold over a sufficient number of good breeding sows for next spring's crop of pigs. The seeming determination of many farmers to sacrifice their best sows to save feeds awakens the most serious apprehension for our future meat supply. And the disposition to dispose of mature pure-bred sows at prevailing pork prices must be viewed with the utmost regret. If ever we needed to maintain and increase our herds of breeding hogs at full efficiency it is in this year of 1917.

Good breeding sows and adequate care and feed are the factors primarily concerned in producing a profitable crop of pigs next spring. It is important to save the best mature sows and a few of the best young sows for breeding purposes; failure to do so results in many droves of inferior pigs. The farmer who sacrifices his best mature sows need never hope to have a profitable crop of pigs or to continue to produce high-class breeding stock. Litters of strong and husky pigs are seldom produced by immature sows. It is the older sows that give birth to the vigorous, big-boned young.

Breeding Young Sows.

On many farms where only one drove of pigs is finished for the market each year it has been found profitable to breed a drove of young sows at eight or nine months of age and finish them for market along with their pigs. By breeding the young sows at this age it is not necessary to maintain so large a breeding herd and undoubtedly is more profitable than keeping a full herd of old sows on the one litter a year basis. It is my experience that such a system is far more efficient if one plans his breeding operations so that the young sows held over for breeding purposes are the progeny of mature dams. In this way the tendency to deteriorate through breeding from young, immature stock is to some extent held in control and one can continue the practice from year to year more safely than is the case when the progeny of the young sows are used for breeding purposes. The feeder who has mastered the problem of finishing off two droves of pigs each year will, however, find it more profitable to maintain a herd of mature sows. Under no circumstances should the young sows be bred until they are eight months old, and they should be mated with a boar that is well along toward maturity. They should be fed liberally and weigh, at least, 300 pounds at one year of age, so that their pigs will be healthy and the sow have plenty of reserve flesh and vitality to furnish them with proper nourishment. Many farmers use only young boars, arguing that a mature boar is too troublesome to have about. Granting that the older boar may at times be a bit troublesome, the added value of his pigs, especially if a number of young sows are bred, will repay many fold any extra attention in the way of a strong fence and bit of extra feed.

Young sows that are to be held over for breeders, should be taken away from the fattening stock and given feeds that will promote rapid growth, but that will not put on an excess of fat. If green forage crops, such as rape and rye, are available for fall feeding, the young sows will take plenty of exercise, which makes for the development of muscles, lungs and assimilating powers. Such sows may safely be bred late in the fall for spring litters. Older sows will keep in ideal condition if they have the run of rape and rye forage crops and some kind of supplemental grain feed. The rape and rye forage not only reduces the cost of feeding the sows, but it

aids in promoting their health and vitality and insures litters of stronger pigs.

Utilize Cheap Feeds.

With grain feeds at present prices one simply cannot afford to stuff breeding hogs with expensive grain feeds. His profits must be obtained from the use of cheap feeds with just enough grain feed to enable the hogs to make good use of the cheap forage and pasture crops. Experiments conducted at some of the leading stations show that the cost of maintaining breeding hogs may be reduced from forty to sixty per cent by the judicious use of forage and pasture crops. At the present prices for grain feeds it surely will pay to make extensive use of forage supplements.

Rape may be sown during July and early August for fall feeding. For the best results fit the ground as for a small grain crop and sow about three pounds of Dwarf Essex rape seed to the acre. Stop up the holes in the drill hopper so that the seeds will be dropped in rows about two feet apart. Cultivate the crop twice to keep down weeds and conserve soil moisture. Some growers use about five pounds of seed to the acre and sow it through all of the drill hose, but as a rule better results may be obtained by cultivating fewer rows. The hogs may be turned into the rape field when the plants are about one foot high. Rye may be sown early in September so that the crop will make a rapid growth and be fit for grazing for a few weeks before snow covers the ground.

To stimulate the breeding qualities of the sows and insure large litters of vigorous pigs feed the sows a liberal grain ration for two weeks before breeding time. By having them in a vigorous, flesh-gaining condition they will not only require less service, but more pigs will be farrowed in due season. Feeds rich in protein are ideal for feeding just before the breeding season.

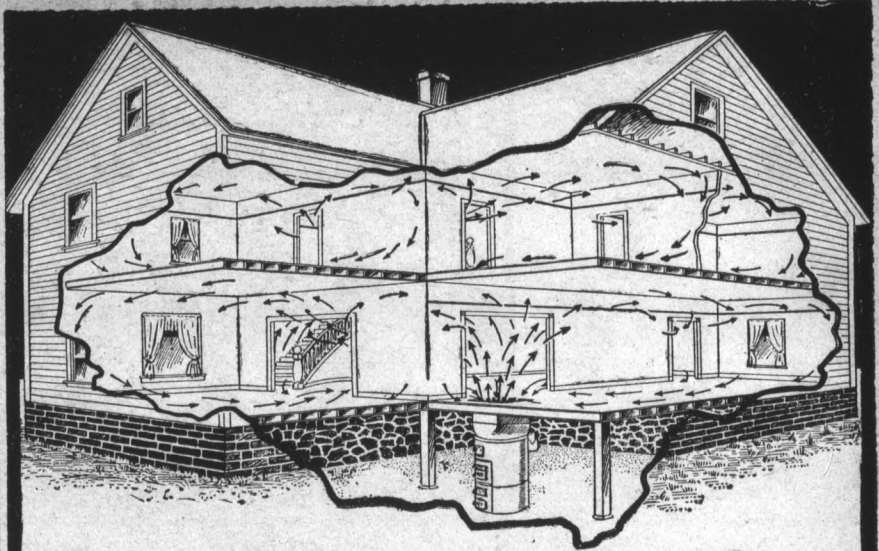
To produce, strong, well-developed litters it is not only necessary that the sows be fed correctly upon feeds that furnish sufficient muscle, bone and energy-making materials, but that they be handled wisely during the period of pregnancy.

Feeding For Best Results.

The mother sow should have plenty of nourishing foods and enough bulk and succulence to keep her digestive system in good condition at all times. Stronger, healthier litters having more hair, more color, and more bone, result when such protein and ash supplements as alfalfa and clover hay, skim-milk and tankage are fed with the corn. At present prices for supplemental feeds it will pay to depend largely upon alfalfa and clover hay to balance up the deficiencies of the corn ration. A little oil meal will help to keep the sow's bowels in good condition.

Above all things, excepting the food supply only, an abundance of exercise is important. Plan the sow's pens and feeding yards so that they will get exercise every day during the winter. Range on rye pasture is best of all, but scattering feed in the yards will encourage them to get out and exercise even days when the weather is cold. Plans to induce the sows to get out and exercise cost little, yet the returns are considerable.

Breeding sows should have dry, warm and well ventilated sleeping quarters. Keep them free from lice and vermin and provide clean, dry nests. Plan the houses so that drafts and cold winds cannot reach the hogs' nests. Breeding sows require warmer sleeping quarters than hogs that are being fattened for market.



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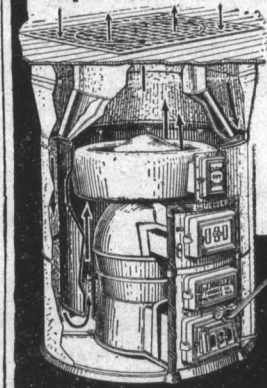
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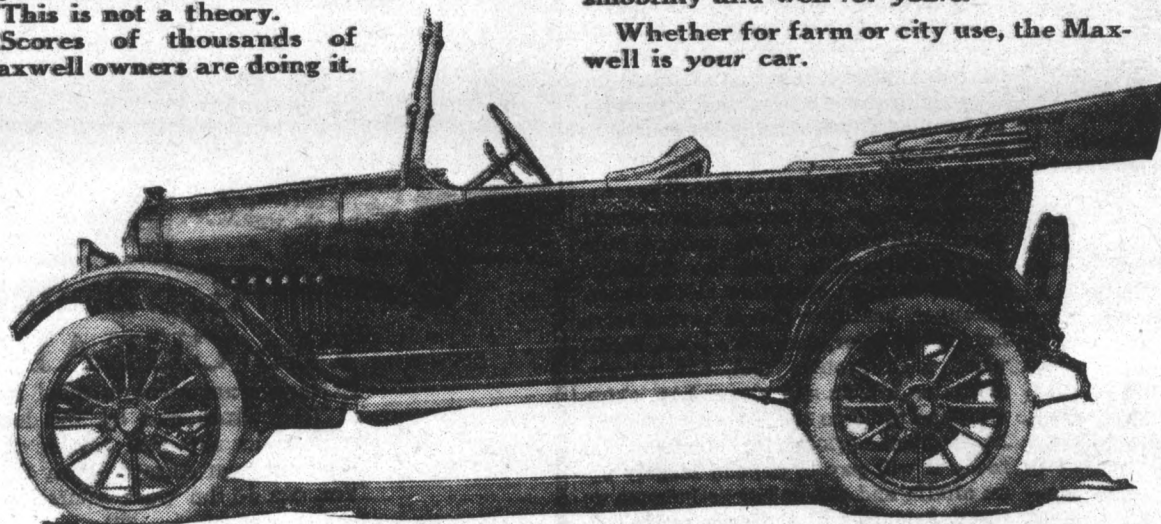
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THERE is danger that some of the phases of community life which are being affected by war activities and war thinking, may be neglected to our great hurt. Our rural leadership must be on its guard. While we are putting everything else in the background during the period which must be given to this war, it is not necessary that we forget entirely the movements which were working for good in our communities before the war began.

War's greatest demands consist of human lives and material equipment to make those human lives efficient fighting units. This means money. We have already felt this economic pressure in a small way. We have been asked to supply our government with funds by purchasing bonds, and in many other ways we will be asked to

Community Problems In War Time

By E. C. LINDEMAN

assist in financing this war. This all means a readjustment in our individual financial affairs and this in turn means a readjustment in our economic relationship to the community.

From a purely rural standpoint the economics of war are still more important. We have been asked to increase our production in order that our army, our allied armies and our civilian population may be properly fed. At the same time, we are asked to face a labor shortage which makes increased production a well-nigh impossible problem. In some cases this shortage of labor is causing an influx of untrained labor from the cities,

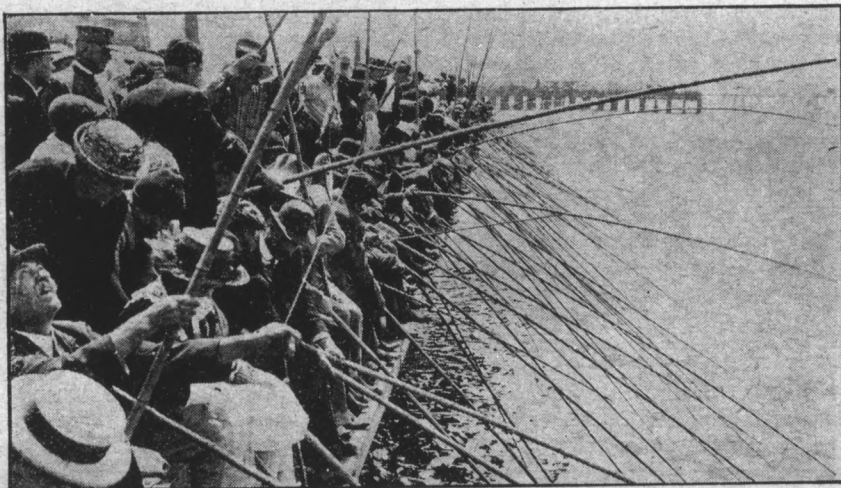
which constitutes a still more perplexing problem for the farmer.

We are asked also to increase production along certain lines; for example the great staple, wheat, is wanted. This means a readjustment of our entire system of rotation. It will have the same effect that would be produced if a factory manufacturing one product was suddenly told that it must turn out an entirely different product. New machines would be needed, new methods would be introduced and the whole system of the institution would be disturbed. The change would not be so marked on the farm as in the factory, but it would be just as far-

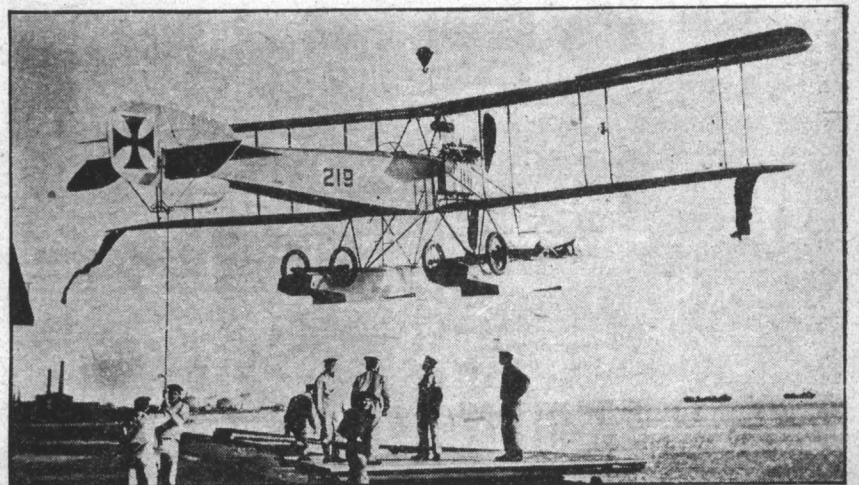
reaching. The point to which I wish to call attention here is this: In a case of national necessity it is to be expected that we make changes in our productive enterprise, but we must not forget that in a few short years we may so use our soil that its fertility will be destroyed.

Our problem is to meet the national necessity to the greatest possible extent but to keep in mind also the problem of soil building as we were attacking it before the war started. We must keep in mind that the war condition is not a permanent condition and that our system of farming must be built up on the basis of permanent conditions. It would be poor patriotism to so change our system of farming, (rotations, live stock, etc.), that at the end of the war we would have on our hands an unprofitable establishment. The problems

WORLD EVENTS IN PICTURES



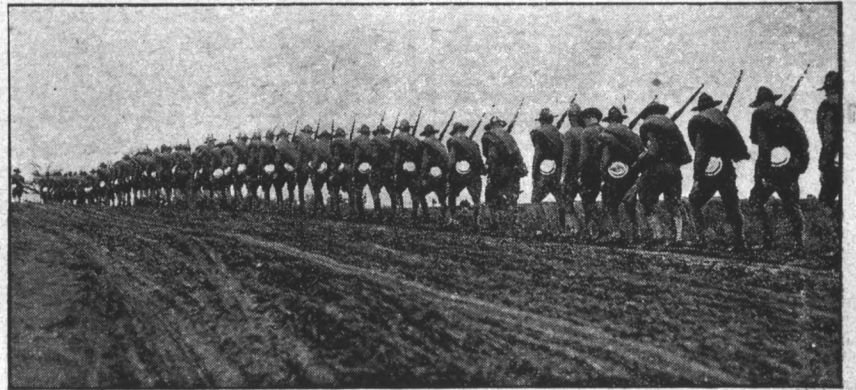
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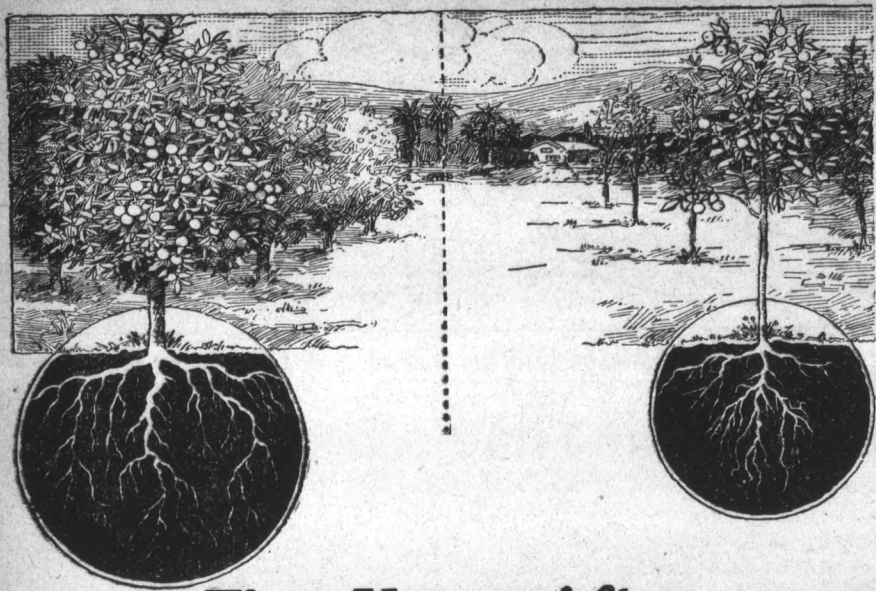


London Gives a Rousing Welcome to the First Contingent of U. S. Soldiers.



Britain's Big Guns Have Made German Trenches in Flanders Untenable.

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of farm management and all of the other economic phases of agriculture were being emphasized just before the war began. These same problems are here now and our highest duty is to work along that line which will insure the most permanent type of agricultural production.

Educational Life.

It is reported that England permitted seventeen thousand teachers to enlist in war activities during the early stages of the conflict with Germany. England now recognizes that this was a tremendous mistake, and she is doing her best to remedy the evil. New York state has passed a law shortening the school year in order to permit boys and girls to engage in productive labor. Many other states and communities have permitted the war to disrupt their educational institutions. This is another sample of poor patriotism. If ever we shall have need of educated leaders it will be during the period of this war and during the reconstruction period which will follow. This is no time to let down the bars on education. Young men and young women are changing their plans about school and college because they have come to feel that they owe it to their country to engage in some purely war activity. What they really owe to their country is the most complete mental equipment for the perplexing problems which lie just ahead of us. Until their labor is absolutely necessary to the national cause boys and girls should be kept in school and teachers should be held at their positions. It may take more courage for some of us to stay at our jobs than to fall in line with war activities and do those things which are more spectacular. In our Civil War, Jefferson Davis said to the people of the Confederacy, "Don't grind your seed corn." By seed corn he meant the children of the south. His advice is wholesome in this crisis. We little know how sorely we may need the boys and girls of today before this spell of war is broken.

Most communities have some pride in their educational institutions. The old maxim, "Show me a poor school and I'll show you a poor community," is not always true, and yet it serves as a helpful index. The movement for improving, for vitalizing the rural school was gaining headway before the days of war. Let us not forget it now. We shall have need of better schools, bet-

ter teachers and better courses of study now just as we did before, and what is more to the point, our need will be far greater because of this destruction of war.

Social Life.

Before the war there were many indications that rural social life was improving. Rural organizations were giving more attention to those activities which worked toward a more wholesome and a freer flow of community life. Some of us were seeing visions of the downfall of individualism in rural life and in its place the growth of a highly-organized, cooperative type of community life. The churches were coming to realize that they had a social responsibility as well as the responsibility of saving the individual soul. They were coming to see that it would not profit the church to save a few individual souls if the whole community continued to be unsaved. The reader will perceive that I am not here speaking entirely of spiritual salvation. I am thinking of churches which cared a lot about souls but cared nothing about playgrounds where the souls were growing. I am thinking about preachers who were vitally interested in having their people live a happy life in the New Jerusalem, but forgot entirely about the necessity of a happy life in the little country community.

During the trying days of warfare it is a serious problem to keep people from becoming morbid. Now is the time that emphasis should be placed on such community activities as will tend to make us more neighborly, more social. Community singing in war time should have a far-reaching effect. Community playing should make us lose ourselves, our trials and our sorrows in the wholesome partaking in games. We need now to play and sing and associate for social purposes because it will act as a mental tonic. All of the movements toward community social development were enjoying a period of progress before the war. Double emphasis should be placed in them at this time.

This is my plea to the rural leaders of Michigan: This war is merely a back-eddy in the stream of progress. It is our duty to see that the flow of the stream is kept clear; it is our duty to prevent this catastrophe from undoing all that we and our forefathers have striven for in our community life.

Two Ways of Working

By MARK MEREDITH

IN almost every engineering department of any size you will find a man who insists on solving even simple problems by means of differential calculus. Sometimes when he feels good, he seasons his work with a sprinkling of hyperbolic cosine and elliptic functions. While he may have produced a mess or a stew, which is absolutely correct from his—that is, mathematical standpoint—he has lost sight of the fact that he must take environment into consideration.

Nature has always been kind enough to transact its business by very simple laws, and if we refer these problems to these laws, we may be able to get along with formula which are not longer than one inch. We may have to disregard the influence of distant disturbing factors to start with, and allow for them according to our engineering judgment afterwards. In this way we obtain results quickly and with a degree of safety, which the pure mathematician is unable to match, although he spends more time and effort.

A complicated high mathematical way of solving a problem could be confined to a very complicated machine, for the more complicated a machine is, the more liable it is to get out of order. The machine requires a great deal of time and attention to be "set up" and if the setting up has not been performed

by a man very familiar, both with the problem and the machine, the results will be useless. Suppose both considerations have been fulfilled and some derangement in the internal works happens to be overlooked by the operator. The results are useless, and worse than that, they are dangerous, since they induce the owner of that machine to put faith in a false sense of safety. The longer the calculation the bigger the change to make a slip.

Further, another fact must not be overlooked. Modern life is founded on cooperation. To cooperate nature has given us the gift of language. Speak to your co-operator in a language that he understands. He cannot check your results or aid you by his judgment and experience if you are unwilling or unable to present the case with extreme simplicity. He will not detract anything from your scientific standing, and you will become a very valuable element in industrial life.

Did you tackle the trouble that came your way
With a resolute heart and cheerful?
Or hide your face from the light of day
With a craven soul and fearful?
Oh, a trouble's a ton, or a trouble's an ounce,
Or a trouble's what you make it.
And it isn't the fact that you're hurt
That counts,
But only how did you take it.
—Edmund V. Cooke.

"Contraband" RANDALL PARRISH

I stepped forward, and my hand gently rested on the bowed shoulder.

"My dear girl," I said earnestly, "look at me, and believe my words. Lift your eyes; I want you to read the truth in my heart. I had to tell you this, for this test is surely coming, and you need to be prepared to meet it bravely. It is not your life alone; it is mine also, and the lives of nearly all the others aboard, which are at stake. For the sake of us all I am going to ask of you a sacrifice."

There had been a mist of tears in the uplifted eyes, but as I paused this had vanished.

"A sacrifice?" she stammered. "That I marry that man?"

"God forbid! No; but that you encourage him to think it possible."

"Oh, I could not—I could not! Do not ask that of me."

"But listen," I urged eagerly, forgetful of all else in the earnestness of my plea. "Vera, listen before you make decision. The only possible hope lies in the freedom of one of us aboard. I can so juggle figures as to keep the ship safely at sea for another day and night, but no longer. McCann knows enough of navigation to check me up if I venture too far in deceit, and he will suspicion a trick like that. This will be all I can do to delay the end. In spite of their pledge, I shall not be free; every step I take will be watched. They have never even left the cabin without stationing a guard. In spite of my parole McCann will never trust me; yet in honor I cannot break my pledge to have no communication with the other prisoners. Surely you see the situation I am in—the utter helpless situation?"

"Yes," breathlessly, every trace of color gone from cheeks and lips, but a new light in her eyes. "I—I begin to understand."

"Someone must be free to act, and plan. I cannot, nor any of those men confined amidstships. Masters might, but the probability is he is not permitted to leave the engine room or even talk to his stokers, except to give orders. Besides he has no information which would make him suspect the whole truth. You understand; that is why I explain the situation so fully to you. By winning McCann's confidence, by seeming to yield to his desires, you will be allowed freedom on board. You can demand it as the price of your surrender. All else must depend on your woman's wit."

"But—but could I convince the man of my sincerity? I—I detest him so."

"He will want to be convinced; your mere consent will satisfy him. You must not look at this from your standpoint. He is conceited and cowardly. To save his own life he would be guilty of any treacherous act. He will judge you by his standards. There will be no necessity for any pretense at love; you need not even permit him to touch you. Merely allow him to believe that fear makes you an unwilling victim."

"You—you actually wish me to do this, play this hideous part?"

"Only because of our desperate situation; we must fight with the only weapon at hand. There is no other course open."

"And—and once free, I am to tell the engineer?"

"No; if you ventured into the engine-room you would arouse suspicion at once. Besides Masters is without force of character; he would be useless in such an emergency. Nor is it probable you could reach the others unobserved, although you might locate them, and, at night, convey to their hands some means of escape. This you must learn for yourself. The one thing I

have in mind is—someone on board free to release the prisoners immediately after the boats leave, in time to enable us to prevent the ship's going down."

"But—but, Mr. Hollis, would—he not insist on my going with him in the boat?"

I walked twice across the narrow space of deck, conscious that her questioning eyes followed me.

"Yes," I admitted, pausing to study her face. "You might even be obliged to do that. You must front this possibility, although the necessity may be avoided. But McCann's boat will make St. John's. He dare not resort to force once you are ashore. The fellow is not fool enough for that, and any man you appealed to would stand in your defense. I do not count that a serious danger—only he must not suspect your purpose until too late to prevent his interfering with your action. Nor will you be unsafe with him in the open boat, for the two of you will not be alone. Your greatest peril will be while aboard this ship, and completely in McCann's power."

"The open boat will not be long at sea."

"Not to exceed a few hours probably; Liverpool and White are seamen enough to see that it is equipped with a sail, and if the wind be favorable, they will make land quickly. But there is even a chance that you need not take this risk."

"What chance?" the full measure of her emotions finding evidence in her voice.

"If Leayord or Olson could be secretly released, or even if you could be assured that I was free to attain the deck at the proper moment, and thus able to release these others, we might best play a bold game. By urging some excuse you could delay leaving the ship until after all the mutineers were over the side, and in the boats. McCann might remain on board with you, but he would be only one man to handle. Once we had control of the ship, we could defend the decks, and prevent those ruffians from returning on board, at least until they surrendered all arms, and agreed to such terms as we offered."

"That—that would be a most desperate expedient," she said dejectedly, "its success doubtful. You would be terribly outnumbered, and without weapons."

"I do not see it so. Outnumbered, yes; but with every advantage of position. Those fellows could not clamber up the side, unless it be one at a time. Besides the major part of the crew are doubtless mutineers against their will, and would be glad enough to return to duty if promised protection. I doubt if there be three revolvers on board. I have one of these, and McCann carries another. I shall hide mine where it cannot be discovered, and taken away; and if we succeed in keeping McCann on the ship until after all the men are in the boats, we shall have his gun also in our possession. Really the plan looks feasible to me."

She arose, and crossed over to the open port, gazing out in silence across the waste of waters, the wind lifting strands of her ruffled hair. She remained there motionless so long I became impatient.

"Have you no answer to make?" I questioned at last. "You think the scheme impracticable?"

"No; it is not that," but without changing posture or glancing about, and I felt there was a deadness in her voice, far from encouraging. "All that you have planned might be done. I see no flaw, unless I should fail to per-



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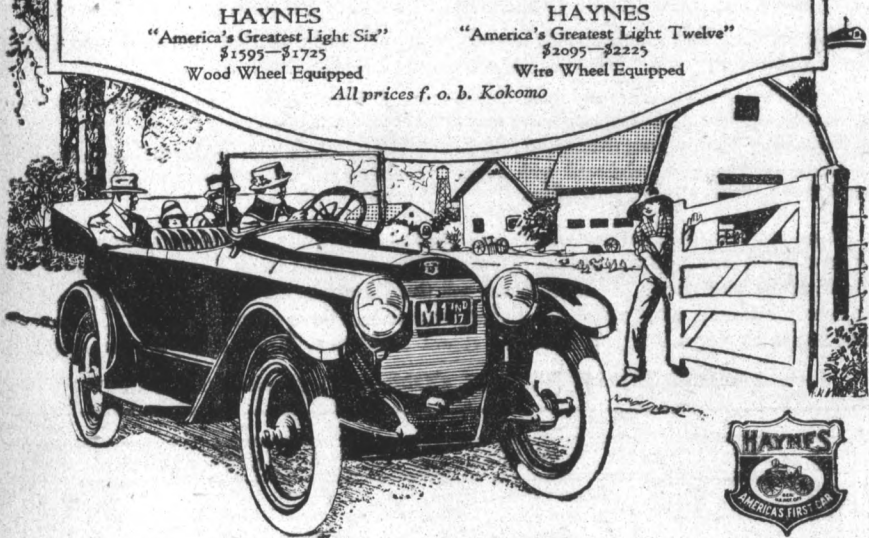
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form my share of the adventure. But —but I do not like the part assigned to me."

"You fear you might find it difficult to carry out the deceit?"

She turned and faced me, and there were tears in her eyes, which she swept indignantly away with a swift gesture.

"You have used the right word," she exclaimed, no longer hesitating in speech. "I am not accustomed to deceit, Mr. Hollis; I have never learned how to lie, or conceal my feelings. I doubt if I can do it even now to save our lives; indeed, I doubt if even the preserving of my own life is worth the sacrifice of my sense of honor. I am not afraid physically; it is not that; but you ask me to permit this fellow to make love to me, and I am to encourage his hopes, and pretend to yield to his advancements. You ask me to lower my womanhood, to take my place on a level with a girl of the streets, and pretend to sell myself for a price. Is this your conception of my character?"

It was as though she had slapped me in the face, yet I was ready, half anticipating she might assume this position.

"No; but I believe you willing to sacrifice your conception of what ordinarily seems right to save this ship, and the lives of those aboard; to preserve Philip Bascom's fortune. You cannot decide the question of duty by the rules of New York. We are in a desperate condition on the high seas, utterly helpless except for your efforts. Besides you overestimate the indignity. There need be no love-making, no pretense at love. You seemingly yield to force, surrender to fear; that would be the only way in which McCann would expect to gain your consent."

"You—you wish me to do this?"

"It appears to me as our only hope."

"And if I do, you will not despise me? You will not feel my action unwomanly?"

"I feel that of you? Never; why it would be impossible for me to conceive of your acting unworthily!"

She held out her hand.

"Then I will try," she said simply, her eyes uplifted to mine.

CHAPTER XXIX.

Words of Love.

MY hand clasp tightened, and the long lashes shaded her eyes, concealing from me the mystery of their depths, a brighter color flooding her cheeks. Outlined against the open port, and the blue of the water beyond, the fresh young beauty of her face was almost a new revelation. The words she had spoken, her manner, her sudden surrender to my wish, perplexed me, and completely overcame my effort at self-control.

"Why did you ask me that?" I questioned, scarcely aware of my words.

"What?"

"If I would despise you; would deem your act unwomanly?"

"Because—because I had to know. It does not even yet seem right to me—altogether. I—I could not do such a thing unless you approved."

"You have faith in me then?"

"Yes—yes; I—I believe in you."

"And you mean you would have refused to take such action if I had not urged it upon you, and had failed to assure you that doing so would in no way lower my respect for you?"

Her eyes flashed up questioningly into my face, only to be instantly lowered again.

"Yes."

"Not even to save your own life?"

"I have always felt there were conditions more to be dreaded than death," she answered slowly. "Mere association, such as you describe this adventure to be, with Fergus McCann, may not be such a condition—yet I shrink from it. For I abhor a lie, and above all deliberate treachery. I can scarcely conceive that even fear of death will justify such action. I have chosen my

course, not because it may preserve my life, but for the sake of the others helpless on board this miserable vessel; because of the crippled man locked in his own cabin; because of the mother praying for him in Philadelphia. Oh! Mr. Hollis, can you not understand?"

"Yes; believe me I understand. I only fear I never before knew there was such strength of womanhood in the world."

"You mean that! you feel what you say?" the girl's voice had a new note of confidence. "You have not merely expressed confidence in me in order to achieve your purpose?"

"I could not speak anything but the truth to you, Vera, why do you question me like this? Why should you hesitate, doubt, when you realize, as you must, that only through you, and your power over McCann, Philip Bascom's life and fortune can be saved?"

"Because I would not save them at the cost of your respect."

"Mine! you think that of me?"

"Yes," she said, and now her eyes met mine frankly.

"I think that of you, Robert Hollis."

This avowal quietly, honestly spoken, sent the hot blood tingling through my veins, yet left me for the moment speechless. I could not, dare not hope that her words meant all they seemed to mean. She must have read the bewilderment in my face, for she did not hesitate.

"I realize how you have looked upon me from the time of our first meeting on the dark deck of the Esmeralda," she said, her emotion evidenced only by a tremor in the soft voice. "I have been to you a mere girl. No; do not interrupt with denials, for it is better I should go on. That was your thought of me, as it has been the conception of other men. I believe Fergus McCann considers me from that viewpoint also, and hence possesses such faith in conquering me through fear. I must appear childish, perhaps act so, to leave this impression upon the mind. But I am not a child; I think and feel as a woman; indeed, I have cause to believe that my life—lonely and without companion of my own age—has made me older in experience than my years. Why do I confess this? Because I believe the time has come when you should know. I am going to carry out your desire; I am going to outwit Fergus McCann, and overcome his villainy. I am going to lower myself; renounce my ideals, for your sake."

"Mine! oh, no; you cannot mean that—there are others."

"Yes, there are others. I sympathize with, and am glad to serve them. Yet their fate alone—even my own peril—would never have led me to make this decision. You—you have asked it of me, and you have said to me—honestly, I believe—that such action on my part will in no way lower me in your esteem. I trust you, and am willing."

"You care, actually care that much for me?"

"Is there any disgrace, any unwomanliness in saying so? We are in desperate stress, all of us. Even death may be but a few hours away. If we are saved it must be accomplished almost by a miracle. This is no situation to be ruled by social conventions, or lack of frankness in speech. I do care for you, Robert Hollis; you would have known it long ago if you were not blind in such things. I may appear to you a girl, but I have a woman's observation and experience. I have not failed to see and understand; that is why I am unafraid now to tell you the full truth. You have cared for me ever since we were in the boat together? Is this not so?"

"Yes, but I never thought—"

"Of course not; you are not the sort of man who would. You have not made a life study of women; perhaps that is why I trust you so thoroughly. But I

knew, even if you said not a word; I read it in your face, your manner; in the way your eyes followed me about. Sometimes I believe it was your silence, your lack of confidence in yourself; the absence of conceit in your nature which won my response. If—if you had made love to me Robert Hollis, I would have laughed at you; but—but now I do not feel like laughing at all."

"You do love me! you—you love me?"

"Oh, you mustn't compel me to say that! It is enough to confess I care; that I am interested. If it was not for the desperate chance I am about to take I should never have said these words. They sound unmaidenly, immodest; but you will not place that construction upon them. We simply must understand—you and I. I cannot go to Fergus McCann pretending to yield to his desires, to conform to his wishes, without you comprehend first of all that I do this not even to save my own life, but—because I love you. I know what has stood between us; what has sealed your lips; what has made you hesitate, and kept you silent. It is my father's millions. Well, they are not here; on this doomed ship, facing death together, we are simply man and woman."

"And you love me, you really love me?"

"As woman never loved before I believe," she answered gravely. "I love you."

I know not what time passed as I held her in my arms, and whispered those words repressed so long. Almost had I forgotten where we were, the nature of our surroundings, the fate which threatened us. I could remember only her, the velvety touch of her flesh, the welcoming light of love in her eyes. I know not what we talked about, conscious only of the joy of being alone together, with every barrier between us swept away forever. The sunshine poured in through the open port, touching her hair with threads of golden light, and leaving a bar of brilliance across the stateroom deck. Beyond I could see the wide stretch of ocean, deserted and desolate, the waves crested with silvery foam, and a deep blue in their hollows.

Yet I imagine the respite was not long. There came a sharp rap upon the wood of the door, bringing us instantly back to a realization of our position. Her arms released me, and I arose to my feet.

"What is wanted?"

"It's a few minutes till noon, sir," said a voice I failed to recognize. "And I'm to tell you to come on deck."

"Quite right, my man, I'll be there at once. Stand by to carry the instruments."

"Aye, aye, sir."

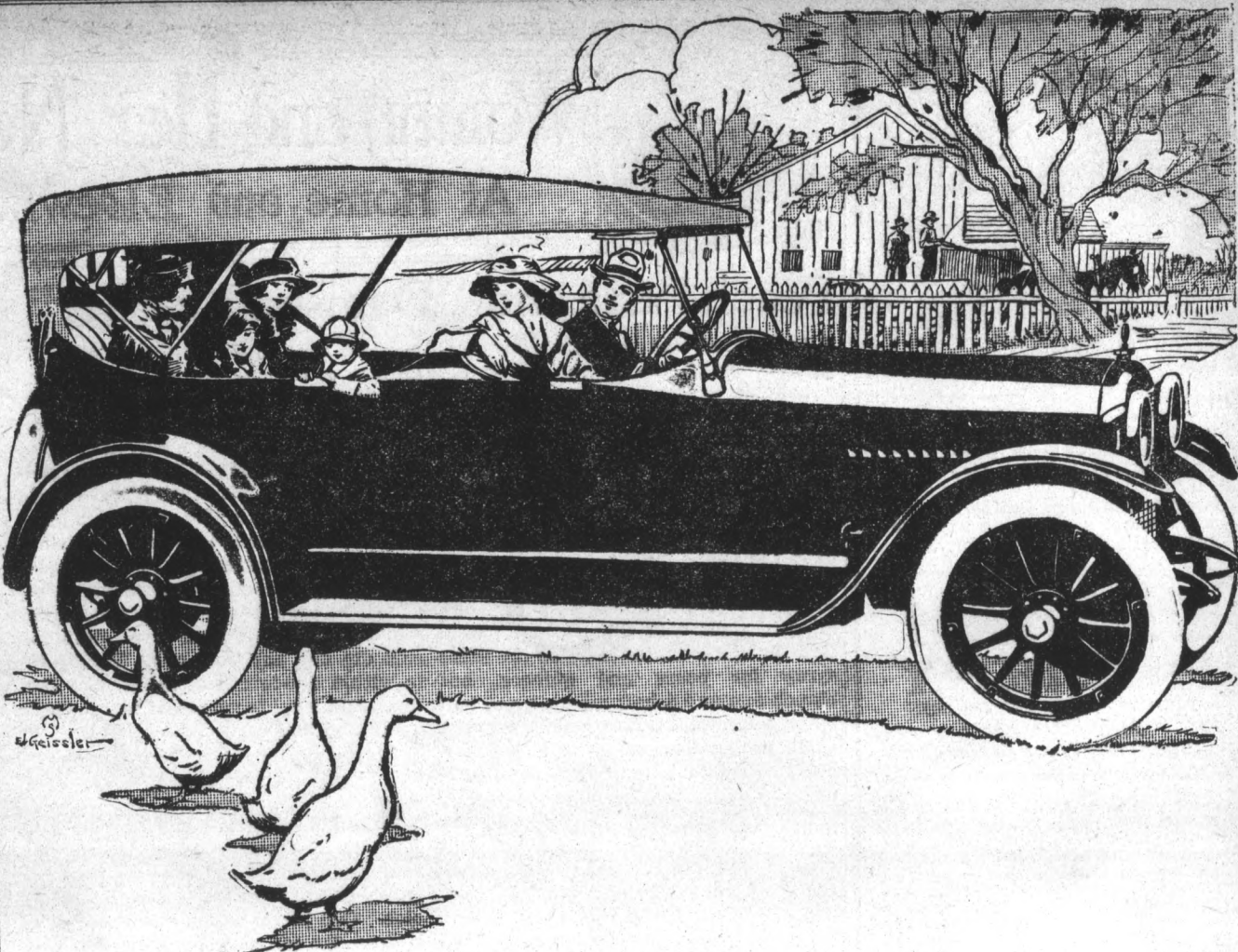
There was a certain cheerfulness and respect in the voice, which convinced me the fellow was not among the ring leaders, but the hope of making him an adherent to our cause vanished when I opened the door, and recognized Dade. The man was too weak, too much of the jellyfish, to render his friendship of any particular value. Besides, Dugan was also in the cabin, leaning idly against the stair-rail, but quite as evidently on guard. I nodded to him, but he only condescended to stare in return, and the look in his eyes convinced me that he had not yet forgiven the rough treatment accorded him a few hours before. The memory made me smile.

"I've seen you when you looked happier, Dugan," I said carelessly, "but I imagine you have nothing on White."

"To hell with yer," he growled savagely. "If I had my way ye'd have no tongue left to get smart with. Get along now after yer things."

Dade followed me into the captain's stateroom. He was obedient enough, but reluctant to talk, no doubt afraid of being overheard by Dugan. The lat-

(Continued on page 251).



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Peach Paste and "Damson Leather"

ALL fruit and vegetables are now occupying the attention of the home canner, and peaches, pears, plums, corn, tomatoes, not to mention pickles and relishes, will have the stage for the next few weeks. If you can your peaches by the cold pack method, make a syrup of three quarts of sugar to two of water, boiled just until the sugar is dissolved. Skim off impurities and pour over the fruit, which has been blanched exactly one minute, then cold dipped and pared. Boil for sixteen minutes. Use the same syrup for pears and quinces, but blanch one and a half minutes and boil twenty minutes. For plums use the same proportions of water and sugar, but boil medium thick, that is, until it rolls up over the edge of the spoon.

Fruit pastes, or leathers, are easily made and are delicious served with cream cheese or nuts and as a garnish for cakes, custards and meats. They are also served alone as a confection. To make peach paste, cook fruit until tender and rub through a colander. Drain off the juice and bottle for pudding sauce in winter or iced drinks in summer. Allow one-half pound of sugar to every pound of pulp and cook over a slow fire until very thick. Then rub a large platter or marble slab with salad oil and pour on the paste in a thin sheet, cover to keep out insects and place in sun or draft for two days, or until it is dry enough not to be sticky, but not hard nor leathery. Cut in fancy figures, or in square or oblong pieces, sprinkle with granulated sugar and let stand two days in draft. Then dip in granulated sugar and pack in boxes like candy, with paper between. Damson plums may be made into "Damson Leather." The skins are left on and the fruit is not strained. When dry, the sheet is sprinkled with sugar, rolled like a jelly roll, and cut into slices.

If you are short of cans, try drying part of your pears and peaches. A home-made tray may be made by first making a frame of strips of lumber three-fourths of an inch thick, two inches wide and four feet long, to which laths are nailed one-eighth of an inch apart to form a bottom. Instead of laths you may use galvanized wire screen, when the frame of your tray should be the length of the width of the screen. Peaches are simply peeled, cut in halves, pitted and spread on the trays. They may be dried in the sun, or suspended over the range, or dried before an electric fan. Stir occasionally while drying. Pears should be placed in a colander and steamed for ten minutes before placing on drier. They may be cut into eights, or into rings with a vegetable slicer. Onions which are hard to keep through the winter, may also be dried. Peel and cut into slices from one-eighth to one-fourth of an inch thick. Then place in a wire basket, or a square of cheesecloth, and plunge into boiling water for five minutes. Dip in cold water and pat between two towels. Then dry on rack.

After removing from the rack all dry products should be placed in boxes and poured from one to another every day for three or four days. Then store in paper bags, salt sacks, stout pasteboard boxes with tight covers or patent paraffin cartons. Keep in dark, cool dry place.

In canning vegetables by the cold pack method use the following rules: Blanch beets five minutes, cold dip and

peel, fill cans to within three-eighths of an inch of top and boil one and a half hours. Blanch lima beans five to ten minutes, depending on age, fill cans full and boil two hours. Steam carrots five to ten minutes, fill jars and boil one and a half hours. Plunge tomatoes into boiling water for one and a half minutes, pack into jars, pressing down with a tablespoon, do not add water, but add one level teaspoonful of salt to each quart. Boil twenty-two minutes. Blanch corn five minutes, cold dip and cut from cob. Pack jars to within one-fourth of an inch of the top. Add level teaspoon of salt to each quart and boil three hours.

LETTER BOX.

Household Editor.—In your paper of August 25 I was reading where you said you would be glad to help in regards to canning all kinds of vegetables. Can you give me any good plain recipes for canning corn, rhubarb and beans, and your cold water method of canning. Please let me know at once as the vegetables are almost ready for canning. A good book of canning recipes would be appreciated. Thanking you for same.—Mrs. F. G.

Cook the corn on cob five minutes in boiling water. Plunge in cold water, take out immediately and cut the corn from cob. Pack directly into hot cans to within one-fourth inch of top. Fill with boiling water, add a level teaspoon of salt to every quart, put on rubbers and screw tops down until they just touch rubber, but not tight. Then put in boiler or lard can on false bottom, have container filled with enough boiling water to cover top of can one inch, and boil for three hours. Remove from boiler, tighten covers, if the cans leak put on new rubbers and boil ten minutes. Beans should be blanched in a colander over steam for from five to ten minutes, depending on the age. Remove and dip in and out of cold water. Then finish as corn, only boil two hours instead of three. Can rhubarb by the cold water method, which means simply to wash the rhubarb, cut up as for sauce, pack cans full and pour on cold water till cans overflow. Then seal as if the fruit were hot. The cans, rubbers and tops must be boiled for five minutes before using. Any very acid fruit may be kept this way, as rhubarb, cranberries and gooseberries. The acid in the fruit acts as a preservative. Write to the Department of Agriculture, Washington, D. C., for Farmers' Bulletin, No. 839. This gives full directions for canning and is free.

Household Editor.—I saw your article in the issue of August 25, and in reply am asking some help. Does anyone know of any way or ways to use the little red wild cherries? There are lots of them here and as other fruit is scarce I would like to use some of them if I knew how. Thanking you for help I have received from your corner.

I am sending some recipes I find very good.

Cucumber Catsup.—Grate three dozen medium sized cucumbers (green), sprinkle with salt and pepper to taste, add eight small sliced onions, heat cider vinegar to cover, turn over and bottle in wide mouthed bottles or can in pint cans.

Tomato Catsup.—To every gallon of sifted tomatoes add a scant half tea-cup of salt, half a cup of white sugar, one pint of good cider vinegar, half

teaspoonful of red pepper, one teaspoonful of cinnamon, three teaspoonfuls of cloves may be added if liked. Cook half away then seal.—Mrs. C. R. K.

Have you tried making sauce with the cherries, to see if you would eat them after they are canned? Perhaps you would not like the flavor of them cooked. If they are very acid they could be put up by the cold water method given in the answer to Mrs. F. G. Try making a marmalade, or butter with them. Cook up and strain out the pulp through a colander, mix with equal weight of sugar and cook slowly, stirring frequently for marmalade. For butter use three-quarters the amount of sugar and add spices. This will take a great deal of sugar, but it may be substituted for butter next winter with the breakfast toast or in the children's lunch. Make only a small quantity at first to see if you like it.

Household Editor.—Will you please ask some kind reader of your paper to give a recipe for making the old-fashioned raw chowder that our grandmothers used to make?—L. A. J.

Bulletin No. 839 a Great Help.

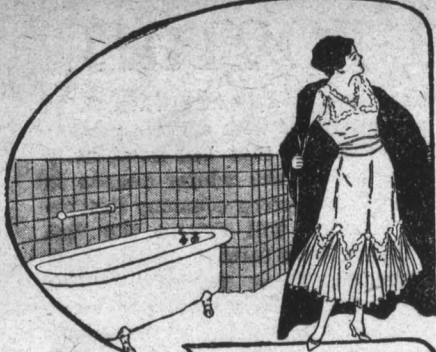
Dear Deborah.—Replying to your article, "How You Can Help Us," in last week's Michigan Farmer, would say that I have canned fifteen pints of peas and three pints of beets by the one-period cold-pack method, and if they taste as good as they look, I shall consider my efforts a success. I have never canned vegetables before (except sweet corn, which I put up in brine quite successfully), and I can my fruit the old way in a kettle on the stove, but think I shall try a few cans the new way. I sent for the Farmers' Bulletin No. 839 as suggested by you, and am more than pleased with it. Every farmer's wife should have one. For canning peas I followed directions given in the July 7 Farmer. For my water-bath outfit I used an ordinary enameled kettle, with an inverted perforated pie tin for the false bottom and a pressed pan for cover, and I also made the hot blanching water serve for the water-bath.

A dear old lady told me how she cans beets, and I pass it on to you. Boil till tender as for immediate use, and put into sterilized cans, hot, with the skins on, and fill with the water they are boiled in. They keep their color with the skins on, and are ready for use as desired. I shall can some this way, and hope to can sweet corn by the cold-pack method, when it is ripe.

Will someone tell me how to pickle small onions? Also cucumbers?—C. G., Ann Arbor.

The following recipes I have used for ten years. They are by Fanny Merritt Farmer. The one for Gherkins is especially good, but two or three friends to whom I have given it complain that their pickles are soft. I think that is because they cooked them too long. I only put in a few cucumbers at a time and just let them boil up. Mine are always crisp and hard. Thank you for your letter. I am sure the cold-pack vegetables will be a success. I did not try it with beans, as a neighbor told me she always simply cooked hers as for the table and canned by the open kettle method. I have now twelve quarts left out of twenty-two, which is sufficient to send me back to the cold-pack method next year. To date the only women I know who have not had beans spoil are the ones who used the cold-pack way.

Gherkins.—Wipe 400 small cucum-



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Drain Lake Farm Lands, Clay loam soil, guaranteed fertile, on long time, small cash payment. Write JNO. G. KRAUTH, owner, Millersburg, Mich.

bers and soak for twenty-four hours in a brine made of two cups of salt to two cups of boiling water. Drain, wipe and soak six hours in one gallon of boiling water and one tablespoon of alum. Drain and cook the cucumbers in the following mixture: Two quarts of vinegar, four red peppers chopped, two tablespoons of mixed spices, two tablespoons of whole cloves, two four-inch sticks of cinnamon broken in pieces, first boiling the mixture eight minutes. Put pickles in a crock and strain liquor over them. This makes not quite one gallon.

Pickled Onions.—Peel four quarts of small white onions, button onions, so-called, and soak for twenty-four hours in brine made of one and a half cups of salt and two quarts of boiling water. Then boil onions five minutes in fresh water; drain and put in wide-mouthed bottles with bits of red pepper, mace and white peppercorns. Fill the bottles with hot vinegar scalded with sugar in the proportion of one-half cup to two quarts of vinegar. Cork while hot.

DEBORAH.

DRY VEGETABLES FOR SOUPS.

The wise provider will store large quantities of dried vegetables for winter stews and soups. If she be pressed for time, and sugar be scarce, she may put up ample supplies of dried fruit for preserves later, or to be used, after soaking overnight, like fresh fruit for sauces and desserts.

"CONTRABAND."

(Continued from page 249).

ter remained below as we passed out through the companion onto the deck, and I wondered what his orders were regarding the girl. Now that they had me out of the locked stateroom, and the two of us peacefully separated, the chances were strong that McCann would prevent our ever being together again. Yet, in spite of this fear my heart was light, and I possessed a new feeling of confidence and hope.

The conspirators were grouped on the after-deck waiting my arrival, and I followed Dade up the ladder, determined they should perceive no change in my demeanor, which might awaken suspicion. White, I noticed, was not present, but Liverpool and Dubois stood beside McCann, close to the port rail, while the negro, Watson, was at the wheel, the whites of his eyes conspicuous as he lifted them from the binnacle card. McCann's manner was far from cordial as I approached, but I thought it best to ignore his churlishness.

"You were long enough coming; perhaps you still think yourself in command?" he said savagely.

"That would indeed be a stretch of the imagination," I replied, holding my temper, and motioning Dade where to place the sextant. "However, I do not think I have wasted any time—it is still two minutes of twelve."

He growled something, but I busied myself with the observation, only anxious to make it accurate enough for my own use. Whatever figures I reported, it was absolutely necessary that I know myself the exact position of the ship. I did not dare to juggle them greatly in my report, for while McCann was far from being an expert navigator, he yet possessed a smattering of knowledge, which rendered him dangerous, and he was very sure to check up my figures with every possible care. He stood beside me now, observant of each movement, his few questions breathing suspicion. However, I fooled him by a point or two, sufficient for my purpose, and wrote down the result on the back of an old envelope, while stowing away the correct figures in my own brain. The three compared the position given them with the chart, discussing it in low tones, while I crossed over to the rail indifferently, and took a survey of the sea. (Continued next week).

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WE have the following lands and stock for sale. 15,000 acres of fine unimproved lands, well located, easy terms. 230 acre tracts of land situated 5 mi. from Gladwin, on daily mail route. All fenced with woven wire, 10 acres of each tract under fine state of cultivation with 3 acres in fruit, 35 acres more in each tract brushed, logged and burned. Sheep Ranch of 300 acres, all fenced, living water. 65 acres of this ranch cleared, 25 acres of which is under fine state of cultivation with fruit. House 18x26. Sheep shed and barn 64x80 built this season, 165 hd. of Sheep, with clover hay, grain and straw sufficient for wintering same. Also 160 hd. of Yearling steers, Herefords, and Angus. McCLURE STEVENS LAND CO. GLADWIN, MICH.

Grain and Stock Farm For Sale. One of the best in Co., 80 mi. So. of St. Louis, 2 1/2 mi. from Mountain Sta. on Mo. R. R. 112 A, half under cultivation, good level valley land. Would sell under cultivation and implements if desired. Healthy climate, spring water. An account of old age will sell this fine farm at \$42 per acre. Bellevue, Mo. J. C. ROEHRS.

VIRGINIA FARMS Fifty page illustrated catalogue free, describing blue-grass, alfalfa, stock, dairying and grain farms; also Colonial homes, and water front properties in best section of Virginia. Fertile lands, prices right. Established in 1895. L. M. Allison Co., Remington, Va.

Administrator's Sale 135 acres, good land, well fenced. 40 acres under cultivation, small orchard, log buildings, 300,000 ft. good hardwood timber; 3/4 miles to D. M. R. R., 4 1/2 miles from county seat. For prices and particulars write: ROBERT SHEPARD, Mio, Mich.

FARM for sale. A good farm 160 acres six miles from Brighton, Mich. on good road, near school, running water. Barns old but lots of room. Good soil all seeded down. \$50 per acre if taken soon. FRANK E. BIDEWELL, Admin. Brighton, Mich.

245 Acre farm near Davisburg, Oakland County. 2 basement barns, 10 room house, 175 acres plow land, 40 acres timber, good gravel clay loam soil, and very productive. Price \$14,800. BROOKS & MONTGOMERY, 412 Hammond Building, Detroit, Mich.

WANTED To purchase a fruit farm in Grand Traverse or Antrim Counties, prefer farm with lake frontage. In answering give full particulars. Address, A. MILNER, care of Gen'l Delivery, Evanston, Ill.

FARM 60 acres level land, good 8 room house, good barn, an imperishable silo, good well, 2 1/2 miles from town, good gravel road, all good land, 2 schools—one is 1 mile and the other is 1 1/2 miles, land is all under cultivation. JOHN A. KOLB, Scottville, Mich.

Farm for sale three (forties), two (eighties) and (160) 220 acres in all. New house, new barn with basement all on good road, 6 miles to good market. Box A. 922 care of Michigan Farmer, Detroit, Mich.

ONE THIRD PRICE

14 inch power Ross Cutting Box. Good as new. Double head—Knives and shredder head. H. M. Ferry, 418 West Canfield, Detroit, Mich.

Phases of the 1917 Marketing Program

By W. T. RUB

NEW conditions present themselves to the farmer as he considers the proposition of marketing his 1917 crops. At no time in the history of American agriculture has the world looked to this country more longingly for the products of her farms than at the present moment. And while her broad acres have responded with bountiful crops to satisfy the needs of her own people and furnish a surplus to the suffering abroad, the farmer finds himself confronted with handicaps that may make it physically impossible to deliver much of the feed he has produced to these needy nations.

The Labor Handicap.

While he has been impelled by the incentive of high prices and by patriotic duty to put out a maximum acreage, in many cases these have led him to plant way beyond his ability to harvest even under the labor conditions as they were last spring; and now he is facing the situation with even much of that assistance gone by the boys being taken to military camps. This means that the harvesting and marketing of the farm products must be accomplished with the greatest saving of energy and time. In fact, we believe that much of the work usually devoted to the putting up of certain products, such as fruit in fancy grades and packages to attract the eye of the buyer, will need to be dispensed with to save the labor for more economic purposes. Careful grading and packing are proper and desirable practices in normal years, but under present conditions both the producer and the buyer should recognize the general situation and make an effort to save the quantity and allow the satisfying of particular tastes to adjust itself to war times.

Federal Control.

Then the hand of the government has come in as a factor in the marketing of this year's farm products. The price on wheat has been established already and it is probable that some of the other staples will be added to the list. What effect is this action going to have upon those grains and substitute products not included in the list of those priced by the federal authorities?

In general the establishing of a price for wheat should aid in steadying the prices on corn, oats and other grain products. But still the law of supply and demand may have its effect. If these other products were scarce the price would advance and the attention of buyers will be turned to wheat in those cases where wheat can be substituted for the other products, while the demand where no substitution with wheat can be made would hold the price above the price warranted by that fixed on wheat. This may be illustrated by the present trend of values in the corn market. On the other hand, if the corn crop should be large and other cereals so productive as to make an ample supply many consumers would leave wheat products at the established price and substitute other grains. This shifting would, of course, have a tendency to bring the prices of the other grains or products nearer to that established for wheat and yet it is possible that such a large supply of these crops may be gathered as to keep their relative prices below the standard established by the government in the case of wheat.

But there is little possibility that either of these situations will develop unless some abnormal weather conditions are experienced or some radical political or economic changes take place. Consequently it is reasonable for Michigan farmers to expect to secure a price for potatoes, beans, corn and oats on a parity with \$2.20 wheat.

Again, the live stock situation pre-

sents to the farmer a problem that calls for a careful consideration of these new conditions. At present prices should he dispose of his cattle and other animals and sell his crops without feeding, or should he market these crops in the form of animal products? And further, should he increase or decrease the number of his stock animals? The present high prices for food stuffs, the willingness of the stock markets to take animals in almost any degree of fitness, and the farm labor situation tempt the average farmer to reduce his live stock activities. But it is the consensus of opinion among those who have approached the question from different angles that there is a very attractive market just ahead for the producer of animal products.

European Herds Being Depleted.

The present international disturbance has made great inroads into the world meat supply. In the central and western European countries very large numbers of the stock animals, in some sections all of them have been killed to supply meat and to save for human consumption feeds that would be required to maintain the animals. This not only eliminates their home supply for the present but will make it necessary to import an extra meat supply for many years after the war is over, as these countries cannot build up new herds and supply any quantity of meat products at the same time.

The food administration has issued the following statement:

"A total decrease of 115,005,000 in the world's meat producing animals is shown in a comparison of present with pre-war conditions. While the increase of cattle in the United States was 7,090,000 during this period, the total world decrease was 28,080,000. Sheep decreased 3,000,000 in the United States and 54,500,000 in the world. Hogs increased 6,275,000 in the United States, but decreased 32,425,000 in the world supply.

Demands on U. S. Supply.

"The demands made by war on the American meat supply is further shown in the growth of our meat exports for the year ending June 30, 1916, which were 1,339,193,000 pounds as compared with 493,848,000 pounds for a three-year pre-war average. These exports have chiefly gone to our allies, whose capital stock of animals has decreased by 33,000,000 head.

"Although the European countries have drastically reduced meat consumption among non-war workers, this saving has been overcome by the greatly increased demands to supply men in the armies and shops, and the women who have taken up physical labor. This demand has been so great that Europe has been eating into its herds at an alarming rate, and this condition will continue to grow worse each day as the war progresses. This is a problem that America must meet, not only during the war, but after it has ended.

Problem Facing America.

"The problem facing the American people is not only one of supplying the immediate demand of the allies, but one which is more far-reaching in its future significance. As the war goes on there will be a constant lessening of the capital stock of food animals of the world. Among our western allies, the demand outruns further every day the decreasing production, and as shipping becomes further shortened by continued submarine destruction, less tonnage can be devoted to fodder, and further reduction of the herds must ensue."

Dairy Products.

This depletion of European herds extends to dairy cattle as well as to meat producing animals. As a result

unusual demands have been made upon this country for condensed milk as in this form milk can be transported great distances and stored for use when needed. Not only the armies but the civilian populations of the central and western European countries depend upon the condensed milk supply to satisfy their needs for liquid dairy products. This demand will no doubt continue for a long period after peace has been declared or until the dairy herds are restored.

Opportunity of Our Farmers.

During the process of rehabilitating the stock on the farms of war-ridden Europe prices for the animals as well as for animal products are bound to remain high. The practice of bringing foreign-bred stock to this side will likely be reversed and European breeders will soon be coming here for animals to use for foundation stock. The whole program promises to work to the advantage of the American farmer who keeps up his supply of farm animals. And the best part of it is that while he is waiting for these new situations to develop he is confronted with an unprecedented demand for the surplus stock, dairy products, wool, etc. The position seems to be framed up so as to guarantee him against loss.

Marketing Waste Products.

The case is made still stronger by the fact that our farmers have on their farms many products that it will be impossible to market directly. In some sections the corn crop is or will be hurt by frost before it matures. The practical method by which corn in this condition can be cashed in is to feed it. It may be put in the silo, or hogs and cattle turned into the field, or the crop husked out and the soft ears fed to the hogs immediately and whatever hard corn there is saved for future feeding. There is also a big crop of bean straw. In cases where the crop is frosted before it has matured sufficiently to be threshed an abundance of high-class sheep feed will be available. The only way in which the farmer can get returns from a crop of this kind beyond the fertilizing value is to feed it to sheep or lambs. Pea straw is another product that may be fed to advantage to sheep or cows. Then our large acreage of sugar beets will yield a lot of feed from the parts that are left on the field. Oat straw, inferior hay, corn fodder, etc., are also to be considered.

Cooperation Activities In Michigan

MILK producers of Bay county have plans for establishing a central distributing station at Bay City, where milk will be delivered, sterilized and bottled and where any surplus may be manufactured into cheese. A committee has been investigating the central depot systems now in use in Saginaw and Port Huron.

Beginning September 1 the price of milk to retailers in Grand Traverse county was advanced 65 cents by producers, or to \$3 per 100 pounds. Edwin Black is president of the organization and J. W. Hart is secretary.

Delegates from thirty of the cooperative live stock shippers' organizations in southern Michigan, met at Jackson and formed the Michigan Cooperative Federation of Live Stock Buyers, with officers as follows: President, E. A. Dunton, Coldwater; vice-president, L. C. Kelly, Charlotte; secretary and treasurer, C. J. Miller, Union City. The members oppose a uniform insurance rate for stock in shipment and would have this matter left to the judgment of each association. A plan was recommended for standardization of the brands and for standard

In times like the present when there are many nations with a large portion of the population that will be actually starving before the winter season is past and where every economy that we might practice will extend the "let live" line a little farther out to these unfortunates, these products which would otherwise be wasted should be husbanded if possible by marketing through domestic animals instead of selling the animals prematurely and allow the feeds to waste.

Loyalty to Cooperatives.

The idea of saving all the bulk products for home consumption that it is possible to save with the limited amount of labor available, should be the ambition of every farmer. He should do this, not alone with the idea of increasing his income by selling a larger surplus of the other crops that are merchantable, but also that he may be doing "his bit" toward keeping our soldier boys well fed when they arrive on foreign soil and our allies supplied with the maximum amount of food stuffs that we are able to send abroad.

Cooperative marketing may suffer in times like the present because good prices are being paid by private concerns for almost all grades of farm and orchard products; but on the other hand, speculation has been discouraged to an extent that the community associations are not likely to be subjected to the usual competition of those who wish to force the cooperatives out of business. Farmers should interest themselves in keeping alive their respective organizations by patronizing to the fullest extent and urging the adoption of methods that should best serve the market needs of the year. Perhaps no movement could have served the government more effectually in its present endeavor than a thoroughly organized agricultural population, as it would have been possible to use such associations for the spreading of its "speeding up" propaganda instead of the hurriedly organized committees of various sorts. However, even now the economies in the use of labor, and the better distribution of farm products affected by the organizations should encourage producers to do their utmost for the propagation and perpetuity of these cooperative enterprises.

In all it behooves the farmer of 1917 to be thoughtful in the solution of his marketing problems as his method of disposing of the products available may mean much to the future income from his farm.

Restoring of the stop-over privileges for live stock in transit is recommended, a privilege that is granted the manufacturers. A resolution was adopted opposing the unrestricted limitation of sale of veal calves.

The Branch County Cabbage Growers' Association met at Coldwater and voted to accept the sales service of the North American Fruit Exchange this year, paying \$15 per car or \$1 per ton for same. This year's output is estimated at 300 cars. Arrangements have also been made with the cooperative associations at Coldwater and Quincy to take care of loading, billing, weighing and distribution of sales funds. Other vegetables may also be shipped through this channel.

The Barry County Milk Producers' Association has been formed at Hastings and starts with nineteen members. The officers are: President, W. H. Schantz; vice-president, Robert Martin; secretary-treasurer, A. G. Hathaway.

The Square Deal Cooperative Association was formed at Charlotte, Eaton (Continued on page 255).

Grange.

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
Overseer—C. H. Bramble, Tecumseh.
Lecturer—Dora H. Stockman, Lansing.
Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Bronson.

GRANGE ANNUAL PICNIC A JOLLY AFFAIR.

The annual picnic of the East Casco Grange, held recently at Fowler's Grove, proved in every way to be a great success. The outskirts of the grove and the edge of the adjacent roadway were lined with motor cars, wagons, carriages, buggies, and, in fact, every form and shape of conveyance, and it was readily seen that no member of the society who was able to walk or ride was missing from this meeting.

About half past eleven, the men in charge of the affair canvassed the crowd for baseball players. Two teams were soon formed, one made up of married men and the other composed of single men. Out into the adjacent field went the crowd, and witnessed there one of the most interesting contests which has ever been held at a picnic. After many amusing plays the game ended with the score seven to six in favor of the "singles."

After the game, the fans and players responded to the welcome dinner call. The tables had been set by the energetic ladies of the Grange, and it was not long before the entire crowd was busy making away with the choice morsels. When they arose from the table, (with great physical effort), there was almost enough left over to feed a regiment of German prisoners.

After several races had been held, the crowd assembled again under the trees, and listened to an interesting address by Alfred R. Urion. Mr. Urion, who was in Europe during the most of the war, spoke about the great conflict, the need of America to win the war for the Allies, and the danger of the efficient German spy system. He told of the mistake which Britain made in failing to watch the Germans at the beginning of the war, and said that our enemies were far from being beaten yet.

Following Mr. Urion's extended, but thoroughly interesting address, the program, with the exception of a few short talks about the affairs of the Grange by its members, was given over to entertainment along musical and elocutionary lines. Mrs. E. Fowler gave an interesting reading, and Roy Atkin rendered one of the more popular military marches as a violin solo. H. V. Kittle, the new agricultural instructor, gave a brief talk on the duties of an agricultural department in a school, and urged the farmers to feel at liberty to consult the high school agricultural force on any problem, no matter how large or small, which might arise to puzzle them.

Robert Adkin next took the platform and formed a novel and pleasing bit of entertainment in the form of a drum solo. Unlike many drummers, he remembered the size of his audience, and softened his touch accordingly, making music instead of noise. Miss Laura Ephram won a fine hand in her readings, and Miss Lauretta Brand drew great appreciation from her audience in her recitations. "The Bear Story" made its usual "hit," and was especially well told. Another reading by Miss Florence Hoard, "The Kaiser's Prayer," proved to be a timely bit of humorous verse, and was received with great enthusiasm. Miss Opal Johnston helped the entire program along with her music.

Farmers' Clubs

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

Associational Motto:

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

Associational Sentiment:

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

HOW SHALL WE OBSERVE "MEMORY DAY?"

September 30 having been designated "Memory Day" by Act of the Legislature of Michigan, and devoted to caring for the cemeteries within the state, and beautifying the graves therein with flowers and loving care, it is becoming that this day be observed by all friends of our dead.

It is suggested that the people meet at their cemeteries at two o'clock p. m. and the exercises be opened with brief remarks by the pastor, or other selected speaker, and followed by the reading of a selected "Memory Day" Poem, after which the "Memory Day" Hymn be sung and the exercises concluded with the placing of flowers on the graves of relatives and friends, not omitting the graves of those whose kindred are dead or far removed.

"Memory Day," thus observed, will awaken a helpful sentiment in the community, and prove a blessing to those who observe the day.

As a people, we are becoming too fully devoted to that which is but material in its nature and effects, and we need the purifying and hallowing influences which will come to us through the observance of "Memory Day."

Very sincerely,

J. T. DANIELLS.

"MEMORY DAY."

BY C. R. COOK.

We will gather in the graveyard
Neath the bright autumnal sky,
Bringing flowers, sweet perfumed
For the graves where loved ones lie.
Trimming well each flowering shrub,
Climbing vine, and, shading tree,
Ere the wintry winds shall still
Singing bird and humming bee.

Treat well the "City of the Dead,"
Grading up each narrow walk,
While we care for graves of loved ones
Let the stranger's lot be sought;
Straightening up each leaning stone
With a tender thoughtful care,
For as we have loved ones sleeping,
Someone's loved one sleepeth there.

'Tis no mark of superstition
That we yearly gather here,
But a duty to remember
And we gather without fear,
Trusting in the Savior's promise
Knowing that beneath the sod
Only their ashes moulder here
For their Spirits are with God.

It is good, then, to remember
Those who passed along before,
For we shall pass, as they have passed
But the grave's an open door;
And beyond it's darksome portals
Lies a land, all free from care,
Where no graveyards mar its beauty
For no death can enter there.

We're but waiting for His coming
Whose loud shout shall rend the
skies,
And the graves, long closed, shall open,
And the dead in Christ shall rise,
Then the general resurrection,
So the Scriptures, we have read,
Death and Hell shall yield their harvest,
And the sea give up its dead.

If the Lord does not forget them,
It becometh you and I
To adorn with grace and beauty
Each low mound where loved ones
lie
Looking toward that great reunion
In the mansions, up above,
Where again we'll meet our dear ones
Who on earth hath claimed our love.



Corn Profit Nearly Doubled

NOW is the time to place your order for a Deering or McCormick husker and shredder.

The corn will soon be ready for harvesting. The ears must be husked — by hand or by machine.

The cost of husking is about the same either way. If anything, the husker and shredder does a better job of husking, and besides, at no extra cost, it shreds the two to three tons of stalks, leaves and husks that grow on every acre and blows this valuable shredded stover under cover, to be used during the winter as a first-class substitute for high-priced hay.

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Every branch of the business taught in 5 weeks.
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HOGS

O. I. C. & Chester White Swine, Strictly
Big Type, with quality. I have 20
Spring Boars that are EXTRA good. Of the most
popular blood lines. Will sell a few gilts when taken
in pairs. These pigs have been fed right, to do the
buyer the most good.
NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C. An extra fine lot of last spring
pigs, either sex and not skin. From
good, growthy stock. Farm 1/2 mile west of depot.
Otto B. Schulze, Nashville, Mich.

BOARS

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

O. I. C. Boars and Gilts all sold. I am booking orders
for March and April pigs either sex, single, or in
pairs not skin. A. J. BARKER, Belmont, Mich. R. R.

O. I. C. Thorough bred O. I. C. Swine all
sold out except fall pigs. R. D. 4.
O. D. Somerville, Grass Lake, Mich.

O. I. C.'S. All sold. Booking orders for the
best of our winter and spring pigs.
O. J. THOMPSON, Rockford, Michigan

O. I. C.'S. Spring pigs and Reg. Holstein heifers
from 5 to 15 months old. OLIVER
LEAF STOCK FARM, R. 1, Monroe, Mich.

P. C. SWINE Big boned Apr. boars. Sows
bred for fall farrow. Satisf.
R. W. Mills, Saline, Mich.
factory guaranteed.

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For Sale from the CHAMPION and GRAND CHAM-
PION and our other GREAT HERD BOARS and big
STRETCHY SOWS of very best breeding and individ-
uality.
HILLCREST FARM, F. B. Lay, Mgr.
Kalamazoo, Mich.

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So is starvation, every one should do their bit. You
can raise more pork on less feed if you breed Butler's
big type Poland Chinas. Sows bred for fall farrow.
Boars ready for service. J. C. BUTLER, Port-
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LARGE Type P. C. Largest in Mich. Spring Boars
ready to ship. The kind that make good. Come and
see the real big type kind. Expenses paid if not as
represented. Free livery from Parma.
W. E. LIVINGSTON, Parma, Mich.

Big Type Poland Chinas: April and May pigs, heat-
right. L. W. BARNES & SON, Byron, Mich.

LARGE Strain P. C. everything sold except 1 husky
yearling boar that is long, tall & deep. 1 extra choice
fall boar. R. O. SWARTZ, Schoolcraft, Mich.

LARGE type P. C. Some very choice summer gilts
bred to farrow in August. Will sell 1 of my yearling
herd boars. W. J. HAZELSHAW, Augusta, Mich.

Large Stiled Poland Chinas, fall and spring pigs.
at farmers prices. B. P. Block eggs
\$1.50 per 15. Robert Neve, Pearson, Mich.

Poland Chinas large and medium type.
Prices low for quality
of stock. P. D. Long, R. 8, Grand Rapids, Mich.

Big Type Poland Chinas, of April farrow, both boars
and sows, for sale.
A. A. WOOD, Saline, Mich.

Big Type Poland China boar now ready to ship, buy
G. W. HOLTON, KALAMAZOO, MICHIGAN.

Big Type P. C. Boars, March, April and May farrow
ready to ship. Sired by Grand Superba and Peters
Jumbo, Mouw Bred Boar. C. E. Garnant, Eaton Rapids, Mich.

HAMPSHIRE Boar pigs only for sale \$15 and up
as to age.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

Shropshire Ewes Good ones 5 & 6 years old \$30.00
each. Yearling rams & ram
lams \$5 up.
KOPEKON FARMS, Coldwater Mich.
Sheep at Lupton, Ogemaw County.

Registered Shropshires 50 ewes 1 to 4
yrs. old 75 ewes
and ram lams also a few yearling rams of quality and
breeding. Priced right. Flock established 1890.
C. LEMEN, Dexter, Mich.

Shropshires Big, early, reg. ram lams, for
coming fall trade, sired by imp.
Nock ram. Milo M. Gibson, R. 5, Lapeer, Mich.

For Shropshire Yearling or Lamb Rams and
P. C. Hogs, write or call on
ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Shropshire Ram Lambs, registered. Woolled from
nose to toes.
A. E. BACON & SON, Sheridan, Mich.

OAKDALE STOCK FARM. Shorthorn Cattle
and Shropshire Sheep. Stock for sale. W. J. Lessiter, Belding, Mich.

RAMS: Rambouillets and
Hampshires for sale.
A. A. WOOD & SON, Saline, Mich.

Registered Shropshire Yr. and Lamb Rams, one 3
yr. old flock header. All wool-mutton
type. G. P. ANDREWS, Danville, Mich.

Registered Spanish Merino Black Top Rams for
sale, 1 and 2 yrs. old.
RALPH N. HAYNE, Webberville, Mich.

MERINOS & Delaines, having quality, size, oily
fleeces, long staple, heavy shearers. Rams for sale,
delivered, S. H. Sanders, R. 2, Ashtabula, Ohio.

Shropshires a few choice Ram
lams; one three yrs.
old. DAN BOOHER, R. 4, Ewart, Mich.

WESTERN grade ewes, healthy and in good flesh, all
2 yr. olds, some pure bred rams.
BARNARD SHEEP RANCH, R. 5, Clare, Mich.

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18 Ram lambs at \$25 each. MEADOW BROOK
FARM, EARL C. MCCARTY, Bad Axe, Mich.

HORSES

For Sale Reg. Black Percheron
Stallion Colt

Weighing 1900 pounds at 24 mos. old Sired by a Stallion
Weighing 2100 pounds well bred and priced to sell.
M. A. Bray-Est., Okemos (Ingham Co.) Mich.

SHETLAND PONIES

200 head to select from. Special prices on colts for Aug-
ust and September. Write Dept. E. The SHADYSIDE
Farms, North Benton, Ohio.

REGISTERED PERCHERON

Mares and Stallions priced to sell. Inspection invited.
L. C. HUNT, EATON RAPIDS, MICH.

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

PERCHERONS three Stallions, one five, one two,
one one years old, one two year old mare (in foal).
E. J. ALDRICH, Tekonsha, Mich.

Markets.

GRAINS AND SEEDS

September 18, 1917.

WHEAT.—No variations have occurred in the even tenor of the wheat trade, quotations running in the groove established by the government. Millers are finding it a little difficult to get sufficient wheat to keep up with the big orders for flour that are now coming forward. For a long time back bakers and other consumers of flour have been working on day-to-day supplies, but now that they know the price they are anxious to fill their flour bins. On the other hand, farmers are so busy with the securing of other crops and seeding that they have no time to deliver wheat and so the elevators are unable to hand over to the millers the supplies they need. One year ago No. 2 red wheat sold locally at \$1.47½ per bushel. Present quotations are: No. 2 red \$2.19; No. 2 mixed red \$2.15; No. 2 white \$2.17. These prices have obtained throughout the past week.

CORN.—The present market depends very largely upon the prevailing weather conditions. The price dropped off 10c at Detroit and from six to 11 cents in other markets on Monday. The favorable weather conditions and the outlook for good weather for the present week were largely responsible for this decline. Another factor, however, was that prices for cash grain had soared to such high levels that it became economical to use wheat at the government's price as a substitute for corn where possible to do so. Some observers are increasing their estimates of the crop, although it is difficult to know the extent of damage done by recent frosts in some of the more northern corn-growing states. One year ago No. 3 corn was quoted on the local market at 86½c per bushel. Last week's Detroit quotations were:

	No. 3	No. 2
Wednesday	2.28	2.30
Thursday	2.28	2.30
Friday	2.28	2.30
Saturday	2.23	2.25
Monday	2.13	2.15

OATS.—There has been less selling of oats by farmers to local elevators than a short while ago. This is probably due to the inability of farmers to make deliveries because of a lack of labor, and also to the lower prices which now obtain. A year ago standard oats were quoted at 48c per bu. Last week's Detroit prices were:

	No. 3	Standard	White
Wednesday	63	62½	
Thursday	64	63½	
Friday	64	63½	
Saturday	63½	63	
Monday	62½	62	

RYE.—Offerings are small, but prices have declined, due to a slackening in the demand. Cash No. 2 is quoted at \$1.84 per bushel.

BEANS.—There has been a revival of interest in the bean crop, due to the approach of the harvest season and also to the damage done by the recent frosts. Farmers are not eager to contract the crop at prices which are substantially higher than those held out last summer when appeals were made for the planting of larger acreages. The government is reported to have established the price of beans at \$7.35 per bushel. No official information is at hand corroborating this report, nor indicating where this price is to be paid. Cash beans are quoted on the Detroit market at \$7.75 per bushel. At Chicago the trade is steady but inactive with pea beans quoted at \$7.50, and red kidneys at \$6.62½.

SEEDS.—Prime red clover \$13.25; October \$13.85; alsike \$12.50; timothy \$3.70.

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$11.80; seconds \$11.50; straight \$11.20; spring patent \$13.80; rye flour \$11.30 per bbl.

FEED.—In 100-lb. sacks jobbing lots are: Bran \$36; standard middlings \$40; fine middlings \$45; cracked corn \$90; coarse corn meal \$85; corn and oat chop \$66 per ton.

HAY.—In carlots at Detroit: No. 1 timothy \$17.50@18; standard timothy \$16.50@17; No. 2 timothy \$15.50@16; light mixed \$16.50@17; No. 1 mixed \$14@14.50; No. 1 clover \$13@13.50.

Pittsburg.—No. 1 timothy \$21.75@22.90 per ton; No. 2 timothy \$20@21; No. 1 light mixed \$19.50@20; No. 1

clover, mixed \$18.50@19; No. 1 clover \$19@19.50.

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

DAIRY PRODUCTS

BUTTER.—Demand active; market firm at 42½c for fresh creamery extras. Fresh creamery firsts 41@41½c.

Elgin.—Receipts are holding up well and demand continues good; 43c seems to be a fair basis.

Chicago.—Market firm at slightly advanced prices. Creamery extras are quoted at 43c; extra firsts 42½c; firsts 41@42c; packing stock 35½@36c.

POULTRY PRODUCTS

POULTRY.—Poultry in ample supply and demand is only fair. Spring chickens 24@25c; Leghorns 23c; hens 23@25c; ducks 24@25c; geese 16@17c per lb; turkeys 24@25c.

Chicago.—Market dull and generally lower. Fowls sell from 21@22½c per lb; spring chickens 20½c; ducks 19c; geese 16@18c.

EGGS.—Offerings small and there is an active demand. Fresh firsts were quoted at 37@39c per dozen.

Chicago.—Market steady for the best graded stock and weak for cheaper lots. Fresh Michigan firsts sell for 37@37½c; ordinary firsts 35@35½c; per dozen; miscellaneous lots, cases included 35@37c.

FRUITS—VEGETABLES

FRUITS.—Plums \$2.25@2.50 per bu; pears, Bartlett \$2@2.25 per bu; peaches \$1.50@2.50 per bushel for Elbertas.

Chicago.—Pears, Clapp's Favorite, \$1.50@1.75; Howell \$1.25 per bushel; peaches, Michigan Elbertas \$2@2.50 per bushel; plums, Michigan Green Gage \$2@2.25 per bushel.

APPLES.—At Detroit apples are quoted at \$4.50@5.50 per barrel. At Chicago No. 1 stock \$4@6 per bbl; No. 2 stock, according to quality and variety \$2@3.50 per bbl.

POTATOES.—Potatoes are in demand at \$1.40 per bushel. At Chicago Minnesotas \$1.15@1.27; Wisconsin at \$1.20@1.25 for White; do. red \$1.15@1.20.

WOOL

The outlook for the wool trade is for higher prices. Many of the mills are ready to pay the prices that the dealers have offered the raw material to the government for, but as the federal authorities have not passed upon much that has been submitted, transactions are being held in abeyance. The heavy season for the trade is ahead and with the added needs of the government, everybody is expecting prices to reach higher levels in the near future. Recent sales of fleeces have been made on the Boston market at from 55@85c per pound. Predictions are made that values will go to the 90c mark.

GRAND RAPIDS

Potatoes started off this week at \$1.25@1.50; tomatoes at \$1.50@1.75, with prices somewhat lower than last week after the frost damage. Early apples range from \$1@1.50; plums at \$1.75@2; pears \$2; grapes \$2@2.50 per dozen baskets. Eggs remain at 37c.

DETROIT CITY MARKET

There was a big market on Tuesday morning. Farmers were offering large quantities of vegetables and some fruit, which were taken freely by anxious consumers and merchants. Tomatoes sold at \$2@2.50 for ripe, and 65@75c for green; potatoes \$1.70@1.75; beans, string \$1.75; cabbage 40@45c; carrots 60@75c; onions \$1.50; cucumbers \$2@7, according to size; plums \$2.50@3; pears, good, \$2.25; apples at \$1.25@2.25; eggs 50c; loose hay is moving very slowly with the few sales contracted between \$14@18 per ton.

LIVE STOCK

BUFFALO.

September 17, 1917.

Receipts here today as follows: Cattle 232 cars; hogs 50 d. d.; sheep 40 d. d.; calves 1500 head.

With 232 cars of cattle here today there was a strong demand for all fat grades, with shipping cattle selling mostly a quarter higher and the medium grades strong, but the common quality steers and heifers sold very slow but about steady. The best cows sold fully steady, but the medium beef cows which have been going to the Jewish trade were very slow and lower as this being the Jewish New Years,

there were no Jews in the trade. Canners sold strong, bulk of them \$5.25. The stocker trade was about steady, but the bulk of the medium light bulls were 10@15c lower. We look for a fair run of cattle next Monday and a good trade on all fat grades.

Our hog receipts today were fully up to expectations, trading active and prices very little changed from the close of last week, excepting that the pig stuff sold about a quarter higher. A few of the best hogs, strictly corn-fed, sold at \$19, with the bulk around \$18.50@18.75; pigs generally \$18, with a few corn pigs up to \$18.25; roughs generally \$17.50@17.75; stags \$14.50@16. Everything sold at the close and the outlook about steady for the next few days.

With a liberal run of lambs today our market opened up active and prices 50c lower than the close of last week. All sold and we look for shade higher prices balance of week.

Lambs \$17.50@18; cull to common \$12@16.50; yearlings \$12.50@15; wethers \$11.50@12; ewes \$11@11.50; bucks \$7@9; best calves \$16.50@16.75; common and light \$13.50@16; heavy \$12@15.00; grassers \$6@8.

CHICAGO.

September 17, 1917.

Cattle prices made new records again last week. A top of \$17.80 was recorded for heavy weight long-fed beefs, while yearlings sold up to \$17.50, also a record. Prime corn-fed yearlings advanced about 50c for the week, while the heavy weights were mostly 50c up. Plain to medium grades advanced 35@50c while some of the plain grassy kinds were only 25@35c higher. Bulk of choice to prime corn-fed steers sold during the week at \$16.50@17.50 with the specialty kinds higher and the good to choice kinds around \$14.50@16.40 and the medium to good grades around \$12@14.25. The plain steers sold around \$10@10.75, with decent grades at \$11@11.50 and inferior rough kinds down to \$8 and lower. Western rangers were in large supply this week, totaling about 30,000 head. Prime Montana steers sold up to \$15.50 while several lots went at \$14@15. Butcher stock prices advanced 25@50c. Prime heifers sold up to \$13@14, while good to choice grades went at \$9.50@11 with the fair to medium kinds around \$8.25@9.25 and the common to plain grades around \$7.50@8. Cows of heavy weight and prime quality sold up to \$12 and higher, while most good to choice kinds went around \$8.50@10 with the medium classes around \$7.75@8.25 and the common and plain grades around \$7.25@7.50. Canners and cutters sold at \$5.50@6.75. Calves were in good demand and sold at new record prices when \$16.50 was paid for prime offerings at the close of the week and most good to choice offerings went at \$16@16.25, with the fair grades around \$15.50@15.75 and the plain and common kinds down to \$15.25 and lower. Heavy calves sold around \$8.50@9 for a fair to good grade, while prime offerings went up to \$10 and higher.

Hogs were in larger supply during the week, the increased marketings coming near the close. Demand was firm at the start and prices advanced, but a poorer call later enabled buyers to force a decline. Closing rates were mostly steady with the finish of the week previous. In some instances light weights sold lower than that time as they formed the large end of the crop. Packers were bearish all week and traders believe that prices will be held down. More liberal receipts are looked for from now on, as the light weights are moving in larger numbers. At the close of the week prime hogs sold up to \$18.65 and the common kinds ranged down to \$16.70 while the week earlier they sold at \$16.50@18.50 with one load up to \$18.65. Pigs sold at \$15@17 late in the week, against \$8@9.75 a year ago.

Sheep and lambs were in larger supply during the week but a broad demand caused prices to advance. Aged sheep and yearlings sold 25c higher. Ewes sold up to \$11 while native yearlings went up to \$14. Killing lambs sold mostly \$1 higher than the week previous, range stock going up to \$18.35 and most good to choice kinds late around \$18@18.25. Native lambs sold up to \$18 with a few at \$18.25. Feeding lambs topped \$18, being a record price. Wethers were very scarce all week but were quotable late up to \$12.75, breeding ewes around \$16.50 with yearling breeders quoted considerably higher. Bucks sold around \$8@9.50.

Receipts of horses for the week were larger but a better general demand caused action to the trade at steady to strong prices. Commercial trade was rather small, bulk of the business being on military account. English inspections are being held regular while the United States government has re-

sumed buying, paying \$180 for light artillery horses, the same price to be paid at all primary markets.

Chicago Top Prices a Year Ago.
Best heavy steers \$11.25; medium grade \$9.75; butchering cows \$6.50; canners \$4.50; cutters \$5.25; stockers \$6.50; feeders \$7.50; calves \$13; hogs \$11.50; ewes \$7.75; wethers \$8.50; yearlings \$9.25; lambs \$11.40.

LIVE STOCK NEWS.

It is everywhere realized that there is urgent need of this country producing much larger supplies of beef, pork, lamb and mutton for feeding our own people, our army and navy, our allies and the neutral countries of Europe, and determined efforts are being made in this direction calculated to help the farmers to maintain increased herds and flocks. Food Administrator Hoover is enlisting the aid of the Federal Reserve Board in a vigorous campaign to increase the meat supply of the United States, and in order to help in the matter he has made the suggestion that the banks make loans to the farmers on cattle paper at not more than seven per cent interest, as compared with the legal rate of eight per cent or more in various states. The board has transmitted this request, through the federal reserve banks, to the bankers of the country in the various districts. Mr. Hoover says that he is beginning a campaign to bring about a larger amount of cattle feeding in this country, and he says that investigation shows that the interest charge represents between 35 and 40 per cent of the total costs of the industry. Stockmen all over the country were very much pleased by the recent statement of Food Administrator Hoover that the administration has no intention of fixing the prices of beef or hog products, but hopes to develop by talks with representative committees of hog producers, live stock commission men and the packers greater stability of all the live stock industries during the war in such a way as to eliminate speculative profits and risks, and through this action to protect at the same time consumers of meats. The Federal Reserve Bank of Chicago says in a recent official report that the demand for agricultural implements, especially tractors, is unusually large, because of the serious shortage of farm workers, high prices of grains and the demand for marked increases in the production of various farm products. Many men are being taken from the farms of the country for the army, and horses are being purchased for army uses.

The demand for stockers and feeders has increased greatly of late. After a very dull summer season, the early fall call is proving the best in years. Stocker and feeder stuff has been selling relatively low—due to the poor outlet, but now that the demand is greater, prices have advanced, yet the range between top-feeding cattle and the best finished steers is around \$6.50 per hundred. It is the attractive prices paid for fat steers that appealed to country buyers and caused them to try hard to get stock. A good prospect for corn is another factor in stimulating the desire to get thin stock. At this season of the year the western range move to market in large numbers and afford buyers a good selection of thrifty range stock that generally does well on the corn belt farms.

Farm Loans

5%

interest Rate

We want selected farm mortgage loans of \$2000 and up on improved farm lands in Michigan. Interest at only 5%, the borrower paying a small brokerage when loan is closed. Prompt service.

The Guaranty Title and Mortgage Co.

Desk M. Flint, Michigan
Farm Loan Dept.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.

September 19, 1917.

Cattle.

Receipts 3620. Market opened steady with last week, closing 25c lower on everything but canners; quality very common.

Best heavy steers \$9.50@10.50; best handy weight butcher steers \$8.50@9; mixed steers and heifers \$8@8.75; light handy light butchers \$7@8; light butchers \$6@7; best cows \$7.50@8; butcher cows \$6.50@7; common cows \$5.75@6; canners \$4.50@5.50; best heavy bulls \$7.25@7.50; bologna bulls \$6.50@7; stock bulls \$5.50@6.50; feeders \$7.50@8.50; stockers \$5.50@7.50; milkers and springers \$4@100.

Bishop, B. & H. sold Parker, W. & Co. 34 steers av 594 at \$6.50, 25 do av 934 at \$8.50, 6 cows av 1033 at \$7.25, 30 steers av 842 at \$8.25, 31 butchers av 903 at \$7.50, 24 do av 670 at \$6.75, 2 cows av 1000 at \$5.25, 7 steers av 830 at \$8, 6 do av 793 at \$8.25, 22 butchers av 701 at \$6.75, 12 do av 600 at \$6.75; to White Bros. 4 cows av 1060 at \$5.25; to Lasenby 8 stockers av 625 at \$7, 2 do av 660 at \$6.50, 12 do av 635 at \$6.75; to Converse 4 cows av 700 at \$5.25; to Hammond, S. & Co. 28 steers av 883 at \$8.25, 24 do av 860 at \$8.25; to Goose 16 butchers av 557 at \$6.35; to Sullivan P. Co. 6 do av 900 at \$8.25, 19 steers av 1052 at \$9, 1 do wgh 900 at \$7, 1 cow wgh 1200 at \$7; to Hammond, S. & Co. 25 steers av 870 at \$7.40, 7 do av 723 at \$8.25, 15 do av 910 at \$8.25, 7 do av 786 at \$7.65, 24 do av 700 at \$7.35; to Converse 6 cows av 950 at \$6.50; to Soning 13 stockers av 530 at \$6, 8 do av 604 at \$6.25; to Goose 17 butchers av 500 at \$6.50; to Mason B. Co. 4 bulls av 1300 at \$7.50; to Sullivan P. Co. 5 steers av 864 at \$7.50, 1 cow wgh 1230 at \$8, 12 steers av 983 at \$9.25, 4 do av 730 at \$9, 4 do av 800 at \$7.50; to Newton P. Co. 26 do av 1088 at \$9.75; to Thompson 14 do av 1066 at \$9.25; to Brown 24 feeders av 912 at \$8.50; to Parker, W. & Co. 7 cows av 930 at \$5.50, 7 butchers av 856 at \$8, 12 do av 665 at \$6.75; to Thompson 3 steers av 1200 at \$10.25, 3 bulls av 1153 at \$7.50; to Newton B. Co. 27 steers av 1088 at \$8.60; to Hammond, S. & Co. 12 do av 932 at \$8.25; to Parker, W. & Co. 5 cows av 940 at \$5.50; to Nagle P. Co. 10 steers av 1065 at \$9.50, 2 do av 900 at \$8, 5 do av 992 at \$9.50, 14 do av 936 at \$8.25; to Parker, W. & Co. 6 do av 925 at \$8; to Mich. B. Co. 19 do av 800 at \$8, 13 do av 564 at \$6.50; to Sullivan P. Co. 21 do av 846 at \$8.35.

Veal Calves.

Receipts 651. Market dull account of Jewish New Years. Best \$15.50@16; others \$7@14.

Sandel, S. B. & G. sold Mich. B. Co. 3 av 120 at \$14, 1 wgh 230 at \$15.50, 8 av 125 at \$15, 1 wgh 140 at \$15.50, 2 av 235 at \$13.50, 4 av 150 at \$16, 2 av 145 at \$15.50, 10 av 154 at \$15, 2 av 165 at \$16; to Thompson 2 av 140 at \$15, 11 av 180 at \$16, 1 wgh 140 at \$16, 3 av 130 at \$13.

Sheep and Lambs.

Receipts 9164. Market 25c lower than on Tuesday; Swift & Co. very heavy buyers, taking bulk of receipts. Best lambs \$17@17.25; fair lambs at \$16.25@16.75; light to common lambs \$14.50@15.75; fair to good sheep \$9.50@10; culls and common \$5.50@6.50.

McMullen, K. & J. sold Sullivan P. Co. 88 lambs av 80 at \$16.75, 159 do av 80 at \$16.75; to Hammond, S. & Co. 17 sheep av 125 at \$9.75, 8 do av 120 at \$9, 26 do av 130 at \$9.50; to Sullivan P. Co. 23 lambs av 65 at \$16.50; to Hammond, S. & Co. 117 do av 55 at \$16.75; to Sullivan P. Co. 83 do av 83 at \$17.

Erwin, S. & J. sold Sullivan P. Co. 96 lambs av 83 at \$16.65; to Mich. B. Co. 53 do av 62 at \$14.25; to Thompson 17 do av 80 at \$15.50; to Armour & Co. 39 do av 77 at \$17.15, 20 do av 80 at \$17, 12 do av 75 at \$17.50, 21 do av 80 at \$17, 60 do av 75 at \$17.15, 32 do av 90 at \$16.50, 137 do av 75 at \$17.25, 27 do av 85 at \$17.50, 30 do av 70 at \$15.50, 17 do av 85 at \$17.25.

Hogs.

Receipts 3933. Market strong; few extra \$18.50; bulk of mixed \$17.75@18.25; pigs \$17.

Skin Disease.—I have two spring pigs that have a scaly wrinkled condition of skin, but it does not affect their appetite; however, they are not growing. G. J. R., Munith, Mich.—Apply one part oxide of zinc and nine parts petrolatum two or three times a week.

(Continued from page 252).

county, eighteen months ago, with 100 members, and at present the membership is 284. Shipments are made each week and over \$402,000 worth of live stock has been shipped to Chicago, Buffalo and Detroit markets, besides hay, grain, etc.

Washtenaw county farmers will form a cooperative association, with headquarters at Ann Arbor. Charles S. Foster, of Clio, is chairman of the membership committee.

Oceana county farmers met at Hart and formed a county farm bureau, with the following officers: President, Chas. Horrie, Hart; vice-president, Edward Rogers, Claybanks; secretary-treasurer, R. J. Rankin, Hart; directors, John Mahan, Hesperia; A. B. Hill, Walkerville; H. Taylor, Shelby; George A. Hawley, Hart; A. Anderson, Mears; supervisors, J. N. Cotton, Colfax; J. G. Farrel, Claybanks; M. O. Fisher, of Crystal.

The Farmers' Elevator Company at Vassar, Tuscola county, closed a successful year and paid a fifteen per cent dividend to the stockholders. Charles Harpham was re-elected manager.

Veterinary.

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

Horse Sneezes.—My seven-year-old horse sneezes, not only when driven on road, but when in pasture. First heard him occasionally cough, then sneeze as if he was anxious to clear out his nostrils. He has a good appetite. R. H., Decker, Mich.—Give him a teaspoonful of powdered sulphate iron at a dose in feed three times daily. Keep him in barn during cold rainstorms and chilly night.

Navel Ill.—I would like to have you give me a remedy for colt with navel trouble. He is two weeks old, seems to be well and lively, but water leaks from navel. I have been applying tincture iodine and air-slaked lime. J. C., Atlanta, Mich.—The hair should be clipped off skin surrounding navel, the parts painted with tincture iodine, and then two or three stitches applied; but your silk or linen had better be dipped in tincture iodine before sewing wound, or opening. Then apply equal parts of powdered alum and tannic acid to sore parts twice a day.

Chronic Suppurative Lymphangitis.—I have an eight-year-old mare that has been treated by three different veterinarians for lymphangitis, none of them seem to believe her curable. She has three running sores on leg which we are unable to heal. Her leg is very large. Would you advise me to breed her? E. D., Onerso, Mich.—Your mare has no market value if, as your Vets. tell you, she might as well be destroyed for she is unfit for breeding purposes.

Poisoned Lambs.—Will you kindly give me some advice about my lambs? I had had ten die out of a flock of 21 and the first signs of sickness is dullness, standing or lying away from the others, do not eat, and in three or four days find them dead. These lambs are pastured in an orchard that had recently been sprayed. E. W. F., Sparta, Mich.—Am inclined to believe that the lambs were poisoned. Change their feed. If they have stomach worms, give a teaspoonful of gasoline in half a teacup of milk once a week for three weeks.

Sitfast.—My five-year-old mare has a hard bunch on shoulder which is about the size of a hen egg, but seemingly causes no pain, only when she is pulling a load. The collar fits her fairly well, but I would like to know what will reduce this bunch. E. S. T., Marion, Mich.—There is only one satisfactory remedy for an ailment of this kind and that is surgical removal. After this bunch is cut out, apply one part iodoform and nine parts boric acid twice a day.

Yearling Heifer Sucks Cows.—Have a yearling heifer that I would like to keep for a cow, but is persistent sucker of cows whenever she gets with them. I would like to turn them out together. T. G. R., Grass Lake, Mich.—I know of no practical remedy for a case of this kind, other than pasturing them with steers, horses, hogs and sheep. An appliance that will prevent her from sucking willing cows, would prevent her grazing.



Get Rid of Worms

Figure how much it's worth to you in dollars and cents to keep your hogs free from worms. Worms prevent thrift—retard growth—rob you of good, high-priced pork.

Dr. Hess Stock Tonic
Drives Out the Worms

and at the same time tones and conditions the system. It enables your hogs to be at their best—to do their best. You take no chances. My Stock Tonic is guaranteed. You buy it at an honest price, from my dealer in your town who will return your money if it does not do as claimed.

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Except in the far West, South and Canada.
Smaller packages in proportion.

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DR. HESS POULTRY PAN-A-CE-A
will help your hens through the moult.

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ANOTHER 1000 LB. RECORD

Royalton De Kol Violet No. 86460 (H. F.), age 10 years, has made a 365 day record of 29949.6 lbs. milk -- 1036.4 lbs. fat

Mr. H. A. McQuillen, Delta, O. writes: "Her record makes her champion for milk in the '8 months after calving' division, also for milk and butter (year) for a ten year old cow. She was fed UNICORN DAIRY RATION on test. We always feed UNICORN to our test cows as well as our milking herd."

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This pasturage is Free to the Northern farmers who have bought and are buying at our low prices on easy terms. On these lands two or three cultivated crops are grown in the same fields each year. We believe this to be the greatest opportunity in America for the stock raiser and general farmer. Mild winters, ample rainfall, productive soil, healthful climate.

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Rosen Rye 1 bu. \$2.60, four bu. or over \$2.45 per bu. Red Wave, Red Bald bu. \$2.75 ten or more \$2.65 per bu. Pure Reclaimed Seed Sacked. F. O. B. Dryden, Mich. Frank Bartlett, Dryden, Mich.

FOR SALE Pedigreed Rosen Rye, Inspected and approved by Professor Spragg of Michigan Agricultural College. Buy the best. It pays. CRANE & CRANE, Easton, Mich. Members of Michigan Crop Improvement Association

For Sale, Used and rebuilt Machinery

22 H. Peerless steam traction engine, 20 H. Huber, 18 H. Gaar-Scott, 18 H. Pitts, 18 H. Huber, 18 H. Nichols and Shepard, 18 H. Baker, 16 H. Huber, 16 H. Pitts, 15 H. Case, 15 H. Port Huron, 12 H. Huber; 15-25 International gas tractor, 15-32 Flinchbaugh gas tractor, 18-36 Avery tractor; 16 H. John Deere portable gas engine, 12 H. Alamo, 12 H. L. H. C. 13' and 16' Papee cutter, 15' Ross cutter; 17x22 Whitman hay press, 14x18 Champion, 17x22 Ann Arbor; 8 and 12 roll Advance corn huskers, 10 roll Case; Pitts bean thresher, Owens bean thresher, Huber bean thresher, Aultman-Taylor bean thresher. Write us for complete used machinery list and state what you need.

The BANTING MANUFACTURING COMPANY,
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HAY Ship To The Old Reliable House Daniel McCaffrey's Sons, 623-625 Wabash Bldg., Pittsburgh, Pa.

HAY SHIPPERS! quote us lowest price on cars at yours! The E. L. Richmond Co., Detroit, Mich.

HAY WANTED Can you ship us any hay direct to Boston, Mass.? Wm. S. SAWIN & CO., Roxbury, Mass.

Selecting the Ram

By I. J. MATHEWS

WITH the building up of the sheep industry which is going on all over the country, a great demand has sprung up for suitable rams to use with the small farm flocks. The demand is much greater than the supply and the result of all this will be that some very inferior males are mated with some more very inferior ewes and it is questionable whether the result will be gratifying or not. Then, on the other hand, we have much the same proposition due to the fact that many of these farm flocks are rather small. A man who has a flock of ten or fifteen sheep scarcely believes that he can afford to pay from fifty to one hundred dollars for a ram to mate with them and he may, if he wears glasses and has a long nose, be able to see just over the end of his nose, and forthwith he becomes the proud (?) possessor of an inferior buck.

It is to guard against the somewhat inevitable that this article is written. One of the best breeders that I know of lays down this gentle rule in the case of all live stock: "A breeder can afford to pay as much for a suitable male as the combined value of all the females to which the male will be mated." This means that if the farm flock is worth \$500 the breeder can afford to pay \$500 more for a ram, provided, of course, he gets value received. This seems a little strong and there are but few who live up to the rules set down by this old breeder. The result, however, is plainly evident since only a comparatively few breeders in this country have secured an exceptional degree of success with any class of live stock and almost without exception these breeders claim that the superiority of the males they have used has been the influence that now makes their herds and flocks stand out over those of other breeders.

Now for the Ram!

I am never in favor of going outside the ranks of aristocracy for breeding males. By that I mean that every ram used to increase the farm flock should be a pure-bred of some accepted breed other than "dunghill sheep." Once in a while it is possible to pick up a ram from the stock yards that is fairly well built and well woolled and stands a chance of increasing the quality of the flock. Now-a-days, however, with the scarcity of male stock, it is well nigh impossible to pick up males this way.

Building the Sheep.

Literally it is impossible to build a sheep—figuratively, however, a man makes his ideal and then works to it. What we want to get firmly in mind is the ideal sheep and after that, we can select the ram that comes the nearest to our ideal. While I am not of the opinion that you can tell entirely the quality of a ram by his head, I do believe that it tells much concerning his possibilities and capabilities. Particular points that I like to emphasize on the head of the ram are masculinity, good jaws, good nostrils, good covering, and healthy membranes. That the ram should show masculinity in his head no breeder would dare to deny. Ewe-necked rams usually give rise to the same sort of progeny. As to the mouth, of course I want it to have a few teeth in it, and I like its jaws strong and well muscled. With the man who claims that the jaws should be wide and the mouth large, I have no quarrel, despite the fact that I have heard considerable hair splitting on this particular detail. The sheep with a small mouth opening can stow away just as much good fodder and grain as can the sheep with a large mouth opening. There may be a little difference in the speed of doing it, but that is about all.

One thing that is very important for observation when building the head,

is the color of the mucous membranes. The lining of the nostrils should be a rich pink rather than a pale blue. The mucous membranes of the sheep are very sensitive to the condition of the internal organs and a blue cyanotic membrane means that "all is not well within." The membrane lining of the eyelid is best observed by turning the eyelid back; this should also be pink and not blue.

In the face of the high prices for meat, we will next look to the body. The body of any breeding sheep, it makes no difference what breed, should be about as square as it is possible to get them when viewed from the side. A long back and a long loin are requisites that a good breeding ram ought to have. The back and loin should be straight. The hind leg of the sheep is the important part when considered from the meat standpoint. Close to three-fourths of the value of the carcass lies in the hind quarter. With this in view, let us build a ram whose hind quarters are thickly and evenly fleshed with the flesh carrying well down towards the hock. Looking at the sheep from on top, the body should appear like a cylinder. The legs of a sheep should not be unduly long, since bone does not make very good eating and commands a low price on the market. The only advantage that a long-legged sheep might have is that he could get away from the dogs if his head was willing, but since most of the states have made an honest effort at least to eliminate the domain where dogs may abound at will it is to be hoped that damage from dogs will be just about done away with.

After we have framed up the sheep as to the above, let us give him a good covering of wool with the fibers thick and well crimped, or crinkled and with a good supply of oil or yolk. Cover him well down on the face and down on the legs at least as far as the knees and hocks. This will not only increase the pounds of shear that will come from his get, but it will enable all that come on after him to better withstand the rigors of our winters.

See, there he stands. A smooth, long, well rounded fellow, with head alert, his jaws busily engaged with the luscious grass and his nostrils distended with the fresh air. He is ready to go forward and make for you a system of progressive sheep raising wherein each generation of ewes will be more valuable than their mothers.

THE COUNTRY'S LIVE STOCK PROBLEM.

(Continued from first page).

unofficial reports to the daily or weekly press or to the public markets be forbidden.

e. That the cattle industry in the south can be very greatly extended if danger from the cattle tick can be eliminated. We recommend that the Department of Agriculture deal with this matter as a war measure.

f. That a considerable increase in the beef supply can be brought about by the encouragement of Boys' Beef Clubs. And we suggest that adults be invited to join such clubs as a patriotic way of serving their country's need.

Dairy.

Resolved. a. That the present unsatisfactory conditions of the dairy industry has been brought about by circumstances of which the dairyman has been the victim and not the creator. The advancing price of beef animals has made many inferior dairy cows more valuable for slaughter than for dairy purposes. Milk and dairy products have not advanced in price proportionately to the advance of other food products. The cost of production

has greatly increased, due both to the increased cost of food stuffs of all kinds and the advance in the cost of labor, as well as the difficulty of securing competent help even at the advanced wage. Dairymen all over the United States have been forced to meet these conditions by marketing their less profitable cows, and this has resulted in a decrease in the total production of milk in proportion to the population.

The necessary advance in the price of milk has caused complaint among consumers who are not informed as to the legitimate causes for such advance. It is desirable that there shall be instituted a campaign of education to make plain the true food values of milk, and we recommend that in instituting such a campaign a most earnest effort be made by government officials to secure the cooperation of the daily press. A special effort should be made to inform the public of the value of skim-milk both for children and adults, and of the value of cottage cheese, the greater manufacture of which would save as food large quantities of skim-milk which is now wasted.

b. That purchases of dairy products by governmental agencies should be at prices which will fully cover the actual cost of production. Prices lower than these will tend further to discourage the dairy industry.

c. That a very large increase in the production of milk and milk products can be brought about by a better understanding of scientific methods of feeding and of selection of high-producing cows. We therefore suggest that a strenuous effort be made to increase the number of cow-testing associations.

d. That the efforts to prevent the marketing of dairy calves for meat purposes are not well directed. The average dairy farmer finds it necessary to dispose of his calves at the earliest age at which they may be used for meat purposes, because, first, his entire milk output is needed to supply his customers and is more valuable there than when fed to calves; second, because at the high price of feed stuffs that have been prevailing it is unprofitable to carry the calves for any length of time. Restriction on the sale or slaughter of calves would reduce the milk supply.

e. That the redistribution of dairy stock can best be promoted through the county agents, and we suggest that a central organization within the Department of Agriculture can best direct such distribution.

Sheep.

a. Owing to not only a national but a world shortage of wool and mutton it is immediately necessary that our sheep industry should be encouraged on the western range and the small farms of the country.

b. The Federal Department of Agriculture and the State Agricultural Colleges and Experiment Stations should to the greatest extent, consistent with their appropriations, extend their work of education with reference to sheep raising and wool growing, and county agents should make special efforts to guide beginners on safe lines.

c. The ewe from the western ranges which is unable longer to bear range hardships but which will readily respond to the more favorable feed and care afforded by the small farm is most valuable for redistribution to the farm.

d. The western range industry has been greatly reduced by the rapid passing of the public domain into the hands of private owners, and there remain practically no lands on the public domain that are fit for any other use than for the grazing of live stock. They should therefore be used for that purpose and sold or leased for grazing purposes under such governmental regulations as will develop their carrying capacity for live stock and greatly increase the production of meat and wool. We earnestly request national

legislation which will effect this result. e. Congress should likewise enact legislation providing for the sale or lease as "isolated tracts" of small areas of land, not exceeding 640 acres in one tract, which are surrounded by private entries.

f. The stray and useless dog is the enemy of the sheep. We approve the bill now pending in congress to impose a federal tax upon all dogs. We recommend that all state legislatures should enact laws protective of the sheep grower against dog depredations. We suggest that the Bureau of the Census in its plans for the fourteenth census provide a schedule of dogs on farms and not on farms.

g. The practice of speculation in large quantities of lambs and wools should be discouraged through every agency available.

h. Some sections of our country are stocked to their capacity with mother ewes from which lambs are marketed at from seventy to eighty pounds. This is the most economic method of producing mutton. What we need is more ewes producing the seventy-pound lamb. We urge that every ewe lamb which promises an economic future should be saved from slaughter.

Hogs.

a. Pork constitutes more than one-half of all the meat produced in the United States. Next to the dairy cows hogs return a greater amount of human food in proportion to the amount of feed consumed than any other farm animals. High fecundity makes possible the restoration of our hog stocks with great rapidity after periods of liquidation. Pork is the mainstay of the meat ration of the laboring man and of the soldier.

b. It is therefore incumbent on the nation to increase in every practicable way the output of hogs from our farms, and at the same time conserve in every possible way stocks of grain. Not only should our output of pork be increased from the standpoint of its direct effect on the economics of farm operations but also on account of the extent to which hog raising on farms enables the farmers to produce a considerable quantity of the meat required for home use.

c. The following program is recommended as the means of achieving the above results and increasing the production of pork and pork products:

1. Reduce to the minimum amount of grain required in the hogs' ration by utilizing pasture and forage crops. In the present emergency pigs should be marketed at a weight not to exceed 200 pounds.

2. Extend by educational propaganda the practice of home-curing of pork.

3. Extend to the utmost the organization of pig clubs under the direction of the Federal Department of Agriculture and in co-operation with the state agricultural colleges.

H. C. Wallace, Iowa; Dwight B. Heard, Arizona; D. D. Aitkin, Michigan; N. H. Gentry, Idaho; G. Howard Davison, New York; S. W. Shoemaker, Maryland; E. H. Ingwersen, Illinois; E. K. Middleton, Mississippi, Committee.

(Mr. Heard was appointed to take the place of Mr. James Callan, of Texas, who could not remain until the closing session).

A. J. Montgomery, Van Buren county, Iowa, has been investigating the possibilities of raising flocks of sheep in such states as Michigan and Wisconsin, with a probability of removing to one of these states. He started in the sheep industry two years ago, switching over from cattle to sheep. His farm includes 200 acres of pasture land, about half of which is rough. He marketed this season 135 head of lambs and yearlings, which were out of 225 ewes, crossed by pure-bred Shropshire bucks. He says he sold \$1,105 worth of wool from his ewes and yearlings last year, this paying for their feed and leaving the lambs for profit. His bucks are put in with the ewes in the middle of November, and the lambs come in March and April.

The Control of Cholera

By C. W. GREEN

ACCORDING to the saying of the hour, "Pigs started the war and pigs may end it." Whether they had anything to do with the beginning of it we are not so sure, but we are sure that they will have more to do with ending it than they will ever be given credit for. Certain it is that the hogs of this country are guiltless as to the cause of the conflict, but without a doubt if given a chance will, in a large measure, bring about its close. We can give them the chance by keeping them healthy and free from disease of all kinds.

It is now the season of the year when cholera first makes its spread. Every farmer should do all in his power to aid in the control of the disease. Hogs should be kept healthy and in a good growing condition. Healthy hogs have more natural resistance to cholera than sickly ones, hence they will not be as liable to take the disease. There is one thing every farmer can do to help control the disease, and that is to stay out of his neighbor's hog house. I have been laughed at because I refused to enter a neighbor's hog house when our own hogs were sick with a disease which we hadn't as yet decided whether it was cholera or pneumonia. It happened that after we had several veterinarians that we had contagious pneumonia instead of cholera. However, that farmer was willing that I come into his hog house regardless of the disease our hogs had.

The Sympathetic Farmer.

If one farmer's hogs start dumping around it is a usual thing for the neighbors to come and see what is the matter and try to sympathize with the unfortunate neighbor. After seeing his neighbor's sick hogs the sympathetic farmer gets to wondering how his own are and goes to see. In a few days his own hogs will be duplicating the dumpiness of his neighbor's and he will really be in sympathy with him, both with reference to heart and financial condition. If farmers would allow absolutely no one to enter their hog house or hog yards the ravages of hog cholera would be greatly reduced. There are cases where cholera sick hogs and healthy hogs have been kept no farther apart than across the road, yet by allowing no man or animal to go from one yard to the other, the healthy hogs did not take the disease.

Methods by which the disease is spread are (a) by the feeder carrying the germs on his feet or feeding some feed that was infected; (b) by introducing strange hogs in with the rest before the disease has time to show itself; (c) by letting sparrows or pigeons eat with hogs; (d) by streams of water running through the pasture. If the feeder can have a pair of boots that he can slip on while feeding the hogs that he never wears any other time, he will get around some of the danger of carrying the disease on his feet.

Preventive Measures.

If some care is used as to where the feed is got, the danger of cholera from the first method of spreading will be greatly reduced. It is necessary to purchase a stock hog or brood sows they should be kept separate from the rest until all danger of their coming down with the disease is past. Experiments show that the danger of sparrows carrying the disease is not great, especially if there is some distance between the cholera sick, and healthy hogs.

It is a good thing to get in connection with a reliable serum plant and know exactly the quickest way to get serum to your farm. A pig with a temperature of less than 103 or 104 degrees F. can usually be made immune with serum for two or three weeks.

Cases where the serum virus treatment should not be used are as follows: (a) when it cannot be given by a skilled veterinarian; (b) in communities where cholera has never existed; (c) in a herd of hogs already sick with cholera; (d) part of a herd should never be vaccinated unless the entire herd is; (e) sows about to farrow; (f) sucking pigs. The serum virus treatment should be used, (a) in cholera infested districts in herds not already sick; (b) on show swine that are shown at shows and fairs; (c) on hogs fed kitchen offal of public or private institutions; (d) in cases where hogs are being bought and sold.

The serum alone treatment can be used at any time and as often as the owner wishes, but it is not permanent and is far too expensive if one wishes to keep hogs immune any length of time.

To the farmers who do not "go much" on vaccination I wish to repeat my plea that they stay out of their neighbor's hog yards during the next five months. Give the pigs a chance to "do their bit."

Monroe Co.

C. W. GREEN.

LIVE STOCK FIGURES FOR FRANCE.

The Food Administration has received directly from the French government figures showing the decrease of live stock in France as a result of the war.

On December 31, 1916, according to the official French figures, the cattle had decreased to a total of 12,341,900, as compared with 14,807,000 in 1913, or 16.6 per cent; sheep decreased from 16,213,000 in 1913 to 10,845,000 December 31 last, or 33 per cent; swine decreased from 7,048,000 in 1913 to 4,361,900 at the close of last year, or 38 per cent.

The per capita consumption per annum of meat in France at the present time is estimated by the French government at 69.61 pounds of beef, 11.16 pounds of mutton, and 21.48 pounds of pork.

The French figures emphasize the recent statement of the United States Food Administration that the nations of Europe are now rapidly depleting their supply of live stock, and must therefore depend largely upon the United States for their meat and dairy products after the war.

LIVE STOCK NEWS.

By using pure-bred bulls, S. L. Tysdale, of Grant county, N. D., has bred up his herd of western cattle until he markets a fine grade of stock. Recently he marketed steers which averaged 1,318 pounds and sold at \$15, and one steer which weighed 1,570 pounds at \$16. These are very high prices for cattle off the range. He uses a pure-bred Hereford bull on his cows and the better breeding shows in the stock and the high prices are the result.

Old records established in the market for fat steers do not last long these days. Once steers hit the \$17 mark, it did not take long to pass it, and the latest level reached was \$17.80 when a load of prime 1,578-lb steers went at the price. These cattle were fed by George Collier, of Fulton county, Illinois. They were bought last December, averaging 900 pounds, at a cost of \$7.50. They were fed shock corn on pasture from December 15 to May 1, when they were put on a ration of one-third of a bushel of corn and about six and one-half pounds of molasses meal fed on pasture. They made remarkable gains from the start and the margin in selling price over the cost was large enough to allow a large profit on the venture.

The food administrator has not yet fully decided the fate of live stock prices. Advices from Washington say that live stock values will not be fixed but it is understood that a scale of ratio values, between corn and hogs will be put into effect.

150 HOLSTEINS

Including the Famous Champion,
Pontiac De Nijlander
Will Be Sold in the
DETROIT
GUARANTEE
SALE

Each and every animal over six months of age has been tuberculin tested and will be guaranteed free from tuberculosis for a period of sixty days from date of sale according to the usual conditions of such a guarantee.

All animals entered have been personally inspected by a committee of three, and none have been accepted whose last calf, when born, was not alive and fully matured. There are no three-teaters or aborters here. Every animal guaranteed to be a breeder.

Michigan State Fair
Grounds, Detroit, Mich.
October 3-4, 1917

Some of the other features of this sale will be a son and several granddaughters of Pontiac De Nijlander, the famous three times 30-lb. cow.

A 28-lb. 4-year-old daughter of Woodcrest Hengerveld De Kol.

A 29-lb. daughter of Sir Lilith Hengerveld.

A daughter of Governor Walker with a record of 24.70 lbs. of butter at four years.

A 24-lb. 3-year-old daughter of Ypsiland Sir Korndyke De Kol.

A 20.91-lb. 3-year-old granddaughter of Pietje 22d's Woodcrest Lad, her dam a 34.78-lb. 4-year-old.

Two-year-old daughter of the 37-lb. cow, Koo Pontiac.

Many other females with excellent records and from high-record dams.

The bulls include:

A son of Pelletier Pontiac King Dora De Kol from a 31-lb. dam.

A ten-months son of King Piet Segis Lyons, who is by the 33-lb. bull, King Peter and from a 30-lb. 4-year-old daughter of King Lyons and Segis Pietertje Eliza, 31.06. The dam is a 28-lb. 4-year-old.

A son of Pontiac Apollo De Kol Butter Boy from a 28.9-lb. cow, etc., etc.

Don't fail to attend this sale. It is full of opportunities for you. For catalog or other information write,

Liverpool Sale &
Pedigree Co., Inc.,
Sale Mgrs.,
Liverpool, N. Y.

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CATTLE.

Aberdeen-Angus

Herd established in 1900, Trojan-Ericas and Black birds only. Bulls in service; Black Brandon 208522 Enoas Woodcote 191382. Also breeders of Percheron and Saddle Horses.
WOODCOTE STOCK FARM, Ionia, Mich.

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

CHOICE Angus Bulls for sale. Have several well bred, excellent type Angus Bulls at reasonable prices. M. L. Smith, Glenwood Farm, Addison, Mich.

Ayrhurst Farm offers for sale a few Ayrshire registered and transferred. Fennville, Mich.

Registered Guernseys

Stock always for sale. May Rose Strain—Herd Tuberculin tested annually. Never had a reactor—no abortion. J. M. WILLIAMS, North Adams, Mich.

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

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

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

Registered and Grade Guernsey cows, bulls, yearlings, heifer calves, will sell 20. Some with records; choice of 48; must reduce herd; tuberculin tested. Avondale Stock Farm, Wayne, Mich.

FOR SALE, registered Guernsey heifer, one year old.
FRANK A. NASH, R. R. 3, Box 57, Fremont, Mich.

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

842 Lbs. BUTTER

Is the average of the semi-official records of our herd bull sdam (at 2 yrs.), his grand-dam (at 3 yrs.) and his great grand-dam. Three choice young bulls from A. R. O. dams. Herd tuberculin tested annually. Holsteins of course. Peaceland Stock Farm, Three Rivers, Mich. Chas. Peters, Herdsman. C. L. Brody, Owner, Port Huron, Mich.

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

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

CLUNY STOCK FARM

100 REGISTERED HOLSTEINS 100

For Sale:—17 mos. old bull whose 7 nearest dams average 560.1 lb. milk and 25.679 lb. butter in 7 days. Sire is by the son of a 32.9 lb. cow and from a 31 lb. 4 yr. old cow. Dam is a 22.5 lb. Jr. 3 yr. old daughter of a 26.5 lb. Jr. 4 yr. old cow, whose dam is a 27 lb. cow.

Ready for immediate heavy service. Priced to sell immediately. Send for pedigree and price.

R. BRUCE McPHERSON, Howell, Mich.

Bigelow's Holstein Farms, BREEDSVILLE, MICH.

Have Some Fine Registered Stock For Sale

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

WINWOOD HERD REGISTERED HOLSTEINS

Holton, Mich.

Reference: Old State Bank, Fremont, Mich.

Flint Maplecrest Boy sire in service

His sire is Maplecrest Korndyke Hengerveld, his 3

Nearest Dams each over 30 lbs. of butter in 7 days.

His dam and grand dam both made over 1222 lbs. of

butter in 1 year. It is the yearly cow we are looking

for to deliver the goods. Flint Maplecrest Boy's Dam is

Gluck Vasser Bell, 30.37 lbs. of butter in 7 days and 120

lbs. in 30 days. Her butter fat test is 5.27. This looks

about right to the man who goes to the creamery.

We have Bull Calves from 2 weeks to 8 months old for

sale at dairy farmers' prices all out of A. R. O. Heifers.

Write & tell us the kind of a bull you want.

John H. Winn. (Inc.), Holton, Mich.

I Always Have Holsteins To Sell

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

L. E. CONNELL, Fayette, Ohio

OAK LEAF FARM

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

WOULD You want a bull from a 30 lb. dam and a 30.30 lb. sire for \$100? Can't be did, but we have one for \$600, also one from a 27.58 lb. heifer for \$290, and one from a daughter of Pontiac Angie Korndyke for \$290. Good ones as low as \$80. All from World Record Sire.
LONG BEACH FARM, Augusta, Michigan.

Butter Fat Counts

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

3 Holstein Heifers 30.21 lbs. sire. Their dam's dam A. R. O. sister to dam of 35 lb. cow, bred to 34 brother to 30 lb. 4 yr. old. Terms if wanted. M. L. McLAULIN, Bedford, Michigan.

FOR SALE Any part of six Holstein-Friesian grade cows. These are very well bred. Will sell at a reasonable figure.
WM. G. GAGE, Owner, Saginaw, Mich.

Additional Stock Ads on Page 259

POULTRY.

Homestead Farms

We have a special offer which will interest poultry people who want Laying Hens for Winter. Since we do not feel that we can dispose of any more Pullets, we have decided to offer for immediate sale:

300 Laying Yearling White Leghorn Hens

These are from our choice colonies which as Pullets began laying last September (see descriptive circular), and which are still laying. Favorable prices in lots from 6 to 50 for immediate sale. Also other stock as follows:

Yearling Hens

Brown Leghorns, Barred Plymouth Rocks, (limited) White Wyandottes, Rhode Island Reds, Rose Comb Black Minorcas.

Yearling Cocks and Cockerels

Barred Plymouth Rocks, Rhode Island Reds, White Wyandottes, Single and Rose Comb Black Minorcas, White and Brown Leghorns, Anconas,

Geese and Ducks

50 Fine Young White Pekin Ducks.
30 Young Gray Toulouse Geese.

All of these are pure bred practical poultry which daily prove their practical value in the direct market for poultry and its products which we have begun to build up.

Everything we sell is guaranteed; each customer is to be fully satisfied. Do you want some of these Yearling Hens or some of the Young Ducks or Geese? They are to be sold at once.

We are planning for a more extensive sale of Day-Old Chicks next Spring, so that all orders may be filled.

HOMESTEAD FARMS, Bloomingdale, Mich.

2000 - Pullets - 2000

"200 Egg" Pedigree White Leghorns

"Bred-to-lay" Strain. These vigorous, May-hatched pullets will be laying in a few weeks. These birds of quality are the choicest ever offered for sale. Price in hundred lots, \$1 each, for one week only. Our White Leghorns lay large, white eggs, and plenty of them. They are bred right. Book your order at once. Thousands of satisfied customers. Catalogue.

MICHIGAN POULTRY FARM, Lansing, Michigan
"Michigan's Largest Poultry Farm"


Yearling Hens For Breeders

S. C. White, Buff and Black Leghorns at \$1.00 each. SUNNYBROOK FARM, Hillsdale, Mich.

JOHN'S big beautiful hen-hatched Barred Rocks, good layers. Breeding pens (5 birds) \$10 to \$20. Eggs \$3, \$2.50; 100, \$7. Circulars. Photo. John Northon, Clare, Mich.

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

Barred Rock Hens Great Layers first class breeders 10 for \$25.00. W. O. COFFMAN, R. 3 Benton Harbor, Mich.



Ferris White Leghorns
A real heavy laying strain, trapnested 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free.
GEORGE D. FERRIS, 984 Union, Grand Rapids, Mich.

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

BUFF Leghorns—buy your cockerels for next year now. All stock at reduced prices remainder of season. Dr. William A. Smith, Petersburg, Mich.

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

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

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

R. and S. C. Reds. Good breeding hens at \$1.50 each for short time. Also Belgian Hares. O. E. Hawley, Ludington, Mich.

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

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

Silver Spangled Hamburg Eggs setting \$1.50 Bal. of season, young Belgian Hares pedigreed \$6.00/pair. Pedigreed Persian Kittens great hunters \$10 each. Send stamp. Riverview Farm, Vassar, Mich.

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

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

S. C. W. Leghorns. April Hatched, Standard Bred Cockerels on free range at \$2.00 each. White Line Poultry Farm, Hillsdale, Mich.

WHITE Wyandottes, A. I. layers. Eggs for hatching, \$1.50, \$3 for 100, \$7 per 100. Special matings \$5 for 15 DAVID RAY, 709 Norris St., Ypsilanti, Michigan.

RAISE POULTRY MONEY this year. 100 page book, "Two Years With Poultry," (price 50c); "Poultry Tribune", best poultry paper of best poultry section of U. S., established 24 years, (75c per year). Both for \$1. Write today. POULTRY TRIBUNE CO., Dept. J, Aurora, Illinois.

DOGS

Fox Hounds of all ages, Skunk and Rabbit dogs. W. E. LECKY, Send 2c stamp. 500 ferrets. Holmesville, Ohio

Pedigreed Beagle hound pups, 4 and 10 months old. BERT K. BROWER, R. 3, Zeeland, Mich.

Please Mention The Michigan Farmer When Writing to Advertisers

September In the Poultry Yard

THE well grown pullets with the bright red comb and wattles will soon be ready to lay and the thin, stunted pullets will probably lay very few eggs before spring. It is not hard to determine which will be the profitable members of the flock. The pullets that lay early in the fall should be marked so that they can be retained for the breeding pens during their second year. They are the pullets that produce the winter eggs and usually lay far into the next fall.

Pullets on free range will take all the exercise that is necessary without feeding the scratch grain in a deep litter. That is another reason why pullets should not be yarded with the old hens. If old hens are not fed their grain in a litter there is a tendency for individuals in the flock to become over-fat. Some breeders never force pullets for winter eggs but others find that they are more profitable when forced. The good feeding methods commonly called forcing are often necessary to start a flock of pullets to producing eggs before the short and cold days of early winter. This does not mean that they should be given condiments or stimulants but only fed an abundance of the balanced rations recommended for rapid development and egg production.

Provide Plenty of Ventilation.

Do not fear a little cold air in the poultry houses after the birds are on the roosts. It will not be necessary to lower the curtains except during severe rain storms. At other times the pullets seem to do better if the open-fronts are allowed to remain open to insure the flock an abundance of air and ventilation. This applies to the cold weather of early fall. Of course, the curtains can be used to advantage on cold winter nights.

Pullets will thrive better in September if the cockerels have been removed from the flock and either fattened or fenced on a separate range where they can be matured for breeding stock. The cockerels develop faster than the pullets and crowd them at feeding time. They also worry the pullets and seem to prevent early egg production to some extent. Separating the cockerels may seem like a nuisance to many farmers, but it is part of the necessary work that must be carried out if much progress is to be made with flocks of poultry.

Buying Stock.

Poultry breeders are frequently accused of dishonesty in the selling of breeding stock and often this is because the buyer does not state exactly what he expects for his money although in reality he expects about ten times as much as his money could possibly buy. When ordering utility stock at a small price for the development of a good farm flock do not expect to enter them at the local show and capture all of the first prizes. Breeders cannot expect to raise all prize winners, even if they own fine stock. Some of their birds will be worth ten times as much as others, or more, and many of the charges of dishonesty will be avoided if the buyer and seller have a thorough understanding before the money changes hands. The voice of conscience should be present on the poultry farm and both buyers and sellers will always find it pays to listen to that sensible and practical friend.

This fall count the chicks and compare the number with the number of eggs placed in the incubators and the number of chicks hatched. It will tell a useful story concerning the success or failure of the year's work. Possibly the breeding stock was not up to standard or the incubators were allowed to over-heat and send out devitalized chicks. Maybe bowel trouble due to poor feeding methods decimated the flocks of chicks. In any case, it will pay to jot down the causes of failures

in the note book and then make plans to avoid the same mistakes during the coming year.

Green Food From the Garden.

It pays to save as many vegetables as possible for the hens when gathering the fall harvest in the garden. Sort over the crop and keep all the poor specimens for the hens. In that way you will receive more for the vegetables, as grading pays and the hens will enjoy the variety of green food. Save all the mangels for the hens and store them where they will keep in good condition. There is nothing like an abundance of green food to keep the birds healthy on the cold days and nights of winter. Healthy birds help to increase the interest of the poultryman and they bolster up the bank account. Hens that are sick are not attractive and they represent severe losses. They cause their owner much discouragement and sometimes put him out of business. Poor feeding methods are one of the causes of sick fowls and in the fall plans must be made for suitable rations during the long winter.

Many poultrymen lack storage capacity for grain and they cannot profitably store a year's supply because of this fact. It pays to lay in a good supply of grain in the fall whenever it is possible, as the grain bins are the life of the business and the poultryman who is out of feed is always at the mercy of middlemen. Nothing is more satisfactory than to realize that the bins are full with enough grain to last until spring, especially when the snows bank higher and eggs go up in price and grain mounts by leaps and bounds with no one daring to say where it will stop. It takes more than one year to build up a fine flock of poultry and the farmer cannot go in and out of the poultry business depending on the price of grain. He must stick through all kinds of trouble if he expects to win. Some breeders who have sold their flocks because of the price of grain may find that grain comes down in price in a fairly short time, but the work of ten year's breeding with a flock of poultry cannot be replaced in a single season.

Eggs Will Continue High in Price.

The high price of grain during the past year has brought eggs to prices which the poultryman did not dream of receiving several years ago. Of course, the profit on these high priced eggs has not been large but at the same time many customers who used to kick on paying a fair price for eggs now seem glad to get them at almost any price. Possibly buyers are beginning to realize that eggs are excellent food, and furthermore that it costs money to produce them. If farmers continue to market their laying hens and pullets it seems that eggs should be high in price, even after grain falls, as there will be a great scarcity of fresh eggs. Of course, it is not fair to allow speculators to hoard eggs for exorbitant prices, but it is fair for the general public to know what it costs to produce a dozen fresh eggs at various seasons of the year. The poultry business has been boomed as a get-rich-quick scheme in some cities, due to the advertising some breeders receive when they sell fancy stock at a large price. The average farmer sells poultry and eggs on the same basis that he turns over his hogs and sheep. If hens pay he keeps hens, and if they do not pay they are sold.

Ingham Co.

R. G. KIRBY.

SELECTION OF BREEDERS OR LAYERS FOR EGG PRODUCTION.

Only the high producers should be kept over for breeders. As the average poultry keeper has not the time to trap-nest so as to know the individual records, the following suggestions

will help in selecting as they are tried and proven to be reliable.

Cull the early moult; keep those birds that moult late, (September or October). Many think the early moult-er recovers from the moult and starts laying in the winter before the late moult-er, but this is contrary to experiments of the leading colleges. The late moult-er has a longer period of production, hence more eggs. She starts laying early in the fall as a pullet and lays late.

Laying is a sexual function, those birds possessing the best sexual characteristics are generally the best layers. The early moult-er generally has not these good characteristics, has a small comb, etc., as the food goes to meat instead of eggs.

The late moult-er's plumage is dirty at this season, as she is active, while the early moult-er's is clean.

High producers of the yellow-legged varieties will lay the color out of their legs. Save the strong birds with faded legs.

It hardly pays to keep cock birds over for breeding purposes, unless they are exceptional birds, as the cockerels are more active and will produce better fertility eggs. Save the best early hatched cockerels, as the highest producers are laying then.

Methods for Picking the Layers.

In birds of the white ear lobe varieties they will be yellow when not laying, and white when laying, changing to a bluish or purple color when laying their heaviest.

When the birds are laying, the bones will be spread apart and soft and pliable, and closed when stopped. The color of the comb will be a bright red when laying, and fades when stopped. This can be learned by experience.

Save those birds that develop quickly, and show the best sexual characteristics. To be a high producer the pullet has to start laying early.

The slow-maturing birds use their food for the development of bones and muscle instead of quick growth with good characteristics. A good comparison in the relation of maturity to egg production can be made between the Leghorns, maturing in five or six months, and laying 120 to 140 eggs, flock average, and the Brahmas maturing in nine months and poor layers.

While fall and winter eggs are not produced as profitably as spring eggs they increase the production per bird and decrease the cost of production, as they are producing instead of being a star boarder.

Ingham Co.

FRANK DUBOIS.

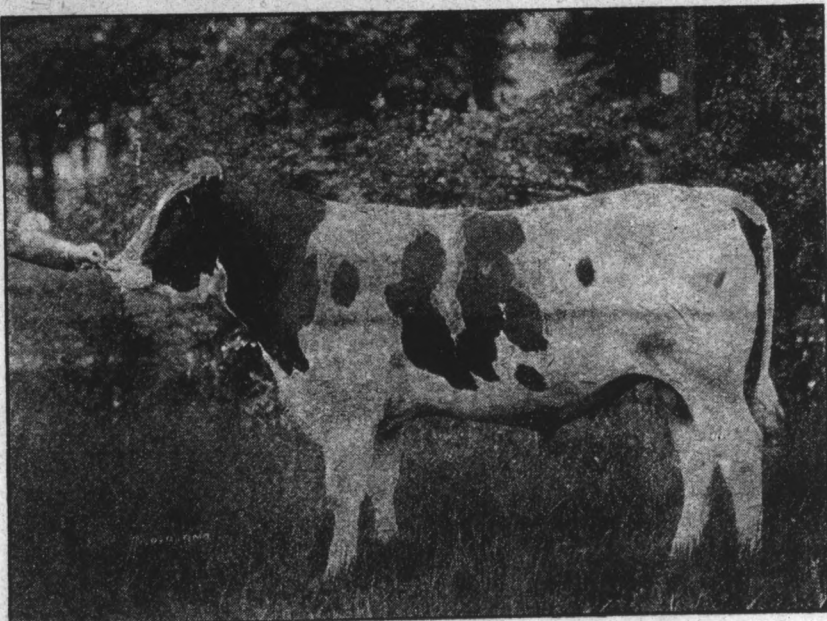
STUDENTS LEARN TO FATTEN POULTRY FOR MARKET.

It is just as important to fatten chickens sent to the market as it is to fatten hogs or beef cattle. In fact, when the chicken comes from the range it is in the proper condition to put on economical gains. The Poultry Department of the University of Missouri found in recent tests that chickens will gain about twenty-three per cent in twelve to fourteen days' feeding. That this gain is economical was shown by the fact that the grain required to put on a pound of gain was approximately three and a half pounds.

The total cost of a pound of gain with corn meal at \$2.25, bran at \$1.50, middlings at \$1.75, and sour milk at twenty cents a hundred pounds, was eight cents. Even at the present high price of feeds, economical gains can be made.

The ration consisted of corn meal, seven pounds; shorts, three pounds; bran, one pound. To every pound of this mixture, two pounds of sour milk was added. This wet mash was fed twice daily. The length of the feeding period, which was ten minutes the first day, was increased a minute a day as the period advanced.

FLANDERS FARMS



King of the Pontiacs Segis No. 169124

ORCHARD LAKE, MICHIGAN

Our Offering at the Detroit Guaranty Sale To Be Held at the State Fair Grounds, Oct. 3rd and 4th

Includes some very choice daughters of Maplecrest DeKol Ogden No. 94162 bred to King of the Pontiacs Segis No. 169124. He is a son of King of the Pontiacs and his dam is Hilldale Segis No. 99784. Can you find more pouplar breeding? We also offer a 27 lb. 3 year old heifer and a 20 lb. 2 year old heifer bred to the same bull.

18 Females and 2 Royally Bred Young Bulls In Our Consignment
FLANDERS FARMS - Orchard Lake, Michigan

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

RINKLAND HERD BULL CALVES from A. R. O. cows at farmers prices. JOHN A. RINK, Warren, Mich.

REG. Sept. and Oct. bull calves from College bred bull and heavy milking dams for sale. Price right. O. L. HULET & SON, Okemos, Mich.

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

Holstein Bull Calf two months old. Dam sixty pounds milk A. R. O. Sire from 30 lb. cow. A. R. GRAHAM, Flint, Mich.

FOR Sale One registered Holstein bull calf. Sire's twenty nearest dams have 7 da. records av. 25.50 lb. butter. Dam to be tested. A finely marked, growthy individual. Long Vein Farm, R. 3, Box 10 A, Rochester, Mich.

FOR SALE 4 reg. Holstein Heifers 2 lb. sire also few cows. Leslie, Mich.

FOR SALE Reg. Holstein Cow, fresh in October. Bred to a 35 lb. Bull. V. C. Wilkinson, Perry, Mich.

HEREFORDS

Sires in service, Governor by Prince Donald Militant Farmer by Farmer (Imp), Bonnie Brae Jr. by Bonnie Brae 24th. Inspection invited. ALLEN BROS., PAW PAW, MICH.

Wanted Fifty head high grade Hereford heifers—Calves or yearlings. Kindly specify breeding and price. W. E. MOSS, 710 Union Trust Bldg., Detroit.

Dairymen!—The Truth

You may be prejudiced against the Jersey because you don't know her. Look her up. She's the Money Cow.

Get This Book—a history of the breed and full of very interesting tests and facts. It proves conclusively that for pure dairy type, economy of production, richness of milk, long life and adaptability to feeds and climates—all these combined—she stands way above them all. This book "About Jersey Cattle" is free. Get your copy now. You'll find it mighty good reading.

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

The Wildwood Jersey Farm offers for sale choice young bulls from R. of M. dams, good enough to head any herd. We invite inspection. ALVIN BALDEN, Capao, Mich.

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high producers.

Brookwater offers to sell a few choice bull calves of this kind.

H. W. MUMFORD, OWNER **BROOKWATER FARM** O. F. FOSTER, MANAGER
Ann Arbor, Mich., R. 7.

FOR SALE JERSEYS Ready for service bull calves, backed by good records. Waterman & Waterman Meadowland Farm, Packard Road, Ann Arbor, Mich.

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

Jersey Bulls for sale, ready for service. Out of good producing dams. Prices right. R. B. FOWLER, Hartford, Mich.

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

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

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

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

Maple Hill Farm Registered Jersey Cattle Surplus stock all sold. J. R. Worthington, R. No. 7, Lansing, Michigan

CT. Clair County Jersey Cattle Club. We have for sale 5 Bulls old enough for service and Bull calves, from best strains of Jersey Cattle. Majesty's, Noble of Oaklands, Combination's Premier, etc. Write for Pedigrees, price and particulars. Fred A. Brennan, Sec. Capao, Mich.

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

FOR Sale—Reg. Short Horn Bulls by Maxwellton Monarch 2nd, a son of Avondale, from 1 to 9 mos. old. John Schmidt, Reed City, R. No. 5, Michigan

Francisco Farm Shorthorns Big Type Poland Chinas "They're rugged—They pay the rent." Nothing for sale at present. P. P. POPE, R. R. 3, Mt. Pleasant, Mich.

Bidwell Shorthorns "For Beef and Milk"

This heifer at 6 months has bone, size and quality—Our own breeding. The blood of Scotch bulls, Imp. Shenstone Albino and Imp. Villager Registered stock always for sale.

BIDWELL STOCK FARM, Box B, Tecumseh, Michigan.

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

Richland Shorthorns Largest and best herd in the state. IMP. Lorne, Albion Crest and Fair Acres Goods in service. A few good young bulls for sale at attractive prices. Our show herd will be at Detroit, Grand Rapids and Saginaw and we invite your inspection. Office Tawas City, Mich. Herd at Prescott, Mich. C. H. PRESCOTT & SONS.

For Sale Shorthorns Bulls 3 mo. to 2 years old from good milking cows. R. R. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

SHORTHORNS Maple Ridge Herd, Established 1887. No stock for sale. J. E. Tanswell, Mason, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. 3 roan, 1 white, 1 red, price \$150. to \$250. 1 son of Maxwellton Sultan, 19 mos. \$350. C. Carlson, Leroy, Mich.

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

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.

BERKSHIRES

We Are Not Going to Show This Year and Therefore Offer:

A few choice boars and sows from our Champion and first prize Sows at State Fair 1916. These pigs are mostly April farrow. They cannot be beat for type. You do not often have the opportunity of purchasing this class of spring pigs.

They will be large enough for breeding and service by December. We can furnish a trio unrelated.

All stock guaranteed as represented

SWIGARTDALE FARM

Berkshires, Boars, serviceable age, best blood lines. Registered. ELMHURST STOCK FARM, Almont, Mich.

Berkshires. Bred gilts and sows for fall farrowing. Also Spring pigs, either sex. A few boars serviceable age, reg. Chase Stock Farm, R. 1, Marlette, Mich.

Berkshire Pigs going fast \$15.00 & \$20.00 each three months old. Registered & transferred, richly bred. Riverview Farm, Vassar, Mich.

DUROCS BOARS

Have the biggest, longest, growthiest and bred bunch of Spring boars in the state. 31st fall boars by Panama Special. NEWTON BARNHART, St. Johns, Mich.

Duroc Jerseys

Spring pigs, either sex, not akin. Sired by Jennings Pilot Wonder and Orion Chief Perfection. Write for pedigrees and prices. The Jennings Farms, Bailey, Mich. V. M. Shoemith General Manager.

Reg. Duroc Spring Boars and Oxford Ram Lambs ready to ship. Exp. Paid, Fine Stock. J. R. HICKS, St. Johns, Mich.

"Nothing But Spring Pigs For Sale" CAREY W. EDMONDS, Hastings, Mich.

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

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

Duroc Jerseys. Fall Boars & Gilts all sold. F. J. DRODT, R. 1, Monroe, Michigan.

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

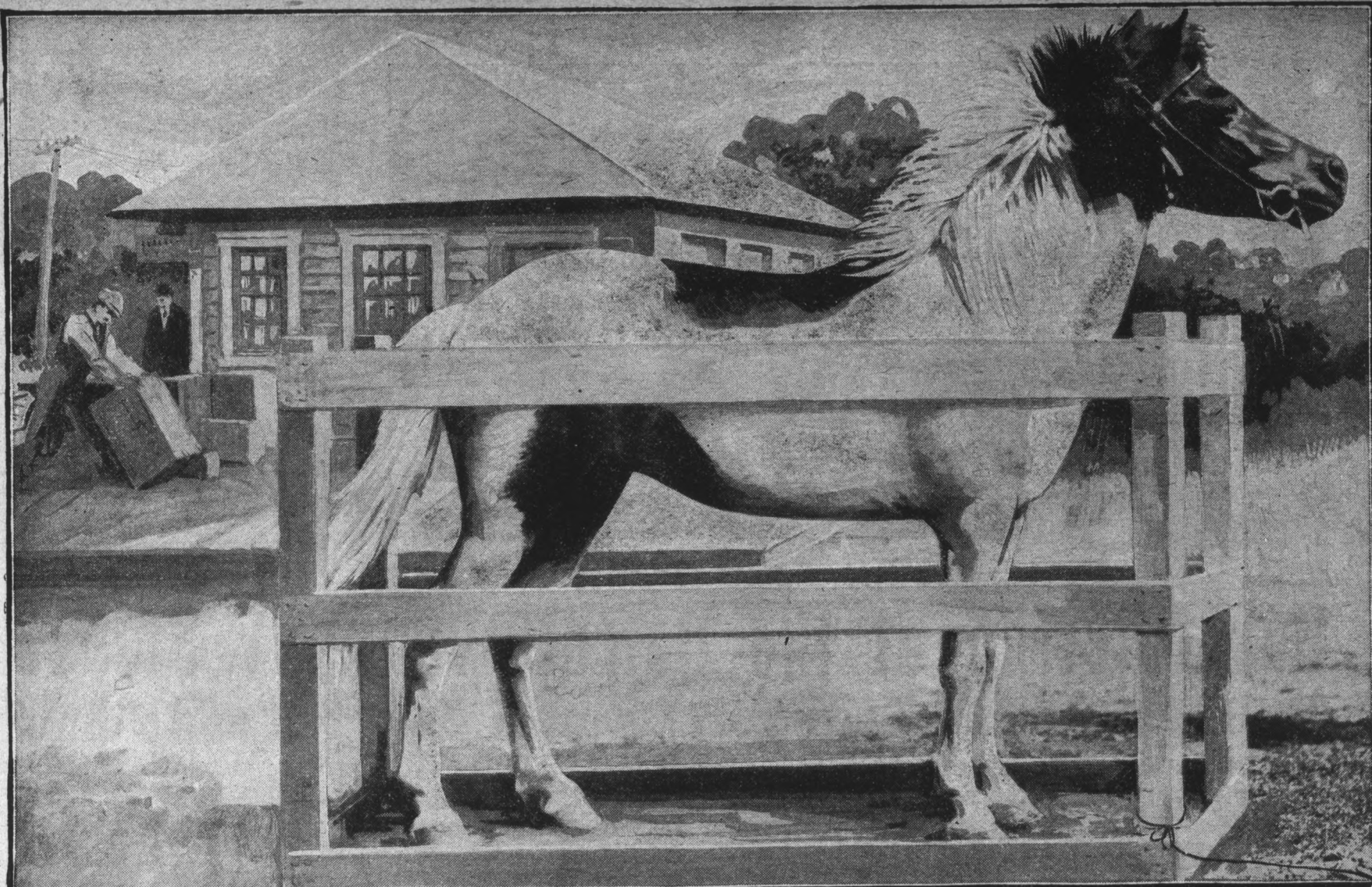
Durocs, Good Spring pigs by Defender's E. E. Calkins. R. D. 6, Ann Arbor, Michigan.

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

Chesters Bred Gilts all sold. Special prices on Bull. F. W. ALEXANDER, Vassar, Mich.

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

Additional Stock Ads. on Page 253



Who Wants This Pony?

I'm going to ship five beautiful little Shetland Ponies to five Boys or Girls real soon. Would you like to have one of them?

I am called the Pony King of America because I give Ponies away to Boys and Girls. I have given away 450 Shetland Ponies to 450 Boys and Girls — all over the United States.

Now I am going to give away five more Ponies, and I want every Boy or Girl who sees this paper to stand the same chance.

If you are a Boy or Girl send me your name right away. If you are the Father or Mother of a Boy or Girl, send in your Child's name. I will enter the name in my big Free-for-all Pony Club that starts right away.

No matter where you live, no matter how young, every child will stand the same good chance to get a Pony, with Buggy, Harness, Saddle, Bridle and Blanket. Be sure to send in your name right now.

The Pony King

323 Webb Building, ST. PAUL, MINN.

Write Your Name Here

The Pony King,
323 Webb Bldg., St. Paul, Minn.

I want one of the Ponies you are giving away. Please enter my name in your Pony Club and send me the Free Pony Pictures.

Name.....

P. O. Age.....

State..... R. F. D.....

**Pony
Pictures
FREE**

Children Be sure to take this chance to

get a Pony. Don't wait. Write your name and address in the corner below, cut it out and send it to me. I will then send you the Colored Pony Picture Circular free and you will have an equal chance to get one of the Real Live Ponies I am going to give away soon. You stand just the same chance as any other child and it doesn't cost you a cent. Get your pencil and write your name now.

Parents

Please show this free offer to your child and send in the coupon. You will be interested in the Pony Circular I send and your child will enjoy it. He or she stands the same good chance as any other child to win one of the five Shetland ponies I am giving away, no matter where you live. Remember, I am giving Five Ponies at one time—not just one—so you see there are five chances to win one. Send in your child's name.

Here is one of the Ponies, with Buggy and Harness, that I gave away. Wouldn't you like to own an outfit like this? Couldn't you have a lot of fun driving around the country?

If you want a Pony for your very own, the first thing to do is to send me your name.

