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## PRODUCTION AND MARKETING

Efficient Live Stock Marketing Linked With Efficient Production

By F. D. Farrell, Dean of Agriculture, K. S. A. C.,  
Before Cattle Feeders' Annual Meeting

### Joint Responsibility in Live Stock Marketing

BY F. D. FARRELL

**T**HERE is no more important question before the live stock industry at present than the question of marketing. The problems of selling are inescapable. The development of the industry cannot well go on unless better marketing systems can be worked out. The working out of these systems will require improvements in shipping, handling cattle at the large markets, and other similar matters. Many of these improvements will require the attention of the transportation companies and of others who are not directly engaged in live stock production, and stockmen must insist that these agencies do their share in bringing about the necessary betterments. But, in demanding improved marketing service of others, we must not lose sight of our own responsibilities or the relationship of production enterprises to marketing. Sooner or later successful marketing always reaches back to production. Efficient live stock production may be possible in the absence of efficient marketing, but efficient marketing cannot reasonably be expected unless we have efficient production.

position under any set of market conditions. It is important then that we do not neglect the production problems which must be met if the live stock industry is to be placed on a more efficient basis than it now is. Efficient live stock production requires effective utilization of the resources at hand, and also the elimination or reduction of waste, especially the loss of animals before they reach marketable age.

In this connection one of the first things to consider in Kansas is the native pastures. We have perhaps twenty million acres of these lands in the state. The future development of our cattle industry depends in a large measure on the conservation of these pastures, and yet we are doing very little in this

direction. We are in the habit of taking our native pastures for granted, as we do the air and sunshine. But this cannot continue indefinitely unless we are prepared to see our pastures deteriorate to a point where they will no longer be profitable. In the past few years pasture rentals throughout the state have increased from 100 to 400 per cent, and it now requires more land in many instances to carry a steer through the season than it did ten or twenty years ago. We need to develop better methods of handling our pastures so that we can get the full value out of them each year, and at the same time maintain or improve the pasture vegetation. This will require better stock-watering facilities; the avoidance of

overgrazing; perhaps some systematic rotation of grazing so that the vegetation on one area can recuperate while another area is being grazed; and above all, the use of supplemental feeds or pasture crops to serve as safety valves to relieve the pressure on pastures when drouth retards the growth of the pasture herbage. This is only one of the important stock feeding problems. There are many others, including winter maintenance of cows and of calves; finishing cattle for market; utilizing waste feeds, and making better use of the relatively inexpensive feeds. One of the objects of having a Cattle Feeders' day at the agricultural college this year is to call attention to the results secured by feeding steers silage—a relatively cheap feed—instead of using so much expensive grain in the ration.

#### Cut Out Unnecessary Hazards

And then we have to consider direct losses of live stock. These are caused by such things as shortage of feed during severe winters; blackleg, abortion, and other diseases; short calf crops resulting from improper feeding or management and the use of too few bulls or of inferior bulls. The losses from these causes are enormous in the aggregate. The industry cannot be expected to develop satisfactorily unless these losses are reduced.

There is still altogether too much of the old fashioned practice of regarding the live stock industry as a sport. Many of the old time western cow men were essentially gamblers. They "played" the sheep business or the cattle business and poker or roulette with about equal facility, pleasure, and profit. We still see reflections of this practice when men debate the question as to whether they will provide winter feed or accept the hazards of a severe winter without it; or as to whether they will vaccinate against blackleg or take the chances of having it in their herds. This practice is rather picturesque, it appeals to our sporting instincts, and recalls the good old easy-going days; but it is bad for the live stock industry and it ought to be discontinued. There are enough inevitable hazards in the business. There is no good excuse for retaining any risks which can be eliminated. The reduction of preventable losses will be beneficial with respect to both the volume and the economy of production and these are important factors in the marketing situation.

#### Grades and Standards Necessary

In any rational system of marketing one of the first things to be considered is a method of securing justice to producers by paying more for a high grade product than for a low grade product in the same general class. This requires the establishment of grades and standards. We already have some examples of this in our agricultural markets. A common example is wheat, another is corn, and another, cotton. These systems of grades and standards seek to provide a premium for good quality. The man who is able to produce No. 1 wheat gets more per bushel for it than the man who produces No. 4, and the same principle applies to corn and cotton. Thus, the selling of these commodities is directly related to their production.

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**P**ROBLEMS of marketing have received more public attention during the past five years than any other feature of American agriculture. Wastefulness of commodities and lack of stability in prices have characterized our marketing systems. Individual producers and even whole communities of farmers have suffered large financial losses as a result. The marketing situation has been so unsatisfactory that many farmers and others interested in rural welfare have come to regard marketing as the one agricultural question requiring serious attention at the present time. In the minds of some of these people the only requisite for successful and profitable farming is the ability to sell what is produced.

#### Selling Not the Only Problem

There is perhaps more behind this view than there is in it. It reflects the common feeling that selling is the most difficult problem in agriculture at present. But selling is by no means the only problem. People who think it is could with equal reason decide that the only part of a horse that requires serious attention is his feet. We might compare the complex of agricultural problems with a horse. We have been keeping and using this horse for a long time. We have fed him, bedded him, curried him, treated him for colic and other disorders, cared for his teeth and mouth, trained him to do our bidding. Now we find that we have neglected his feet. They are in such bad condition that he can travel only with difficulty. We are so impressed with the fact that his feet need fixing that we transfer all our attention to them. We say that the essential thing about a horse is his feet and so hereafter we are going to take good care of them and let everything else go. Thus we propose to stop giving attention to feeding, bedding, currying, etc., and devote our whole time to what we regard as the essentials—the feet. It strikes me that this is the kind of thing we would do if we got so engrossed with the problems of selling our live stock that we neglected the problems of production.

No intelligent person will question the fact that satisfactory selling is essential, just as the horse's feet are, and we need to give to marketing a great deal of attention. There are marketing problems which, if they are to be solved, will require the best brains we have. But I wish to suggest two things: (1) that we still have a great many serious problems of production, and (2) that many of these problems are inseparably associated in one way or another with the problems of marketing. We are all somewhat inclined to run our minds on a single track, to see only one thing at a time, and to neglect its relationships. This results in unbalanced action. The American people did this with agricultural production and now some of us are beginning to attempt it with agricultural marketing.

#### Production Precedes Selling

It goes without saying that if we do not produce anything we shall have nothing to sell. It is also obvious that the stockman who produces the most value, represented by animal commodities, per unit of land, labor, time, and capital, is in the most advantageous



KANSAS EXPERIMENT STATION CATTLE FEEDING BARN AND LOTS

# The Facilities for Distribution of The Standard Oil Company (Indiana)

**T**HE service which, at all times, the Standard Oil Company (Indiana) is prepared to render its patrons, rests securely upon a solid foundation of complete distribution.

To perfect a system which shall make every product manufactured by the Company instantly available to anyone, anywhere, any time, has been the goal toward which this Company has been working since the day of its organization.

As yet this ideal has not been achieved; but the system as it stands is conceded to be the most perfect of its kind in the world.

The present equipment for distribution, including grounds, buildings, storage tanks, motor trucks, wagons, etc., represents an investment of more than \$30,000,000.

There are 27 main stations where complete stocks of all products are kept on hand. Supporting these are the bulk stations located at 2881 carefully selected points in 11 states. These states are equipped with storage tanks having a combined capacity of 86,113,650 gallons of gasoline, 66,115,300 gallons of kerosene, and 4,300,000 gallons of lubricating oils.

It is necessary to carry this tremendous stock — total 156,528,950 gallons — at all times to insure quick, convenient service to the patrons of the Standard Oil Company (Indiana) wherever they may be, regardless of transportation difficulties or weather conditions.

To enable the Company to fulfill its obligations to patrons, and deliver to them the products they require, it is necessary to maintain a fleet of 3700 motor trucks, and a caravan of 3500 horse-drawn wagons, either active or in reserve. These tank wagons are so organized that they, at regular intervals, can reach 75% of the homes in the territory at present served by this Company.

Supplementing the wagons, an equipment of 530,000 iron barrels, representing an investment of more than \$7,000,000, is kept in service to insure the safe delivery of oils and gasoline, even to those remote places where the dark-green tank wagon never has penetrated.

For the convenience of the motoring public, a chain of 1300 service stations has been organized and many others are in the course of construction. These stations are prepared at all times to supply the motorist with his requirements of gasoline and lubricating oils in any quantity and at the lowest prices.

This, in outline, is the distribution system upon which the service of the Standard Oil Company (Indiana) rests.

It is the hope of the Company that the time is not far distant when no person in the territory served will be more than five or six miles from a Standard Oil Company (Indiana) service station if he lives in the country, or more than one mile away if he lives in a town or city.

**Standard Oil Company**  
(Indiana)  
910 S. Michigan Avenue, Chicago, Ill.

## Making a Start With Bees

By J. H. Merrill, State Apiarist

**O**NE way to start with bees is to capture a stray swarm, hiving them in a hive or putting them temporarily in a box and transferring them to a hive as soon as one can be obtained. This is the cheapest way to get started. Another method, and probably one that most beginners will be obliged to follow, is to buy old box hives which have been neglected. These may often be obtained at low cost.

The most satisfactory method, of course, is to make the start by purchasing bees of a gentle race in a modern hive with modern equipment. Until recently there have been a number of beekeepers who would each year sell a part of their stock. Owing to the high price of honey the last year or two, very few beekeepers are now disposing of any of their stock. On the contrary they are buying as many bees as they can and enlarging their business.

It seems that about the only way that one can make a start now is by purchasing colonies of bees in hives as suggested above and transferring them to modern hives. This is necessary because the new owner could secure no more returns from them if left in their box hives than did the original owner.

There are several different ways of transferring bees from old hives. One of the simplest ways is to place above the old box hive a new hive with movable frames filled either with foundation or drawn comb. This upper hive body should be examined from time to time, until it is found that the queen has come up from the old hive body below and is at work depositing eggs in the new hive body. When she is found doing so, a queen excluder should be placed between the upper hive and the lower one to prevent her going back to the old hive body. At the end of twenty-one days all of the worker brood in the old hive below will have emerged and the bees will probably have carried the honey that was there up into the new hive body and stored it there. At any time after twenty-one days have elapsed, the old hive body may be removed, broken up, and the wax which is there rendered and saved.

Another method, which is more direct and quicker, is that of cutting out the combs which contain brood and honey from the old hive and fastening them into frames in the new hive. They may be tied in with cotton strings wrapped around the frames, which the bees will later remove. The bees will fill in the space between the spaces of the comb and will fasten them in very securely. This method is desirable from the point that no comb is wasted, and as the building of comb requires considerable effort and expenditure of time on the part of the bees, it may be advisable to use this method in order not to waste wax. However, at the best, it is a messy job, there is great danger of killing the queen, and the chances of being stung frequently are excellent. Furthermore, there is no opportunity of wiring in this comb, consequently it is never as strong as comb that is built up from wired foundation, and the bees are very apt to build worker cells in all of the pieces of patch work which they put in.

A very satisfactory method, and one that is not exceedingly difficult to practice, is to provide, first, a modern hive fitted out with at least one frame of drawn comb, and the remaining frames filled with full foundation. However, if drawn comb enough to fill the whole hive is available, so much the better. The old hive should be turned wrong side up, and on this the new hive should be placed. If the box hive is either larger or smaller than the new hive, the difference in size should be overcome by tacking on strips of wood to fill up the open places. Next, smoke the colony generously and proceed to pound vigorously with a couple of sticks on the side of the old box hive. Continue this pounding for some minutes, and occasionally add a little smoke to stimulate the bees to move upward. When bees are alarmed in such a manner as this, the tendency is for them to go upward, and, consequently, after a few minutes pounding, a large number of bees will have passed from the old box up into the new hive. Lift the new hive and place between it and the old hive the queen excluder to prevent the queen returning to the old hive if she hap-

pens to be in the new one. Make a thorough examination of the frames, and if the queen is found above the excluder, the task of transferring the colony is completed. If after a careful search she is not discovered, the queen excluder should be removed and smoking and pounding resumed for a few more minutes. Again put the queen excluder between the hive bodies and examine as before for the queen. The chances are she will be found somewhere in the new hive body. If she is not found, as it sometimes happens when the queen is very dark colored, the excluder may be allowed to remain between the two hive bodies and all operations ceased for that time. After about four days return and examine the frames in the upper hive body. If eggs are found, then it shows that the queen was above the excluder, even though she was not found. If, however, eggs are not found, the queen excluder should be removed and the smoking and pounding resumed until she is finally found above. Twenty-one days after the transferring is completed the worker brood in the old hive will all have emerged, and it may be removed, broken up, and the wax rendered and saved, as in the first method of transferring.

Some people report that they have no success with this method, while others are very enthusiastic about it, as it gives the bees a chance to go right on working, and they can store honey in the upper hive body which is to be their future home, and all combs resulting from such a method will be straight, which is much to be desired.

There are several other methods by which a person could make a start with bees, but probably those named above will be found to be the most satisfactory and simplest to attack.

### Kanred Wheat at Hays

Six hundred acres of Kanred wheat is growing on the Hays Experiment Station farm. Last year the station had fifty acres in Kanred wheat, and it produced 1,063 bushels, or at the rate of 21.9 bushels to the acre, while the remaining 574 acres of wheat on the farm produced only 14.6 bushels to the acre. This Kanred wheat was on ground plowed in early June and summer tilled, but other fields were handled in the same way and the nearest yield to the Kanred was 18.5 bushels to the acre.

The Kanred wheat has been tested all over the state the past few years and as an average it has yielded 3.7 bushels above other varieties. Superintendent Weeks and others responsible for the station work were so sure of the superiority of this wheat that it was decided to sow a goodly portion of the wheat acreage to this variety last fall, and judging from the many inquiries for Kanred seed already being received, the whole station crop will be sold or reseeded by the time it is threshed.

### Two-Row Cultivator

B. S. L., Smith County, asks if it is necessary to plant corn or kafir with a two-row lister in order to use a two-row cultivator successfully. We would advise planning to use the two-row cultivator if possible. It is one of the modern implements that is becoming almost necessary on farms where cultivation work must be done as rapidly as possible. It doubles the number of acres one man can cover, and in these days of labor scarcity and high wages this is an important point.

The two-row cultivator is best used in connection with the two-row lister or planter which plants the rows a uniform distance apart. All the operator of the cultivator has to do is to watch one row carefully and if his machine is set right the other row will practically take care of itself.

In planting with the single-row lister more than the usual amount of care must be taken in order to have the rows uniform enough in spacing to permit the use of the two-row cultivator, but it can be done.

In working horses, look out for sore shoulders and backs, especially in plowing. Be sure that your collars fit. A collar too big is as bad as one too small. If the collar rides up, use a martingale or a girth running from trace to trace back of the forelegs.

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## FARM ORGANIZATIONS CO-OPERATE

Agriculture has failed to gain adequate recognition in Washington largely because of the multitude of voices representing it. It is discouraging to have new organizations continuously springing up, each claiming to be the only one pure organization in existence.

Some progress is being made, however, by two of our national farm organizations. KANSAS FARMER has noted the establishment of a Washington headquarters for the National Grange and a resume of the legislative program of this safe and sane organization last week. Attention has likewise been given to the National Board of Farm Organizations, which also has Washington headquarters. This organization is a federation of a number of representative national agricultural bodies, including the Farmers' Union, National Dairy Union, Society of Equity, and others.

The idea back of this federation is that the various farm organizations should seek to adjust their points of view, agree upon fundamental principles and work together for the common good of American agriculture. The National Grange has not entered into this federation as a member, but is co-operating with it to the fullest extent. A conference held recently between the official representatives of these two bodies is indicative of the progress being made in getting together upon a common platform.

The following statement signed by T. C. Atkinson, Washington representative of the National Grange, and William T. Creasy, chairman of the executive committee of the National Board of Farm Organizations, was given out: "We agreed on a basis of co-operation in presenting to congress and government departments measures and policies of importance to agriculture which our organizations hold in common. It was found in going over matters that we were in substantial agreement as to most policies affecting the interests of agriculture."

This is certainly a step in the right direction. It is through the adoption of such a policy as this that the American Federation of Labor is able to speak with a voice of such power on matters affecting the common interests of all kinds of labor.

## HARVEST WAGES

Fifty cents an hour was agreed to by the delegates from Western Kansas wheat counties as the wage for harvest help, ten hours to be considered a working day. Overtime is to be paid for extra. Stackers are to be allowed 40 cents an hour and men with teams 70 cents an hour.

There is no authority or power to compel wheat growers to adhere to the rates agreed upon at the delegate convention, but it can be seen by any wheat grower that uniformity is highly desirable and will result in the most efficient use of the labor coming in to help out the home supply in handling our immense wheat crop this year. The delegates voted, however, that wheat raisers violating the agreement should be left out of consideration in the future in the matter of labor distribution.

The repeal of the so-called daylight-saving law was also asked in a resolution prepared and sent to Congress by the delegates to the labor meeting. A very urgent request was likewise made for a reduced rate to harvest hands. According to news dispatches the railroad administration has denied the request for special rates, stating that it would be contrary to its policy to make concessions to any single class. It would seem that with government stabilization of wheat prices in operation as an emergency war measure there is sufficient precedent for this rate concession to the harvest hands necessary to save the crop.

The hour method of paying for harvest help is not entirely new in Kansas. In 1910 Ford County followed the method, the rate being 25 cents an hour and ten hours recognized as a day. G. J. Stauth, a Ford County wheat farmer who has

kept various farm accounts for a good many years, has some interesting statistics on former wheat harvests. In 1910 his harvest workers averaged nine and a half hours a day for thirteen days. The day's work ranged from eight and a half to eleven hours. Seven days the men worked ten hours a day and one day eleven. Mr. Stauth says nothing is gained by rushing men and teams beyond a normal speed and we believe wheat growers generally recognize the truth of this statement. The hour system is without doubt the fairest method of calculating harvest labor pay. Mr. Stauth's records show that in Ford County harvest wages have ranged from \$1.25 in 1900 to \$3 a day in 1916. The wage agreed upon at Hutchinson May 3 is not out of line with wages being paid in other industries nor out of proportion with prices in general.

E. E. Frizell, who is in charge of the harvest labor situation in Kansas, reports that figures he has obtained show that 15 per cent of the farm boys of Kansas who are now leaving military service do not or are not returning to the farm, and only 1 per cent of the men the government employment agencies are trying to locate are asking to be sent to farms. In view of the fact that 220,000 men will be required to harvest the 1919 wheat crop in Kansas, this is rather disquieting information. The active co-operation of every agency is needed to handle the situation.

## SPECULATION IN WHEAT

There have been indications of something wrong in the handling of wheat and flour since government restrictions were removed. The old law of supply and demand immediately began to operate, but as usual there were those who sought to make speculative profits. Mr. Barnes recently warned traders on the Chicago exchange that the powers of the Food Administration would be used unless they ceased artificial manipulations of wheat and flour prices. It has since been announced that the Grain Corporation would permit the importation of Canadian wheat, although no definite amount to be brought in was named. Mr. Barnes also said that the Grain Corporation would discontinue the purchase of flour, with the exception of two kinds, and that flour now on hand would be resold. This action is taken with the intention of stabilizing the wheat and flour market in order to prevent speculation and is in line with the government control policy.

The announcements made by Mr. Barnes with reference to the importation of Canadian wheat resulted in an immediate drop of 10 or 12 cents in wheat on the Chicago market. During the past few days wheat has dropped 10 or 12 cents and the falling price of wheat has been reflected in flour. Some of the men who were trading in wheat probably lost heavily, and no one will waste any sympathy on them. They were given fair warning and honest and patriotic people feel that there is no more despicable character than the food profiteer.

## CAN CATTLEMEN GET TOGETHER?

The American National Live Stock Association should be concerned in every phase of live stock production if there is anything in its name. In connection with the conference of producers attempting to work out a plan whereby a better understanding between producers and packers might be brought about, it has been intimated that the American National Live Stock Association has ignored the position of the corn belt and grass-fattening section of the country in the beef-making business. J. H. Mercer, secretary of the Kansas Live Stock Association, suggests that the National Association should change its name or else become more national in its scope. There is every reason why cattle interests, from range to fattening lot, should merge their forces in a common cause. The controversy, if it is a controversy,

between different sections should not be allowed to divide the forces of beef producers. It is fortunate that at this time the different live stock organizations have as their officers big, broad-minded men who realize the seriousness of the situation as regards live stock production and marketing in the future and can be counted on to use every possible effort to bring about harmony.

## BULLS FOR BREEDING CLUBS

Bulls at reduced prices will be available for co-operative breeding associations in Kansas. At the annual meeting of the Holstein Breeders' Association held in Kansas last month it was voted to supply young bulls from six months to a year old at 15 cents a pound f. o. b. shipping point. A number of Jersey breeders have made similar offers. This is evidence of the faith pure-bred breeders have in the power of a pure-bred sire to increase production, and shows their desire to help along a good cause. The price made is considerably less than prices ordinarily paid for pure-bred bulls. We hope that many Kansas communities will take advantage of these offers and organize co-operative breeding associations. The co-operative breeding association should go hand in hand with the cow testing association. There is little excuse for using scrub sires in this day and age. The man who thinks he cannot afford to own a good animal himself can co-operate with his neighbors and the stock of the whole neighborhood will be greatly improved. Do not overlook this chance to introduce well-bred dairy sires at practically beef prices.

## THRESHING SCHOOLS

Wastes from faulty methods of operating threshing outfits are of common occurrence in the rush of getting a Kansas wheat crop ready for market. Through the Kansas wheat belt this year threshermen are to have the opportunity of attending one-day threshing schools conducted by representatives of the engineering division of the agricultural college and the federal Department of Agriculture. Seven of these schools are announced, the dates being as follows: Wichita, May 23; Great Bend and Abilene, May 26; Dodge City, May 28; Mankato, May 29; Hays and Norton, May 31. In the forenoon the general principles of grain separation will be presented from an engineering standpoint and there will be discussions of the importance and value of good threshing. Practical methods of making threshing machinery adjustments will be discussed by representatives of threshing machine companies. The afternoon will be devoted to threshing machine demonstrations. These will show the various adjustments of separators and the results obtained from proper adjustment. Four threshing machines will be used in each school.

## DAIRYING IN KANSAS

J. C. Mohler, secretary of our State Board of Agriculture, has come to believe that dairying in Kansas is due for a big expansion and recently announced that he had started an investigation into the dairy industry of the state. Every phase and angle of the milk and cream business will be given consideration, the sole purpose being to help to increase the quantity and quality of dairy products and enable our dairymen to make better profits. Those who have given any attention at all to the subject of dairying in Kansas see no reason why the state should not rank among the leading dairy states of the nation.

Mr. Mohler's first step in gathering this helpful information on dairying in Kansas was the sending out of more than 10,000 twelve-page questionnaires to representative milk and cream producers of the state. The dairyman is usually a busy man and perhaps some of these men will find it easy to postpone the answering of the questions submitted. Some of the blanks are coming back, but they are coming in very

slowly. We trust those of our readers who have received these questions will heartily co-operate with Mr. Mohler in his efforts to assemble this valuable information. It probably will not be possible to fill in the blanks at one sitting. We visited a dairyman recently who was answering a few of the questions from day to day as he found time and this is probably the method that all will have to follow. The splendid books, "Alfalfa in Kansas" and "Hogs in Kansas," which were prepared as a result of the hearty co-operation of the farmers of the state who were asked to help are samples of what may be looked forward to when this dairy information has been analyzed, compiled and published in the form of a report. If you have received one of these questionnaires do not consign it to the waste basket, but do your best to give the information asked for as fully as you can.

## MOTOR TRUCKS TO STATES

With the ending of the war Uncle Sam finds himself overstocked with motor trucks. Instead of selling them for what they will bring, the various states are to get them for road work. There is a provision in the post office appropriation bill which permits this distribution of surplus trucks. The trucks to be so distributed are valued at \$45,000,000. The Bureau of Public Roads of the Department of Agriculture will have charge of the distribution. They must be used by the states in connection with roads built in whole or in part by federal funds of which Kansas is to receive \$8,000,000, providing the state meets the conditions and appropriates an equal amount.

There are twenty thousand of these motor trucks ranging in capacity from two to five tons and all the state has to do to get the use of them is to pay loading and freight charges. Eleven thousand of them are new and all are in serviceable condition. The apportionment will be only on requests of state highway departments and in accordance with the appropriations provided by the federal aid law of 1916. These trucks can be used to splendid advantage in road building work. It is a good use to make of surplus war material.

## WHEAT STILL ON FARMS

Only 3.28 per cent of the 1918 Kansas wheat crop is still in the hands of the farmers, or 3,049,000 bushels of the 93,009,000 bushels produced. These are the official figures recently furnished by J. C. Mohler, secretary of our State Board of Agriculture. This probably represents only the wheat held as a reserve seed supply, for there was absolutely no incentive to hold wheat, if it was possible to get it to market. The man who held stood the storage charges and could of course expect only the guaranteed price. Mr. Mohler states that the percentage of last year's crop still on the farms is the smallest at this date in three years, although April 1, 1918, there was only 1,600,000 bushels of wheat still held on Kansas farms.

Most of the wheat on farms in Kansas is in the south central section of the state. Reno County has 155,600 bushels, McPherson 140,000, Barton 132,000, Stafford 129,999, Sumner 127,000, Dickinson 122,000, and Marion 116,000. These seven counties have practically one-third of all the wheat still in the hands of the farmers.

It is encouraging to note that prices of hogs, cattle and sheep were higher five months after the armistice was signed than they were during the war. This means continued prosperity for the farmer.

Corn oil, which, so far as is known, is made only in this country and Canada, has within the last decade come into prominence as both a food and technical oil.

# SILAGE WINS IN IOWA TEST

## Greatest Profit in No-Grain Lot—Tests With Commercial Feeds Included

**T**HE profitability of feeding silage heavily to steers being fattened for market was an outstanding feature of the tests made at the Iowa Experiment Station the past season. In the lot in which the steers were fed all the silage they would eat with alfalfa hay and three pounds of linseed oil meal daily as the only concentrate the steers returned an average profit per head over cost of feed of \$23.11, excluding hogs, and \$27.32 crediting gains from the hogs following after them. The second best margin over cost of feed was in the lot fed the standard corn belt full-fed ration of shelled corn, oil meal, silage, and alfalfa hay.

Approximate figures worked out by the station men show that it costs at the present time practically \$19 per steer to cover interest, labor, bedding, housing, fencing, water, risks and miscellaneous items. Deducting this from the gross margin of \$23.11 leaves an actual profit of \$4.11 for the steers fed the limited grain ration. Of course this does not credit manure. Crediting each steer with manure produced at the rate of 5.6 tons valued at \$3.75 a ton in the field totals \$21, which might legitimately be added to the profit.

Fully 1,200 stockmen from Iowa and adjoining states were present at the cattle feeders' meeting at Ames April 29, at which time the results of the season's experiments were given. Seven groups of five steers each had been fed for 120 days. The keenest interest was taken by those present in the results of the test and they were fully discussed. It was a test of different commercial molasses feeds, corn gluten feeds and the limited grain ration for fattening. Tests have previously been made of the commercial feeds at Ames and other experiment stations. The manufacturers of these commercial feeds had been invited to come in and take part in the tests, the cattle to be fed according to their instructions. Five different molasses feeds were fed in the Iowa test and one brand of corn gluten feed. The experiment station men only asked that the additional feeds used with the commercial feeds be limited to those used in the lot fed what was called the "standard corn belt full-fed ration" and the ration fed in the "no grain" lot. This limited the additional feeds to shelled corn, linseed oil meal, alfalfa hay and silage.

The results were not very favorable to the molasses feeds. In some of the lots the results showed actual losses. The afternoon session was given over to the representatives of the various commercial feed companies, and they good-naturedly assigned reasons for the poor showing their feeds had made. They frankly admitted that they were there to learn, wishing to find out all they could as to the best methods of using the sweetened feeds in combination with farm-grown feeds. They did not seem

disheartened or to have lost faith in the value of the molasses feeds.

The steers fed were two-year-olds such as the average cattle feeder of Iowa buys for fattening. They cost \$12.75 a hundred pounds delivered at Ames December 27, 1918, when the tests began.

The rations fed the seven different lots, as officially reported, follow:

Group 1, Standard Corn Belt Full-Fed Ration—Shelled corn full-fed twice daily, plus linseed oil meal three pounds per head given in two feeds and fed on corn silage, plus corn silage hand-fed twice daily, plus alfalfa hay, what the cattle would clean up over night, plus block salt at free will.

Group 2, Douglas Corn Gluten Feed Ration—Corn gluten feed three to four pounds per head daily mixed with one to two pounds of linseed oil meal per head daily and given in two feeds in open bunk, plus four to six pounds of shelled corn per steer daily, last sixty days, given in mixture with gluten feed and oil meal in open bunks, plus corn silage hand full-fed twice daily, plus alfalfa hay what the cattle would clean up over night, plus block salt at free will.

Group 3, Champion Molasses Feed Ration—Champion molasses feed five to seven pounds per steer daily given in mixture with shelled corn eight to ten pounds per head daily in open bunk, plus corn silage hand full-fed twice daily, plus alfalfa hay what the cattle would clean up over night, plus block salt at free will.

Group 4, GJMCO Alfalfa-Molasses Feed Ration—GJMCO alfalfa-molasses feed four to five pounds per head daily in mixture with shelled corn started at six pounds and increasing to a full feed per head daily, given in two feeds in open bunk, plus two to three and a half pounds of linseed oil meal given in two feeds on silage, plus corn silage limited to fifteen to twenty pounds per head daily given in two feeds, plus alfalfa hay at free will, plus Sal-Tonik salt block at free will.

Group 5, Alfal-Fat (Alfalfa-Molasses) Ration—Alfal-Fat two to four pounds per head daily given in two feeds on second silage allowance given after grain morning and evening, plus shelled corn during the last ninety days, gradually increasing up to six pounds per head daily, this given in two feeds and fed in open bunk, plus linseed oil meal three pounds per head daily, given in two feeds on the first silage allowance given before other feeds morning and evening, plus corn silage hand full-fed twice daily, plus oat straw at free will, plus block salt at free will.

Group 7, Golden Rule Molasses Feed Ration—Golden Rule five to nine pounds per head daily given in two feeds on silage, plus shelled corn limited to about two pounds daily the first sixty days, then increased to about six and a half pounds the next thirty days, and then to full-feed, approximately twelve pounds the last thirty days, given in two feeds daily with silage, plus whole oats four pounds per head daily beginning the second thirty days, six pounds the third thirty days, one pound the fourth thirty days given in two feeds on silage, plus corn silage hand full-fed twice daily, plus alfalfa hay what the cattle would clean up over night, plus block salt at free will.

Group 7, "No Grain" Ration—Straight linseed oil meal, corn silage, alfalfa hay, salt. Linseed oil meal three pounds per head daily given in two feeds on silage, plus corn silage hand full-fed twice daily, plus alfalfa hay what the steers would clean up over night, plus block salt at free will.

In all groups silage both morning and evening feeds was allowed the first thing, then grain was fed, and finally, with those cattle not limited on silage, a second feed was given, providing the cattle showed an inclination for it.

The prices of the feeds used in the tests were as follows: Shelled corn, \$1.45 a bushel, on a 14 per cent moisture basis; whole oats, 64 cents a bushel; linseed oil meal, \$70 a ton; Douglas corn gluten feed, \$57.40 a ton; Champion molasses feed, \$47.70; CJMCO alfalfa-molasses feed, \$44.50; Peters' Alfal-Fat (alfalfa-molasses), \$37.40; Golden Rule molasses feed, \$51.10; corn silage, \$12; alfalfa hay, \$30, and oat straw, \$10 a ton. Block salt was charged at \$1 a hundred and Sal-tonik salt, \$5 a hundred. The sacks were credited on the commercial feeds at the rate of \$2.50 a ton.

The following are some of the lessons gleaned from this test, as briefly enumerated by John M. Evvard, Russell Dunn, W. H. Savin and H. D. Van Matre, of the animal husbandry department of the Iowa Experiment Station:

1. The Standard Corn Belt ration produced the most rapid gains 2.98 pounds daily, the best commercial feed group averaging only 2.51 pounds and the poorest commercial group 2.20.

2. The Standard Corn Belt Ration produced the highest finish and the most weight so that the cattle were appraised at \$16.50 per hundred Ames, this being \$1.50 a hundred above the least valued commercial feed group and 75 cents a hundred above the best of all the groups.

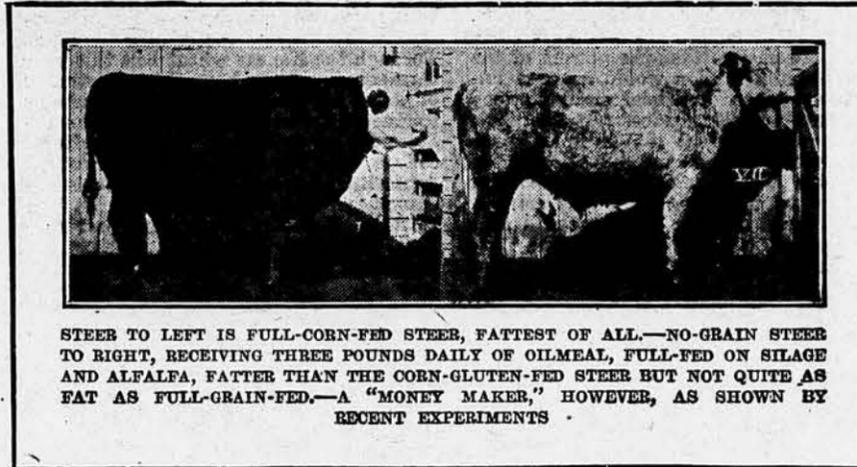
3. The Standard Corn Belt ration permitted a margin per steer over feed costs of \$20.39 after crediting feed saved by hogs, this margin being exceeded by only one other group, namely the "no grain" Group 7, a group fed practically the same as Group 1 with the exception that no corn was allowed.

4. The "no grain" group ranged second in gains with 2.74 per hundred daily, this group excelling all of the commercial feed groups receiving grain. This group returned a margin per steer after crediting hog feed saved of \$22.64. Even though these "no grain" cattle were valued at \$1.20 per hundredweight below the standard corn belt ration steers, yet this big difference was not enough to efface the advantages gained through economical gains.

5. The commercial feed returning the largest margin per steer was corn gluten feed, returning \$15.91 as contrasted with the next best, \$12.78 (Group 5, Alfal-fat).

6. The commercial feeds making the poorest showing were CJMCO alfalfa-molasses (Group 4), with a loss margin of \$7.31, and Golden Rule molasses feed (Group 6) with a loss margin of \$1.75. These two groups ranked low because of two fundamental reasons: They showed the highest cost of gain and the least selling values.

7. The present spotted condition of the cattle market is reflected in the wide range of values among these groups, emphasis being placed on the heaviest and best finished cattle, as developed on the standard corn belt ration.



STEER TO LEFT IS FULL-CORN-FED STEER, FATTEST OF ALL.—NO-GRAIN STEER TO RIGHT, RECEIVING THREE POUNDS DAILY OF OILMEAL, FULL-FED ON SILAGE AND ALFALFA, FATTER THAN THE CORN-GLUTEN-FED STEER BUT NOT QUITE AS FAT AS FULL-GRAIN-FED.—A "MONEY MAKER," HOWEVER, AS SHOWN BY RECENT EXPERIMENTS.

## United States Second in Beef Exports

**A**RGENTINA, the United States, and Australia, in the order given, are the chief beef-exporting countries of the world, and Uruguay and New Zealand are of large, though of secondary, importance, while Brazil has started beef production and export that will assume enormous proportions if expectations are realized. These facts are shown in figures of the Bureau of Crop Estimates, United States Department of Agriculture.

The United States was far in the lead as an exporter of beef for many years, until the beef-producing resources of Argentina began to be utilized systematically. By 1909 Argentina took precedence in exports, although it had temporarily held it in 1903. While the beef exports of the United States were seriously declining from 1911 to 1914, until in the latter year they were less than the imports, Australia stepped ahead of this country as a beef exporter and held second place, after Argentina, until 1915.

The beef exports of the United States reached a summit of 731,000,000 pounds in the fiscal year beginning in 1906, and

there was only a trace of imports. A downhill course followed, and by the calendar year 1914 the imports exceeded the exports by 93,000,000 pounds. In that year the imports were 259,000,000 pounds, but in subsequent years beef imports have been much less, although considerable, and they should be subtracted from the exports to arrive at the national beef surplus. This surplus, including a share of the unidentified meat, quickly rose to 425,000,000 pounds in 1915, was considerably below this quantity in the two following years, and expanded to 766,000,000 pounds in 1918, overtopping the highest previous year, 1906, by 35,000,000 pounds. The gross exports of domestic beef in 1918 were about 800,000,000 pounds.

Argentina had forged steadily ahead and permanently passed the United States in exports of beef in 1909, in which year the Argentina exports amounted to 621,000,000 pounds. By 1917 this quantity was more than doubled, and the record of that year stands at 1,334,000,000 pounds, including the

meat unidentified in the trade report.

As far back as 1895 Australia exported 250,000,000 pounds of beef, but the subsequent exports were much below this until 1910, when 252,000,000 pounds were exported. The quantity rose to 491,000,000 pounds in 1915 and is recorded as 165,000,000 pounds in 1916 and 341,000,000 pounds in 1917.

Beef exports in these three countries are not uniformly related to the number of cattle supposed to be on hand, either by census enumeration or by estimate. In the United States there were 51,000,000 cattle on farms on June 1 in the census year 1890, 68,000,000 cattle in 1900, and 62,000,000 cattle on April 15, 1910. At the low tide of 1913 and 1914 the cattle numbered but 56,500,000, as estimated by the Bureau of Crop Estimates, but recovery followed to 68,000,000 cattle in 1919, equaling the record for 1900.

Argentine cattle never with certainty exceeded 29,124,000 head, the census report for 1908. The census of 1914 found only 25,867,000 cattle, and the estimate

for 1918 is 27,050,000 cattle. In Australia the number of cattle has ranged from about 9,000,000 to 12,000,000 head during the last nineteen years, and in the more recent years has remained at 10,000,000 to 11,000,000 head.

It is apparent from the foregoing figures that increase of cattle in these three countries is a matter of some difficulty. A promising progression for a few years had been followed by a reversion, and this again by a progression, but in each of these countries the present number of cattle barely equals the number of about twenty years ago, and yet the average yearly exports of beef from these countries (above imports for the United States) increased from 925,000,000 pounds in 1895-1904 to 1,344,000,000 pounds in 1905-1914, and to 1,909,000,000 pounds in 1915-1917.

Gain of beef exports without corresponding gain in number of cattle on hand has been made possible by a more rapid turnover of means of slaughtering at younger ages, by a breeding-up process, resulting in heavier, beefy animals, and by more intensive feeding.

# GETTING MOISTURE INTO SOIL

## Use Every Means Possible to Prevent Run-off

By L. N. FARR

**H**AVING lived in Western Kansas almost twenty years, I have naturally given some thought to the problem of overcoming the effects of light rainfall. I have become convinced that the solution is bound up with the question of moisture storage in the subsoil. Beside this problem, the soil mulch, moisture conservation and tillage are of minor importance. I have studied the theory of evaporation; namely, the causes leading to the change of the soil moisture into vapor. Also the conditions which favor and those which limit this phenomenon.

At Stockton, Kansas, using the data of the nearest records, the average annual precipitation is about twenty-two inches. It has been demonstrated that for each acre inch of water our crops transpire through their leaves they can produce about five bushels of grain. This of course is based on a normal crop. If, for instance, drouth should destroy the crop in the blooming stage, no grain of course would be produced. In this connection I want to state that, when analyzed, crop failure from drouth is due simply to the exhaustion of the stored supply of moisture. Acclimated crops seldom fail or suffer permanent damage until this has occurred.

The yield of grain in a normal season indicates roughly the amount of water from the year's precipitation stored in the soil below reach of the summer heat. Judging from the yield, the amount so stored does not often exceed seven or eight inches even in good season, and these "good" seasons, be it remembered, are usually above the average in precipitation—say twenty-eight to thirty-two inches. It is evident, therefore, that three-fourths of the precipitation is lost through run-off or evaporation from the first few inches of soil.

The system of culture that prevents run-off and that gets the maximum amount of each fall below this critical upper layer of soil is the system that will win. This conclusion is based on two factors which I believe can be demonstrated and which have been neglected by the theories of the past, such as the soil mulch and capillary theory. First let me say it has been proven by the Nebraska Experiment Station that capillarity is active and a source of water loss only for a few days after a normal rain. This is especially true where there is already a moist subsoil, strange though the statement may seem. Water is especially stubborn about moving into the subsoil when it is already dry. This is a proven scientific fact. The moral is, get the subsoil moist and so get a

better penetration of each rainfall thereafter. I have concluded that fall and early winter is the time to begin this process, and listing the method.

The first neglected factor is found in the phenomenon of evaporation. Evaporation within the soil is the chief source of moisture loss. In the past we were taught that the chief loss was at the surface where capillarity was supposed to bring the water from the subsoil from "away down."

Water is changed to vapor by heat. In changing it becomes a bulky gas and also uses up heat. The heat becomes latent in the process. Thus the water literally eats up heat when it turns to vapor. Unless heat is supplied from some source, evaporation ceases. There is another force which retards the process even though heat is supplied to the water. It is pressure. When the soil is loose and warm the water changes to this bulky gas, which being light, filters up through the loose soil very readily. In such soil, pressure obviously retards the escape of vapor but little. Compact soil, such as the subsoil, retards it much more. Again the moral: Keep your moisture in the subsoil. Pressure also acts in a less effective way in the air above the soil. Air is evidently conceived to be a mass of infinitely small chunks or chips. When heated these particles become, as nearly as I can describe it, shaped something on the order of snowflakes. When it is

cool or cold, the particles assume a more compact form. Now vapor in passing up into the air filters through the spaces between these particles very slowly. Warm air has room for 5 per cent of its weight of vapor between these particles of air. When the air is stirred, as on a windy day, the vapor, which is lighter than air, rises faster, and fresh air is also constantly supplied. But when the air is still and the vapor becomes warm enough, it creates pressure of its own and forces a way through the air in streams of pure vapor. Therefore evaporation takes place on still days, but it requires a high temperature in the soil, for it is the changing water itself which is the fountain of this vapor stream.

The second neglected factor is dependent on the recognition of the first. It is heat conduction. The heat of the sun accumulates at the surface where the sun's rays fall. If the surface is moist, water is changed to vapor rapidly and the heat thereby used up. When the surface has become dry, the heat of the sunshine is conducted downward through the soil till more water is reached. This in turn is evaporated, but the vapor encounters some resistance because it must filter through a shallow layer of soil. But remember this soil usually cracks open in small seams. The deeper into the soil this evaporation process is carried, the more difficulties and retarding factors it must

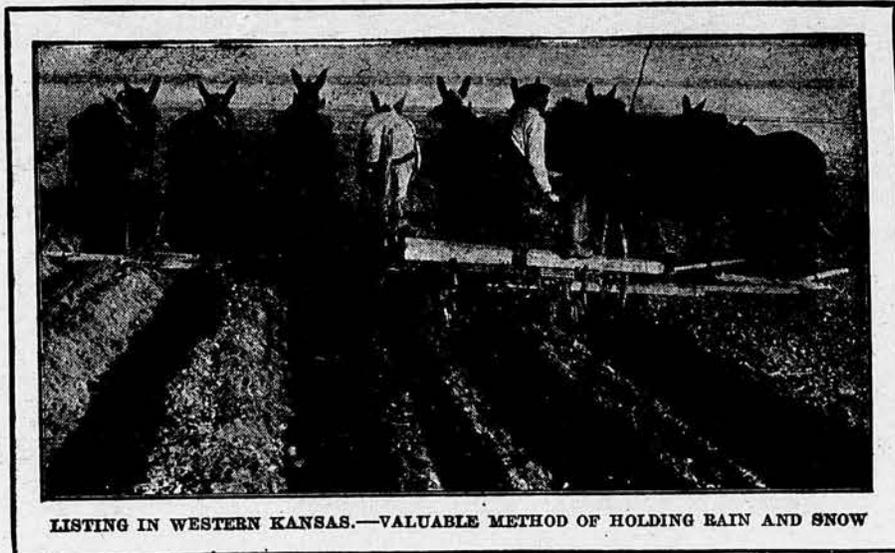
overcome. Thus when the subsoil is reached the process is very feeble.

Regarding the soil mulch, I suppose it, when fairly deep, would act as an insulation to retard the downward movement of the sun's heat. As a preventive of capillary movement toward the surface, it is impractical because this movement is active only immediately after rains when the soil is too wet to work well. Capillarity gradually becomes feeble as the soil becomes firm enough to go onto with teams and tools. Moreover, cultivation hastens the evaporation in the portion of the soil which is loosened, although, as stated above, it probably retards the downward conduction of heat. Therefore, in my scheme deep storage of the snow water and rainfall is the prime essential. Anything that protects the soil, especially the subsoil, from excessive heat is desirable.

Regarding the problem of run-off, I have studied on a scheme of listing with an attachment behind the lister and later behind the cultivating tool used to scrape and carry along loose soil in the lister furrow, this to be dumped about every seven feet. On the lister I would have first a shovel behind the share to throw up loose soil and following this a scraper to catch and dump the pile at short intervals. This I hope to see tried out in summer fallowing for wheat.

And again I will mention fall and early winter listing. I believe the winter moisture is doubly valuable because of the low evaporation at this time and because a subsoil reserve is needed to promote the more rapid absorption of the spring and early summer rains. I am convinced that the late summer rains have far less value than is commonly credited to them. What little value they have is due to the cooler weather they sometimes bring. Of course heavy rains when they come so as not to lose the surface moisture between rains are of value. But as a rule late summer or midsummer is a poor time to store moisture, and surface moisture soon goes. Listing in the fall also helps hold the snow on the fields. Many of our snows are deposited in the draws and along roadsides partly because of bare and smooth fields.

The listing method at all times is an efficient way of getting the precipitation deeper into the ground, providing only that run-off does not occur. A simple aid to this end is a good subsoiler. There is a book entitled "Dry Farming," written by John Witsdoe of the Utah Agricultural College. Thinking farmers in our plains country would do well to read this book.



LISTING IN WESTERN KANSAS.—VALUABLE METHOD OF HOLDING RAIN AND SNOW

## What the Calf Club Means

**I**F YOU ever have an opportunity to give aid and comfort to a calf club, do not fail to rise to the occasion and back the work to the limit.

It is questionable whether any more useful venture has been made in the matter of the adoption of improved bovine standards than that of forming boys' and girls' calf clubs, writes Frank D. Tomson of the American Shorthorn Association. In various communities, counties and states, these calf clubs have been organized. The extension departments of several state agricultural colleges have taken this work in hand and out of it has come some very remarkable results. The breed associations have materially aided in the formation of such clubs through local banks, more especially where registered calves have been selected for the fitting contests. The American Shorthorn Breeders' Association has been particularly active in this line of education and extension work and has encouraged many a boy and many a parent to substitute registered Shorthorns for the grades that had previously been grown on the farm.

The contests held under the direction of the several college extension departments have usually been conducted on a strictly beef basis. The calves used in these contests are usually grades of the several beef breeds with an occasional

cross-bred or pure-bred calf represented. Under such a plan the calves are started on feed at a stipulated date, the care being given by the boy or girl who has entered the contest and has either chosen or been assigned the calf. The feed and care provided are left to the judgment of the fitter largely within a few prescribed limits. The effect is to create a keener interest on the part of the fitter in the development of the animal. The fitter is asked usually to make up a statement of the weight of the calf at the beginning and of the plan followed in the fitting, and this effort has naturally led to closer attention to the matter and a deeper interest in the outcome. The contests usually run for a period of three to six months and are concluded at a date agreed upon, sometimes at a local fair or at a county or state fair. The contest is usually the most interesting part of the program, whether held at the state fair or a lesser occasion. It is an inspiring sight to see fifty or more boys and girls, with the calves which they have fitted, lined up for the final ratings. There is many a surprise and many a triumph that will have a lasting effect. The showman's instinct is quickly uncovered and many a loser leaves the ring with a determination to return another day with a winner.

The practice of the Shorthorn Asso-

ciation has been to encourage the adoption of registered Shorthorn calves for the contests and then at the conclusion sell the calves in an auction sale after they have been passed on in a prize contest. The fitters are permitted to bid on the calves whether their own or the entries of others. This gives the owner the choice of letting his calf go at a price that seems to him satisfactory or placing a higher bid and retaining it. In this plan there is developed a business instinct that is quite as useful as the fitting experience. In the majority of cases the calves are purchased as a lot and then appraised and allotted to the contestants at the appraised price. Local banks have played a very important work in financing and in many cases organizing these clubs and seeing them through to the final windup. The banks have found that these clubs have stimulated a vast amount of interest in better live stock standards not only among the young people who are the principal factors in the plan but among the land owners and tenants throughout the community as well. They have found that it is a good business move for the bank and for the entire neighborhood.

Preference in these pure-bred clubs is for heifers of breeding age, and they are usually bred after they pass into the hands of the contestants and brought

into the sale with this added advantage and value. For this reason it is desirable that a few good bulls be included in the contest in order to insure an adequate supply of bulls for use on the heifers, and also to provide a better class of bulls for the various herds in the community.

We have in mind one bank in Illinois that has placed the club on a three-year basis. Nothing is to be sold from the club except the surplus bull calves until the three-year period is completed, and then the produce from these heifers originally purchased is offered at auction. The value of such a plan is easily seen. The only objection that might be offered against it is that the time might seem rather long to the boys and girls in the contest. They might allow their interest to lag before the time had expired.

The great value of these clubs is that they start the young folks along the road to higher standards in an entirely natural and effective way. They learn without the irksome experience of having to be taught as the average boy understands the term. They become business men and women at the outset, and, once having acquired the practice, it will grow.

Be sure cattle on pasture have plenty of salt.

## Dairying and Co-operation Combine

By George H. Dacy

**T**O MAKE dairying mean more prosperity instead of drudgery has been the notable achievement in the Grove City community of Pennsylvania. Unprofitable methods with inability to gain more than a meager living from the soil had distributed seeds of discouragement throughout the community.

Under such conditions the United States Department of Agriculture induced the business men and others of Grove City to establish a creamery. Built and equipped by home capital, this plant is operated by the department as a part of its experimental and demonstration work. In three years Grove City has developed into an advanced dairy community. The first day the creamery opened its doors twenty patrons marketed seventy-eight pounds of butter fat. By June 30 of the same year the number of patrons had increased to 106, a year later to 338, the next year 579, and at the end of the third year, or June 30, 1918, it was 614. But the increase in the income is even more remarkable. The first fiscal year or from July 1, 1915, to June 30, 1916, inclusive, the gross income of the creamery was \$82,432; the second year it had increased to \$212,904, and the third year it was \$375,596. Last year one of the Grove City banks increased its deposits \$450,000 of which approximately one-third resulted directly from dairy farming improvement.

### City Helping Country

The Grove City community has followed the principle that "In union there is strength," and at the present time is admirably organized for profitable results. The local commercial club of 200 members has been of great assistance in winning the confidence of the farmers, in making them feel at home, in entertaining them and in strengthening the bonds between them and their town neighbors. The club rooms are now used as headquarters by farmers and their families when they are in town and twenty of the most progressive farmers are now members. Often the club has been active in obtaining help for the farmers during busy times while occasionally the members themselves have assisted the farmers in urgent work.

The two local banks have supported the "better agriculture" movement and one of them has aided in financing the purchase of pure-bred dairy sires and cows. It has brought in eight carloads of high producing animals and distributed the cattle at cost among the farmers. In addition it has loaned money for the purchase of better cattle and for general farm improvement. The bank publishes a monthly paper which circulates among the creamery patrons and deals with community development problems and other topics of interest. Each month it publishes the names of farmers receiving the largest checks from the creamery and the names of the owners of cows whose average production exceeds forty pounds of butter fat a month. The lists stimulate friendly rivalry among dairymen and benefit the local industry.

### More Good Cows Brought In

Today Grove City is a region of profitable dairy cows, due to the intensive work of the home cow testing association which has worked for the shipping in of better dairy animals and the shipping out of low producers. Farmers have heeded the evidence of the milk scales and the Babcock test. One dairyman found that nine of his eleven cows were "loafers." He immediately sold them to a local butcher and purchased profitable stock to take their places. The Grove City Cow Testing Association records for 1917 and 1918 show that it cost an average of \$74 a cow to feed the 262 cows that completed a year's test—approximately \$50 to feed the lowest producers, and \$97 for the cows whose average production was 400 pounds or more of butter fat a year. One cow in the 400-pound class yielded more income over cost of feed than an entire group of twenty-five cows that averaged only 100 pounds of fat a year.

### Work of the Bull Association

Two co-operative bull associations, Jersey and Holstein-Friesian, have been organized since the development work began. Each of these organizations is divided into four sections or blocks, with one bull to each block. The Holstein-Friesian Bull Association consists of

twenty-five farmers who subscribed \$75 each for the purchase of four registered Holstein sires of meritorious breeding. To avoid inbreeding, the sires are changed from one block to another every two years, and according to this plan the bulls now will be serviceable for the next eight years. Thus each member of the club gets the use of a fine sire while the organization is able to keep its bulls at a maintenance cost of about one-sixth of what it would be if each herd were headed by a separate bull. The Jersey Bull Association was organized along similar lines. This campaign for better breeding has brought about the establishment of more than forty pure-bred herds in the community during the last year.

The Guernsey Breeders' Association at Grove City consists of twenty-eight members, owning seventy-one registered Guernseys, each member owning either outright or jointly a carefully selected registered sire.

In the main, the dairy cattle in the community are free from tuberculosis; more than a hundred herds have successfully passed two annual or three semi-annual official tuberculin tests. As a result they have been included in the tuberculosis-free accredited herds listed by the United States Department of Agriculture.

### Boys and Girls Working Too

The Boys' and Girls' Pure-Bred Dairy Cattle Club was organized more than a year ago with fifty-three members. In addition to the cattle club there are pig clubs, garden clubs, canning clubs, and a club recently organized under the direction of the county agent known as "The Young Farmer Club," in which eligibility to membership requires the winning of a prize in some "worth while" contest.

In spite of the high price of building

materials last year, twenty-five new silos have been built while fifty-seven old barns have been remodeled and equipped with such improvements as concrete floors, up-to-date stanchions and better lighting and ventilating facilities. In the Grove City district dairy development has made such rapid progress that many dairymen have had to keep their cattle in barns not designed for such a purpose. However, using these old barns has allowed the dairymen to devote more of their capital in the purchase of high-producing cattle.

Another organization, known as the Grove City Federal and State Accredited Dairy Cattle Show and Sales Association, encourages the development of healthy herds and the exhibition and sale of dairy cattle. Each member must furnish the secretary-treasurer with an extended pedigree of all animals he offers for sale or exchange. Once a year the county holds a round-up picnic and dairy cattle show. Last year 1,500 people attended.

### Example for Other Communities

The creamery fieldman aids the farmers in building silos, remodeling and rearranging their barns, tuberculin testing their herds, detecting and disposing of undesirable cows.

Under the supervision of a qualified man practically any farming community, it is believed, can improve its organization, farming methods, market operations, and similar activities. Whenever such a community tackles the business of self advancement energetically in the proper manner, a spirit of confidence will prevail and work well begun will go forward to still further success.

The foregoing information comes from a recent publication of the Department of Agriculture, "How Dairying Built Up a Community."

It is dangerous to carry matches loose in your pocket—one may easily be dropped in the hay or straw and cause a fire. Above all, smoking in the barn is dangerous.

## Foreign Trade in Butter and Cheese

The principal countries producing an export surplus of butter and cheese are the United States, Canada, Australia, New Zealand, Denmark, and Argentina. The principal foreign markets for American dairy products are the United Kingdom, Panama, Mexico, Jamaica, Cuba, Haiti, Peru, and China.

The exportation of cheese to Cuba in the fiscal year 1917 amounted to 1,540,000 pounds, and there was an increase for the calendar year of 1918 to 3,121,000 pounds. Except for negligible quantities, the only European country taking American dairy products is the United Kingdom. In the fiscal year 1913 the exportations of butter to England were small; the exports of cheese amounted to 634,000 pounds. In the fiscal year 1917 the United Kingdom imported from the United States 20,589,000 pounds of butter and 51,000,000 pounds of cheese, compared with 22,250,115 pounds of butter and 38,967,000 pounds of cheese for the calendar year of 1918. The United Kingdom is now by far our largest foreign market. This is largely the result of the war. However, this outlet is expected to decline as production conditions in Europe improve and larger imports are possible from Australasia.

The British Government bought the entire export surplus of both butter and cheese from Australia for the past two years at a fixed price ranging from \$36.36 to 39.45 per cwt. of 112 pounds for butter, and 20 cents a pound for cheese, f. o. b. steamers Australian ports. The price fixed was much below the world's market price and resulted in a considerable decrease in the production. The government also bought the entire export surplus of New Zealand for the years 1917 and 1918 at a fixed price of \$38.23 per cwt. for butter and 20 cents a pound for cheese, f. o. b. steamer, the producer to receive 50 per cent of the profit derived from the price at which



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**THEY MUST MAKE GOOD OR WE WILL**

The products were disposed of in the markets of the United Kingdom. A recent report indicated that the producers received as their share of the profit on the sale of last season's surplus of butter 17 shillings (\$4.13) per cwt. The American Consul General at Auckland, New Zealand, has reported that the imperial government has offered to purchase the output of that country for the season 1918-19 at \$34.04 per cwt. for butter and 21½ cents a pound for cheese.

Denmark, prior to the war, exported large quantities of dairy products, a considerable portion of which found its way to the English market. The production of butter in Denmark in the calendar year 1914 amounted to 257,400,000 pounds. For the twelve months from October, 1917, to October, 1918, the production was only 130,900,000 pounds. Of this quantity 92,400,000 pounds were absorbed by the home markets, leaving only 38,500,000 pounds for export. The total cheese produced in Denmark for the year ending October, 1917, was 53,900,000 pounds, while for the year ending October, 1918, the amount fell off to 41,800,000 pounds.

The principal countries from which the United States imports dairy products are Italy, France, Switzerland, and Argentina. In the fiscal year 1915 Denmark exported 1,020,000 pounds of butter to the United States, but in the fiscal year 1917 America's total imports consisted only of small consignments from Australia and New Zealand. The total importations of butter during the calendar year 1918 amounted to 1,655,000 pounds. The importation of cheese from Italy in the fiscal year 1917 amounted to 8,432,000 pounds, from France 1,937,000 pounds, from Switzerland 1,640,000 pounds, and from Argentina 1,841,000 pounds. Importations of cheese for the calendar year 1918 amounted to 542,000 pounds from France, 5,044 pounds from Italy, and 6,580,000 pounds from Argentina. The rapid increase of importations from Argentina is noteworthy.

### Breweries Become Maltose Factories

A big problem confronting the breweries is the utilization of the plants, equipment and labor heretofore employed for the production of beer. Many breweries are considering, and some have begun the manufacture of maltose sugar syrup which requires but little additional equipment and which utilizes barley, one of the principal materials used in the making of beer.

Maltose is a sugar which in addition to being sweet has a pleasant flavor, and otherwise resembles cane sugar. It can be used to advantage in numerous food products. The breweries, being already equipped with much of the machinery necessary for the manufacture of maltose, and as their employes are acquainted with most of the processes, the conversion of the maltose from the starch in barley, corn, etc., is a simple matter.

Maltose propaganda on anything like a large scale was begun by experts of the United States Department of Agriculture when the sugar shortage became acute, eighteen months ago. They recommended its use, in the syrup form, in soft drinks, in ice cream and confections, in bread making and as a table syrup. Recently brewers have been making pilgrimages to Washington to consult with the experts of the department both on matters of converting plants and of outlets for the product.

The breweries have heretofore used in beer making about 70,000,000 bushels of barley annually, more than one-fourth of the crop. The maltose industry, when developed, is likely to furnish a market for an equal quantity.

### Soldiers Study Agriculture

Agriculture holds one of the foremost places in popularity with the disabled soldiers who are being re-educated by the Federal Board for Vocational Education. Out of 2,993 cases approved for training by the federal board, nearly 500 have taken up some branch of agriculture. About 400 of these have gone in for general farming, taking full courses at appropriate agricultural colleges so as to equip themselves for the operation of modern farms, according to modern methods.

The comparative number taking agriculture shows an increase and is rather attributable to the disabled farm boys returning home, talking over the matter

with home folks, and deciding that the offer of free education and scientific farming made available by the government is the best thing to study after all. The inquiries coming in to the board, and the number of men who are impressed by the opportunities of scientific farming, appear distinctly on the increase.

### Household Accounts Contest

A contest in the keeping of household accounts is being conducted among the women of a South Dakota county under the direction of the home demonstration agent. The forms supplied by the state

college extension division provide space for the various household expenditures to be kept separately so that the amount spent for food, clothing, shelter and similar items may be determined easily at any time. Those entering the contest will keep accounts until the first of next January, when the account books will be submitted. An enterprising business man has offered three prizes for those keeping the best records.

One hundred and four Holstein cows—forty-two pure-breds, sixty-two grades—and four pure-bred bulls, are soon to leave this country for France on a specially equipped transport. A dairy spe-

cialist of the U. S. Department of Agriculture will accompany the shipment. The animals have been purchased by the French High Commission. The cows are soon to freshen and will help satisfy the demand for milk in the war stricken district.

It costs less, said Cavour, the great Italian statesman, to give good direction to a hundred boys than to repair the ills of a single man not having had the benefits of education and instruction.

A wonderful change can be made in the appearance of a place by using a little paint.

# When Market Prices Come Down We Reduce the Cost to You

When the price of any commodity comes down, we immediately reduce the cost to our customers. It has always been the rule of this house to give the customer the benefit of every price reduction regardless of the price quoted in the catalog from which the order is selected. This advertisement shows just a few of the hundreds of money-saving opportunities offered in our latest Price Cutting Bargain Catalog. You can order from this advertisement or from your regular catalog. You always get our lowest price.

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All 36 inches wide.

We are offering here the choicest quality of bleached muslins at attractive prices, which are made possible by large and early purchases.

1665000—An inexpensive but serviceable muslin. Shipping weight, 10 yards, about 1½ pounds.	Reduced to <b>15c</b> Catalog 90 Price 22c
1665001—A very good muslin at this price. Shipping weight, 10 yards, about 2 pounds.	Reduced to <b>17c</b> Catalog 90 Price 24c
1665002—A selected muslin of excellent construction. Shipping wt., 10 yards, about 2½ pounds.	Reduced to <b>19c</b> Catalog 90 Price 28c
1665003—A better quality, closely woven and bleached soft. Shipping weight, 10 yards, about 2½ pounds. Sale Price.	Reduced to <b>22c</b> Catalog 90 Price 30c
1665004—Our best quality. Very closely woven and nicely finished. Shipping weight, 10 yards, about 2½ pounds. Sale Price.	Reduced to <b>24c</b> Catalog 90 Price 32c

### Take Advantage Of This Big Sale

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No side seams necessary in making your slips from this durable and strong tubing.

1665026—Pillow tubing, about 42 in. wide. Weight, per yard, about 6½ ounces.	Reduced to <b>39c</b> Catalog 90 Price 44c
1665027—Pillow tubing, about 45 inches wide. Wt., per yard about 6 ounces.	Reduced to <b>41c</b> Catalog 90 Price 46c

## Prices Reduced

### Unbleached Muslins

The numbers quoted below are carefully selected standard unbleached sheetings of good quality.

1665021—Yard wide. Our lowest priced muslin. Ship. wt., 10 yards, about 2 lbs.	Reduced to <b>12c</b> Catalog 90 Price 18c
1665022—Yard wide. A low priced brown muslin, but not the usual coarse grade. Ship. wt., 10 yards, about 2½ lbs.	Reduced to <b>14c</b> Catalog 90 Price 20c
1665023—Yard wide. This grade outsells all others. Medium weight. Ship. wt., 10 yards, about 3½ lbs.	Reduced to <b>16c</b> Catalog 90 Price 22c
1665024—Yard wide. Stout and heavy. Known for strength and durability. Ship. wt., 10 yards, about 3½ lbs.	Reduced to <b>19c</b> Catalog 90 Price 26c
1665025—Unbleached Muslin. Width, about 40 inches. Ship. wt., 10 yards, about 3½ lbs.	Reduced to <b>20c</b> Catalog 90 Price 29c

## Unbleached Muslins

Compare Prices with 90 Catalog Prices

### Unbleached Cheesecloth

Width, about 36 inches.

1665018—Unbleached cheesecloth. Ship. weight, 10 yards, about ¾ lb. Special Sale. Price, per yard.....	Reduced to <b>6c</b> Catalog 90 Price, 11c
1665019—Better quality. Shipping weight, 10 yards, about 1 lb. Special Sale. Price, per yard.....	Reduced to <b>9c</b> Catalog 90 Price, 14c
1665020—Best quality unbleached cheesecloth. Ship. wt., 10 yards, about 1½ lbs. Special Sale. Price, per yard.....	Reduced to <b>11c</b> Catalog 90 Price, 18c

### Bleached Wide Sheetings

A standard quality of bleached wide sheetings of excellent quality and finish. Will launder nicely.

1665008—Width, about 42 in. Ship. wt., 10 yards, about 3½ lbs.	Reduced to <b>31c</b> Catalog 90 Price 45c
1665009—Width, about 45 in. Shipping weight, 10 yards, about 3 pounds.	Reduced to <b>37c</b> Catalog 90 Price 48c
1665010—Width, about 47½ in. Ship. wt., 10 yards, about 3½ lbs.	Reduced to <b>51c</b> Catalog 90 Price 59c
1665011—Width, about 51 in. Ship. wt., 10 yards, about 5½ lbs.	Reduced to <b>55c</b> Catalog 90 Price 62c
1665012—Width, about 90 in. Ship. wt., 10 yards, about 6½ lbs.	Reduced to <b>57c</b> Catalog 90 Price 65c

### Unbleached Wide Sheetings

Under these numbers we quote a standard quality of unbleached wide sheetings in all the widths that are most in demand.

1665013—Unbleached Sheet- ing. Width, about 45 inches. Weight, 10 yards, about 3½ pounds.	Reduced to <b>31c</b> Catalog 90 Price 45c
1665014—Width, about 54 in. Weight, 10 yards, about 4 pounds.	Reduced to <b>37c</b> Catalog 90 Price 48c
1665015—Width, about 72 in. Weight, 10 yards, 5½ lbs.	Reduced to <b>47c</b> Catalog 90 Price 55c
1665016—Width, about 81 inches. Weight, 10 yards, about 6 pounds.	Reduced to <b>51c</b> Catalog 90 Price 59c
1665017—Width, about 90 in. Weight, 10 yards, about 6½ pounds.	Reduced to <b>55c</b> Catalog 90 Price 62c

## White Longcloth At Reduced Prices

<h3>Bleached White Longcloth</h3> <p>Width, about 36 in.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>1665005—Soft English long cloth. Bleached white. Weight per yard, about 3 ounces.</td> <td style="text-align: right;">Reduced to <b>19c</b> Catalog 90 Price 24c</td> </tr> </table>	1665005—Soft English long cloth. Bleached white. Weight per yard, about 3 ounces.	Reduced to <b>19c</b> Catalog 90 Price 24c	<h3>White Longcloth</h3> <p>Width, about 36 in.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>1665006—A good quality cotton long cloth. Bleached pure white. Weight, per yard, about 3 oz.</td> <td style="text-align: right;">Reduced to <b>20c</b> Catalog 90 Price 26c</td> </tr> </table>	1665006—A good quality cotton long cloth. Bleached pure white. Weight, per yard, about 3 oz.	Reduced to <b>20c</b> Catalog 90 Price 26c	<h3>White Longcloth</h3> <p>Width, about 36 in.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>1665007—A good standard quality. Soft, English finish. Bleached white. Weight, per yard, about 3 oz.</td> <td style="text-align: right;">Reduced to <b>22c</b> Catalog 90 Price 28c</td> </tr> </table>	1665007—A good standard quality. Soft, English finish. Bleached white. Weight, per yard, about 3 oz.	Reduced to <b>22c</b> Catalog 90 Price 28c
1665005—Soft English long cloth. Bleached white. Weight per yard, about 3 ounces.	Reduced to <b>19c</b> Catalog 90 Price 24c							
1665006—A good quality cotton long cloth. Bleached pure white. Weight, per yard, about 3 oz.	Reduced to <b>20c</b> Catalog 90 Price 26c							
1665007—A good standard quality. Soft, English finish. Bleached white. Weight, per yard, about 3 oz.	Reduced to <b>22c</b> Catalog 90 Price 28c							

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Many silos have paid for themselves in one season. After that they pay 100 per cent profit yearly.

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## MECHANICS ON THE FARM

Items of Interest About Automobiles, Engines, Tractors and Motorcycles

**A**N EXTRA contribution of materials running into the millions of dollars will be made by the federal government to road building in the states through the terms of a recent amendment to the federal aid road act empowering the Secretary of War in his discretion to transfer military equipment not needed by the army to the Department of Agriculture for use in highway construction. The judge advocate general's office of the War Department has decided that the material so transferred cannot be charged for. The War Department has informed the Bureau of Public Roads that it has a large number of surplus motor trucks available for this purpose, and state highway departments now are being asked by the bureau what quantities they can put to use. The Bureau of Public Roads officials believe there will be sufficient to meet all demands from the states. The trucks and other military equipment transferred by the War Department must be used only on federal aid projects and cannot be sold by the state after they are donated from the federal government.

### Care of Farm Machinery

How often in going over country roads or when visiting farms do we see machinery and implements standing around exposed to the weather, not even protected from rust and decay by an occasional fresh coat of paint.

The old saying, "Wilful waste makes woeful want," certainly applies here.

Most articles of wood and metal will remain serviceable much longer if given a coat of paint whenever they show the first signs of rust or dinginess. If they are seasonable articles, used at a certain time in the year and then laid up for the winter or summer, etc., the time to clean them up and paint them is when they are put away until their season of use rolls around again.

Wagons, pumps, separators and other things used all the year through can be painted whenever it is most convenient.

A paint known to the trade as wagon or implement paint is good not only for wagons, but farm implements generally; also tools, ice cream tubs, milk cans, fire plugs, pumps, separators, or in fact any surface either of iron or wood when a bright colored high gloss finish is desired.

Always apply paint on a clean, dry surface. Warm water, soap and ammonia will remove ordinary dirt. Benzine will take off oil and grease. After allowing to dry twenty-four hours, sandpaper wooden parts, also remove all rust from metal parts with emery paper.

The best general purpose brush for implement painting is a flat chisel-edge varnish brush.

If a light color is to be applied over a dark one, two coats will be needed, sandpapering lightly between coats.

And above all, keep implements, tools, etc., under cover when not in use.

The average farm implement is only about half worn out by use alone. The rest of the wear is due to rust and decay. The greatest possible profit is made out of machinery when it is used continuously for profitable work until it is worn out.

### Community Threshing Outfit

Every farmer has had the experience of losing money each day his threshing was delayed. A few such years and he will have lost enough money to pay for a baby thresher. The baby thresher is perfected and will do as good work as the large custom thresher. They are made as small as 19 x 36, which size can be run easily with a 10-20 tractor.

Such an outfit is not an expensive investment for a farmer or group of farmers. Where diversified farming is practiced it is practical for a community of farmers to own a small threshing outfit. In this case it is not necessary for a community to wait for a custom thresher to come in and thresh the grain. In fact, it is sometimes difficult to get a custom thresher to come into a neighborhood where there are only small jobs to be threshed. Even if they do come in, they will put off the small jobs until the last.

Where the grain is stacked, the threshing can be done when the market is best. If you depended upon the custom thresher in this case the market would have probably fallen off two or three cents on the bushel. Here is a case where the community thresher would make another payment on the investment.

Then there is to be taken into consideration the fact that the tractor could be used for plowing and other work. A group of farmers, about eight in number, would make the most practical unit to own a community outfit. This would be an exclusive group, in a way. They could help each other in their regular farm work and it would not be necessary to hire any outside help.

In a country where diversified farming is practiced the average amount of small grains raised is from twenty to forty acres to the farmer. In a community of this kind eight farmers could run a threshing outfit among themselves. For a community of this size a 22-36 separator and a 15-25 horsepower tractor would be the most practical outfit to operate. Then the tractor could be used for plowing. It would be able to handle four 14-inch bottoms with ease, plowing one and three-quarters acres an hour. Running the plows twenty hours a day would enable this community to plow their land in eight days. This would mean that the plowing could be done in the proper season, from the middle of July to the first of August.

A tractor this size would pull two eight-foot binders easily. This would mean that this particular community of farmers could cut their wheat in four twenty-hour days.

After the harvesting, plowing and threshing have been done and put out of the way the tractor could be used to pull the silage cutter. A tractor this size could pull an 18-inch silage cutter throwing ten tons an hour.

Not only would an outfit of this kind save time and relieve the horses of the drudgery work, but it would also come in handy for threshing small grains or seed such as alfalfa, clover, millet, kafir, beans, peas, or timothy. These seeds nearly always bring good prices. The reason the average farmer seldom has much to sell is because of the difficulty in getting it threshed. A custom thresherman will not pull into a community for a small job of threshing alfalfa or other seed crop.

About the only way to manage the business end of a community outfit of this kind would be to elect one of the group as president and delegate to him executive duties. There should also be a treasurer and the usual custom prices for all such work should be paid into the treasury, the amount paid in to be divided equally among the members of the group at the end of each season.—D. P. RICORD.

There will probably be an unusual demand for ready-made grain storage bins this season as a result of the unusually heavy crop now in prospect. The forehanded wheat farmer usually plans to have some storage space on his farm. The man who must haul his wheat to market direct from the thresher may find himself in serious difficulties this year, and in any year he is laboring under some handicap. The safe plan is to prepare to store some wheat. We notice that the Farmers' Union organization of Kansas has recently taken up the matter of contracting for the handling of metal storage bins for its members. It is a wise move and handled in this way the bins will probably be obtained at the lowest possible price thru the co-operative efforts of this organization.

If you want bird neighbors, put up bird houses and bird baths and plant a few shrubs which carry fruits that birds like, such as the Juneberry, red elder, and wild cherry.

Before planting all the corn, plan for a field of kafir or other grain sorghums. Every year is not a corn year in Kansas.



## Dependable for Threshing

The old reliable steam engine has never been equaled in power for threshing. It is steady, which is always necessary to insure good results. It's the power that most people know how to operate. Its troubles are easily discovered and remedied. If it gets weak it does not stop dead. Almost anything that can burn can be used for fuel. The

## Nichols-Shepard Steam Engine

represents the best that can be produced in steam engine construction. It is durable and has lots of power. It is easily handled. Almost anyone can keep it running.

When you have a thresherman do your threshing with a Nichols-Shepard Steam Traction Engine and a Red River Special, you know that your work is to be done quickly and well. No waiting and loafing on your job. It pays to hire a Nichols-Shepard outfit. It saves your time and grain. Try it this year. It will mean money in your pocket.

If you are a thresherman, buy a Red River Special outfit.

It Saves the Farmers' Thresh Bill

Nichols & Shepard Co.

In Continuous Business Since 1848  
Builders exclusively of Red River Special  
Threshers, Wind Stackers, Feeders,  
Steam and Oil-Gas Traction Engines  
Battle Creek Michigan

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This special factory-run, low-price is the same for one or if you bought the whole 15,000. The low price is based on a 15,000 run. The 750 lb. size is the best all around size—our biggest seller. Has all our latest 1919 improvements. Skins close. Easy to run and clean. Every drop of milk gets full skimming force of the bowl. Sold on 180 milking lots too.



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Find out the quantity, factory-run low-price on the one size Separator. Over 300,000 satisfied Galloway customers. Near to you shipping points save you freight.

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Write for Reduced Prices on WITTE Engines—all sizes—2 to 30 H.P.—Kerosene—Gasoline—Stationary—Portable—Saw-Big. If you need POWER to pump, saw, grind, fill silo, or do other hard work, be sure to get my money saving offer. I make better engines—guarantee longer—sell for less—Valuable Book FREE.—Ed. H. Witte, Pres.  
WITTE ENGINE WORKS & Co., 1607 Oakland Ave., Kansas City, Mo. 1607 Empire Bldg., Pittsburgh, Pa.

## FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires—Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated to order.  
Electric Wheel Co., 3414 St. Quincy, Ill.

**BINDER TWINE**—Get our low price shipped from western warehouse. Farmer agents wanted. Free sample. Theo. F. Burt & Sons, Melrose, Ohio.

**Production and Marketing**

(Continued from Page One)

The price of a bushel of wheat begins to be determined before the wheat is planted. It is well known that proper seed bed preparation and good seed are influential in producing high grade wheat.

**Live Stock Grades Fluctuate Widely**

In the marketing of live stock the same principle operates, but, unfortunately, not to the same extent, as yet, because grades and standards of live stock are still relatively crude. But even now, imperfect as our live stock marketing systems are, they afford some striking instances of the need for more attention to production problems. It is not uncommon for the prices paid at a live stock market in a single day for cattle in the same class to show a spread of 25 to 50 per cent. "Butcher cattle," for example, may show a spread of \$5 to \$7, or more, per hundred pounds. This spread is due chiefly to differences in quality and conformation, both of which determine the character and quantity of the meat of the different cuts, and also the dressing percentage. Differences in quality and conformation are created in the processes of production. They result very largely, if not chiefly, from breeding. Thus we see that the price a steer will bring when he reaches the market begins to be determined before he is born. This will be true under any rational system of marketing. Any system which does not reward ability and skill on the part of the producer is not a rational system.

**Notable Example of Denmark**

The world's experience in the development of good marketing systems confirms this view. One of the most conspicuous examples of successful agricultural marketing is afforded by the dairy and poultry industries of Denmark. We are told that in that country every egg marketed through the established system is given a number so that the owner of the hen that laid it can be identified. If a bad egg reaches the market, the fault can be traced back to the producer and the latter may be held responsible. Persistent marketing of bad eggs results in the dismissal from the marketing association of the person who produced them. This is only justice to the poultryman who is honest and efficient, and it is necessary to the maintenance of the good name of the community of producers. The more nearly perfect our live stock marketing system becomes, the more the responsibility for neglect and inefficiency will be placed upon the proper shoulders, and the more effective the guarantee of justice to honest and efficient individuals will become. Justice is all that any producer has a right to demand. It is all the live stock producer desires. In demanding justice he must not forget his own responsibility. To ignore this fact is to ignore the world's experience in the establishment of satisfactory marketing systems.

**Must Insure Stability in Prices**

Another factor in successful marketing is stability. If the markets are unstable, if prices fluctuate widely and violently, the speculative features of selling are increased and the chances of serious loss to the producer are multiplied. The producer needs to know long in advance of selling at least approximately what the price will be so that he can plan his operations accordingly. But one of the greatest factors involved in securing a stable market is a continuing supply of products. If producers throughout the country expand and contract their activities by alternately plunging into the live stock business and going out of it, market prices must inevitably fluctuate in response to these changes in production. In other words, we cannot hope for a stable market so long as we have unstable production.

Still another factor is uniformity of product. We all know that a uniform bunch of good steers will sell better than a mixed lot. We cannot produce uniform stuff extensively unless we arrange our breeding operations with this in view. We must develop herds of uniform character and we must have definite times to breed so that our market cattle will be uniform, if we are to sell them to the best advantage.

I have mentioned only a few of the live stock production problems which have a bearing on the problems of live stock selling. There are many others. In fact, practically all production enterprises must be considered with marketing operations in one way or another.

The whole great problem is so complex that we cannot deal with it effectively in a narrow-minded way.

**Requirements Producer Must Meet**

In any rational system of marketing, the live stock market will always ask the producer at least three questions: (1) What have you to sell? This question includes the kind, number, and the quality of live stock. (2) How much of it can you furnish? This question involves the size of the supply and the matter of its continuity or distribution; it seeks to ascertain whether the producer will have just one lot of cattle or whether he can be depended upon to have a similar lot, or a better one, next month, or next year, or at some other definite time. (3) How much must you be paid for it? In other words, do you produce at a cost low enough, in relation to the value of other commodities, to make it possible for the market to absorb your product and pass it on to the consumer, who is always ready to reduce his consumption or to use substitutes if your stuff is too high priced in relation to other products? The success of any marketing system must ultimately depend in a large measure on the producer's answers to these three questions.

**Retraining Disabled Men**

The processes by which disabled men are handled through the branch offices of the Federal Board for Vocational Education are interesting. There are fourteen districts with branch offices in as many cities of the United States. Each district board is a unit for its district comprising several states. It is headed by a district vocational officer, a corps of vocational advisers, medical advisers, and clerical force. When a disabled man makes application to his district board, his army medical record is obtained and steps are at once taken to present his claim to the War Risk Insurance Bureau for compensation, for unless he has at least a 10 per cent disability, or is decided a "compensable case," he is not entitled to receive training. He is then given a survey by the medical officer of the district board, a vocational adviser makes up the record of his case, ascertains what his wishes are in the way of retraining, and the record is then brought before the "Case Board," which is composed of the district vocational officer, the medical adviser, a prominent business man representing the employer class and accustomed to dealing with considerable numbers of men in the way of employment; also a member of one of the recognized trades representing the employed class, and probably another business member of the community in order to make it thoroughly representative.

This "Case Board" then takes up the record as prepared by the vocational adviser, and, in many cases, brings the disabled man before the Board for consultation. The "Case Board" makes a recommendation, and gives the first, second and third choices to the disabled man as to the training he wishes to take. This record is then forwarded to the central office at Washington, where it is passed upon by the medical officer of the rehabilitation division, and finally must receive the approval of the director of vocational rehabilitation. When this has been accomplished, training is immediately available, if the decision of the director is favorable, and the man is at once started upon his course of training at an approved institution for the course which he has been decided best fitted.

**The Sense of Humor**

Our Dumb Animals tells of a zealous member of the Massachusetts Society for the Prevention of Cruelty to Animals who happened to be a very thin lady. Seeing a Mr. Murphy driving a horse which was obviously underfed, she said to him:

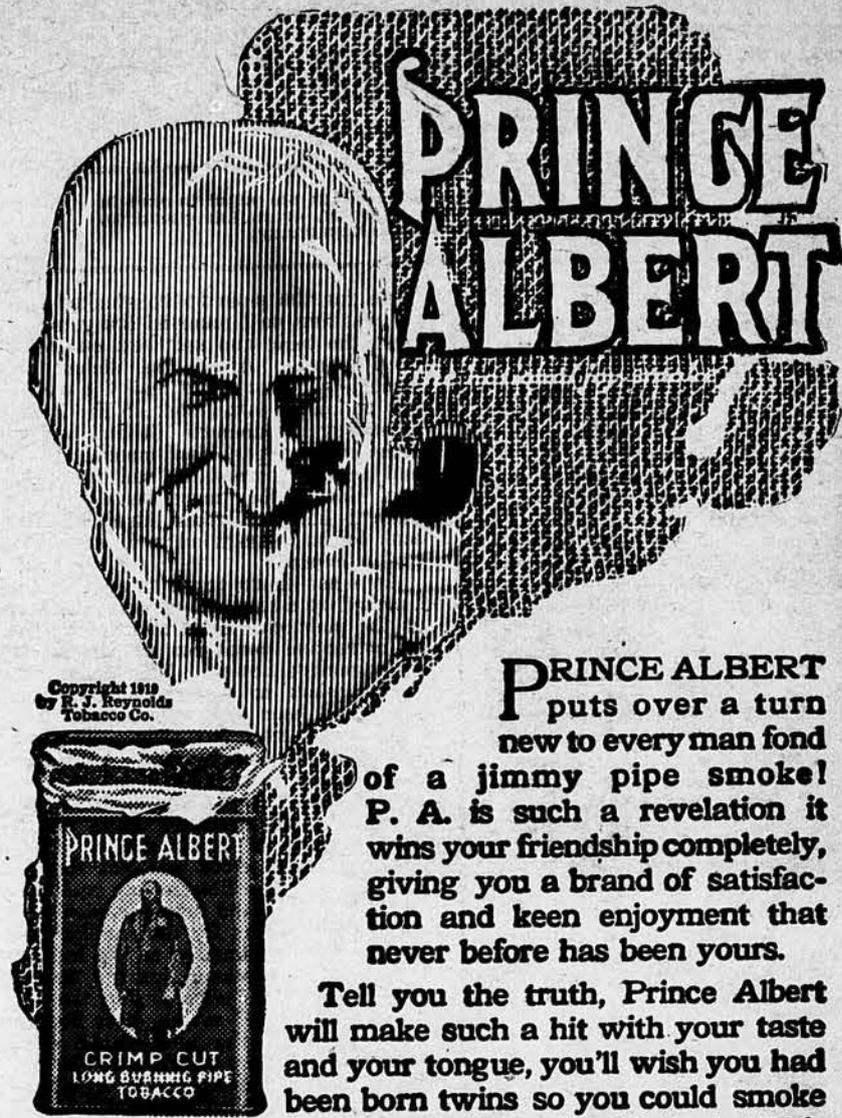
"Mr. Murphy, your horse is poor. If you don't feed him better I shall complain of you."

"Miss B—," he explained, "I do feed the horse; he gets nine quarts of oats a day and plenty of hay."

"I don't believe you. Any creature that got enough to eat would look plump and fat."

"Well, thin, Miss B—," retorted Mr. Murphy, "it's mighty little ye're afther gettin' yerself."

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# THE HOME-MAKER'S FORUM

ETHEL WHIPPLE, Editor

Letters from readers are always welcome. You are urged to send in helpful suggestions, to give your experiences, or to ask questions. Address the Editor of this Department.

## Organizing Work to Save Time

The lines were full of snowy clothes waiting to be brought in and folded, some 200 chickens out in the brooder house were cheeping their hunger, the dining table was laden with dirty dishes and a work table was laden with still more. In the living room the three children, two of whom should have been in bed long since, were cutting out pictures from a magazine. And here I was at the end of a day with nothing to show for the ten hours of tiring work but the week's washing done and three meals prepared for an ever hungry family.

When I first started my housekeeping, I was one of the most enthusiastic devotees of scientific work. No house cluttered with useless trifles was to be mine. In it there would always be time to read magazines, inviting meals well served, good pictures and not horrible enlarged photographs of some departed ancestor who in his lifetime would never in the world have given offense. In my home the housework would always be done in the best possible way in the least possible time.

As I set to work to clear the supper table this particular evening, I adopted a new system. The dishes were all scraped and piled in even piles at the table. Then I brought in an old dishpan which leaked and was no longer of use for active service. I had been going to throw it away for some time, but some way had kept it each time for just a little while longer. In this I stacked all the dishes and carried them to the kitchen at once, thus saving a dozen or more trips from the dining room to the kitchen.

This pan I put at the right of the pan in which I wash my dishes. But now there was not enough room left on the

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### A POPULAR STYLE

No. 2781—This model is good for satin, linen, serge, shantung, taffeta, and for combinations of material. The sleeve may be finished in wrist or elbow length. The pattern is cut in seven sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 4½ yards of 36-inch material for the dress and 1½ yards for the jumper. The skirt measures about 1½ yards at the foot. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.

table for the pans to be stacked ready for washing, so I removed the geraniums from the table and set them out on the back porch. After the dishes were washed and put away and the children put to bed, I came back to the kitchen to survey my domain. It had been my domain these past few months, for we had rented more land and the spring work had fallen more heavily on me since I had had more hired hands to cook for and also tried to do some work out of doors.

As I sat down for a minute to rest, I picked up a farm magazine and glanced at the pictures. Here was a picture of an attractive porch box filled with just as attractive flowers. I had been wondering what to do with those plants which had been so pretty in the winter, but now seemed to grow discouraged with the increasingly warm weather. I could put my plants in just such a box as this one and keep them on the porch throughout the summer. Here was another picture of lunch cloths. To be sure, my lunch cloth was not linen, as was that in the illustration, and other farmers' wives did not abandon their heavy table cloths for the smaller lunch cloths even occasionally, as the luncheon is not popular among hungry farmers. Still, I could use mine during the summer. They would save endless hours of ironing. Then the next rainy day I would have casters fastened to the little table which was doing service as a handy table in the kitchen. It could still be used in the kitchen, but was now to be an improved tea wagon to carry dishes and food between kitchen and dining room. I could also rearrange the work tables so that they would be nearer the stove and cupboards and by careful planning perhaps I could even cut down the number of dishes and utensils used in cooking.

Plans, once started, worked out splendidly and it was surprising how many other improvements could be made to lessen labor.—Iowa Agriculturist.

## How to Frame Pictures

Most pictures are best framed without a mat. The exceptions are a small print or etching and the Japanese prints.

The color of the frame should harmonize with the color of the picture. Water colors and oils are usually best in dull gold.

A flat moulding is better than one with a decided height at edge.

Frames should be lighter than darkest part of picture.

A picture with strong action, color, or composition needs a wide frame.

Delicate scenes are better in narrow frames.

Frames of bright gold with much ornament are not good.

Rectangular frames are better than round or oval shapes.

Frames of imitation circassian walnut are in poor taste. Also those of painted tin.—NELLIE M. KILGORE, Colorado Agricultural College.

## Finishing an Old Floor

"In a recent issue you told how to renovate a stained or varnished floor," writes a Pottawatomie County reader. "I would like to ask if there is any satisfactory way to finish an old floor which has never been finished."

For floors which have not previously been finished, a paste wood filler should first be applied. Then finish with two coats of good floor varnish or floor wax.

To refinish old floors, first clean them thoroughly. Then sandpaper smooth. Finish with two coats of floor paint or floor wax. If a colored effect is desired, apply one coat of varnish stain of the desired shade and finish with one coat of floor varnish. If cracks between the boards are in evidence, these should be filled with special crack and crevice filler before applying finishing materials.

For floors that are in a very bad condition the only resort is to paint them. First fill cracks with special crack and crevice filler and apply one or two coats of floor paint. A coat of good floor

varnish over the paint will add to the appearance and durability.

## Deep Breathing

Did you ever stop to think why "a merry laugh doeth good like a medicine"? Expel from your lungs all the air you can by ordinary breathing, then laugh a little and notice how much more is exhaled. A hearty laugh stirs the air in the lower part of your lungs, removing much of the residual air and leaving you gasping for breath.

The practice of deep breathing will do more than medicine for the health. Fortunately is he whose work calls him into the open these glorious spring mornings. But he will not receive the full benefit of the fresh morning air until he has learned to bathe his lungs in it and fill his blood with oxygen. Raising oneself to the fullest height and taking in the breath in short "sips" while walking is a good exercise to practice occasionally, as it enables one to inhale more air.

## Quick Mayonnaise Dressing

1 cup olive or cottonseed oil  
1 egg (yolk only)  
2 tablespoons vinegar or lemon juice  
Few grains cayenne  
2 tablespoons cornstarch  
½ teaspoon powdered sugar if desired  
½ teaspoon salt  
½ teaspoon mustard  
¼ cup vinegar

If onion flavor is desired, rub a bowl with a freshly cut onion or clove of garlic; put in the egg yolk and gradually mix in the entire amount of acid, half of which should preferably be lemon juice, especially if cottonseed oil is being used. Add the oil at first by tablespoons, later in larger amounts, beating vigorously with a turbine or Dover egg beater, or with an egg-whisk.

When all the oil has been added, prepare a cornstarch binder as follows: Mix two tablespoons of cornstarch with one-fourth cup of vinegar in an enamel saucepan. Add one-half cup of boiling

water, stir till the mixture thickens, and simmer five minutes. The mixture should be like a very thick smooth starch paste when done. Add it very hot, but not boiling, a spoonful at a time, to the salad dressing, using a little less than half the volume of the original dressing. Beat all well together, season if necessary, and chill before using.—U. S. Department of Agriculture.

## Spiced Pudding

1 cup browned crusts of bread  
2 cups scalded milk  
½ cup molasses  
½ cup raisins  
½ teaspoon salt  
½ teaspoon nutmeg  
½ teaspoon cinnamon  
¼ teaspoon cloves

Soak the crusts in the milk until soft. Add molasses, salt, spices and raisins. Bake in a moderate oven—360 to 380 degrees Fahrenheit—stirring occasionally at first. Serve with milk or cream.—Some Sugar-Saving Sweets for Every Day, Teachers' College, Columbia University.

The woman's task is not easy—no task worth doing is easy—but in doing it and when she has done it there shall come to her the highest and holiest joy known to mankind; and having done it she shall have the reward prophesied in scripture; for her husband and her children, yes and all the people who realize that her work lies at the very foundation of all national happiness and greatness shall rise up and call her blessed.—THEODORE ROOSEVELT.

Cut out the old canes of Spirea Van Houtti when they are through flowering or use some of the sprays for cut flowers. It is a good plan to prune all spring-flowering shrubs when they are through flowering.

Cooking eggs at a low temperature, considerably below the boiling point of water, will keep them from becoming tough and hence less digestible.

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# HELPFUL POULTRY HINTS

Practical Ideas on How to Fill the Egg Basket and Increase Profits

Growing chicks will not eat too much if they have plenty of range so they can get the desired exercise. A good growing mash should be accessible at all times to growing chicks. Such a mash should contain plenty of bone meal ground very fine and fine-ground oats and barley. Be sure to have the mash ground very fine.

Growing chicks that are kept closely confined need much greater attention than those that have plenty of range. See that they have plenty of clean feeds that have not wilted down almost to the decaying point and that the yards are kept sweet. Culling also more essential when chicks are closely confined.

Do not forget to look over the young chicks from time to time for lice and mites. So be careful, be sure, don't be lazy. Look out for lice.

Slow growing, weak chicks should be culled during May and June. Those which have prominent physical defects, such as very crooked tails or are lame or otherwise deformed so that they are handicapped for future development and laying should be culled out. All sales, except those needed for breeding purposes, should be gotten rid of as soon as possible.

In many sections of the country where the hatching season started about the first of the year cockerels should be separated from the pullets, especially so where Leghorns are kept.

Do not overlook the fact that chicks must have shade. If there is no natural shade for the chicks to stay under during the heated part of the day, be sure and provide sufficient for their needs.

One of the most important factors in keeping young chicks growing is good, clean, fresh water in vessels. As the days get warmer care should be taken to change the water as often as required to keep it clean and fresh.

Avoid overcrowding in growing chicks. A coop, brooder, or colony house that is large enough to hold the baby chicks is not large enough after two or three months, depending on the breed and growth. It is absolutely necessary that growing chicks have plenty of room to grow. Cockerels that are sufficiently large should be disposed of. Chicks that have not shown proper growth should be separated and leg or wing banded. Many of these chicks, even the pullets, should be marketed. Only the good, strong, vigorous specimens should be kept as breeders and layers, as these are the only ones that can return a profit.

## Poultry Keeping for the Blind

Blind Edward Jones, of Jefferson City, Missouri, has made a record in keeping poultry which many who have eyes have not equaled. Moving among his birds, which seem to understand how he is handicapped, and guided only by his sense of touch, he performs his daily work. He has built his own poultry house and brood coops, and has hatched and raised all his chicks. "Blindness does not prevent him from culling his flock. The birds not intended to be kept are marketed as broilers, and the others are kept for the production of winter eggs. Mr. Jones attended every poultry meeting held in his section last fall. He is now trying to organize a poultry club for blind people, and the home demonstration agent in the county has volunteered to read to the members the publications on poultry sent from the United States Department of Agriculture.

## More Poultry Produced

Poultry production increased 5 to 20 per cent during 1917 and 1918 in Missouri, North Dakota, and South Dakota, which comprise District No. 3 of the emergency extension poultry work being conducted by the United States Department of Agriculture. Efficiency in poultry management through the application of better methods, advocated by poultry specialists of the department and state

colleges, has done more to increase production than the keeping of a greater number of fowls, says the department's representative in this district. In the culling campaign in one state enough money was saved to farmers by disposing of 200,000 slacker hens to more than pay the expenses incurred for all of the extension work carried on in that state, and this culling work was only a part of the extension enterprise.

It was the one campaign wherein results were immediate, however, and it also afforded a definite basis upon which to estimate and tabulate the financial saving. The "better poultry" and "early hatch" campaigns were of even greater importance, and the saving and conservation of food through the "preserve eggs" and the "infertile egg" campaigns runs well up into the hundreds of thousands of dollars, the representatives report. More stress is now being placed upon the educational features of poultry work to insure greater efficiency in management. The farmer or poultry raiser will not be content in the future with an average egg yield of six or seven dozen for each hen when it is known that the average yield should be from nine to twelve dozen.

## Chickens Have "Sleeping Sickness"

Mrs. N. H., Oklahoma, writes that she has a fine pure-bred Buff Orpington that stands around and sleeps all the time. She has been that way for about four weeks. One dose of castor oil has been given. The hen eats and drinks a little by herself. Recently our correspondent found a young chicken about the size of a full-grown quail having the same symptom. She asks what she can do to stop this disease. She also says some of her fowls have a kind of a crop disease. They seem to have very little grain in their crops, but the crop is full of gas and liquid and when it is kneaded a very disagreeable odor comes from the fowl's mouth. Three large hens have been lost from this ailment. She has of necessity fed some moldy milo, since practically all the grain she can buy is slightly molded because there was so much rain last fall on the grain before it was threshed.

We referred this inquiry to the department of veterinary medicine at our Agricultural College, and Dr. R. R. Dykstra makes the following suggestions: "I am not familiar with any disease known as sleeping sickness in chickens, but there are several diseases of poultry in which the bird appears to be very drowsy. This is true of any chronic disease in which the bird becomes very much weakened. For example, in chronic fowl cholera drowsiness is quite a constant symptom.

"It would be my advice to attempt the prevention of this disease rather than its cure. I would suggest that as soon as a bird is noticed to be ill it be separated from the rest of the flock. The pens and coops should be thoroughly disinfected by whitewashing, adding 3 per cent of hog dip to the whitewash and covering the ground with airslaked lime. All drinking vessels should be kept clean and enough permanganate of potash should be added to the drinking water to give it a light wine color. If a diseased bird dies, it should be burned or buried deeply and covered with quicklime.

"The chickens that have a foul odor from the mouth are undoubtedly affected with indigestion. This is usually the result either of overfeeding or of feeding spoiled, decomposed or moldy feed. In the early stages it may be quite readily treated by washing out the crop with a 2 per cent water solution of boric acid. This solution should be carefully poured into the bird's mouth until the crop is fairly well filled. The crop should then be kneaded between the thumb and the fingers and the bird held with its head downward so that the contents of the crop will run out of its mouth. This treatment should be repeated at least once daily and during this time the feeding should be very light and only the most wholesome feed given. This treatment is frequently given to valuable pure-bred poultry, but with ordinary stock it hardly pays."



# Real People

That's what the doughboys called The Salvation Army workers on the battle-fields and back of the lines in France.

They were "real people" to the soldier, because they were just like the folks back home, with hands accustomed to work and eyes always ready to smile.

And now these same "real people" back from the war with new laurels, have built their trenches in the Streets of Poverty in America. They well wage the fight for the poor and unfortunate at home, just as they have done for years, only on a larger scale.

The Salvation Army conducts Rescue Homes—Day Nurseries—Homes for the Helpless Aged—Lodging Houses for the Down and Outers—Fresh-Air Farms—Free Clinics.

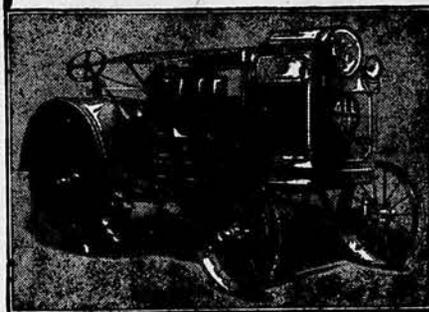
It must extend this service everywhere where Misery and Poverty exist. It must continue to reach down and lift up the men women and children who have fallen.

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BARRED ROCK EGGS FOR HATCHING—Light and dark matings. Good layers. Special matings, \$5 per fifteen; range, \$6 per hundred. C. C. Lindamood, Walton, Kansas.

WHITE PLYMOUTH ROCKS, NO BETTER anywhere. Have bred them exclusively for 26 years and are extra good layers. Eggs, \$3 per fifteen, from five pens; \$5 per fifteen from first pen. Expressage or parcels post prepaid. Thomas Owen, Route 7, Topeka, Kansas.

PURE-BRED BARRED PLYMOUTH Rock eggs from range-raised hens, fifteen years breeding, winter laying strain. Eggs guaranteed fresh and fertile, true to type, \$1.50 setting, \$7 hundred. Mrs. Jno. P. Kelly, Emmett, Kansas.

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NARRAGANSETT TURKEYS, STOCK and eggs for sale. Mrs. John Mitchell, La-fountain, Kansas.

# Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. Thousands of intending buyers read the classified "ads"—looking for bargains. Your advertisements here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order. SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

## AGENTS WANTED

AGENTS—MASON SOLD 18 SPRAYERS and Autowashers one Saturday; profits \$2.50 each; square deal; particulars free. Rustler Company, Johnstown, Ohio.

AGENTS—MAKE A DOLLAR AN HOUR. Sell Mandots, a patent patch for instantly mending leaks in all utensils. Sample package free. Collette Manufacturing Co., Dept. 108, Amsterdam, N. Y.

FARM WITH YOUR FORD. DO TWO days' work in one. Agents made \$100 weekly. Money back guarantee. Write today for free circular. Geneva Tractor Co., Dept. 35, Geneva, Ohio.

## SEEDS

CHOICE BLACK AMBER CANE SEED, \$1.75 per hundred. Gus Herfert, Julesburg, Colorado.

MILLET SEED—BIG GERMAN RE-cleaned, \$2.00 per bushel. 30c. Clyde Ramsey, Mayfield, Kansas.

CHOICE BLACK CANE, \$1.60 BUSHEL; ten bushels, \$14.50. White cane, \$1.80; ten bushels, \$17.50. Emerick-Cutter, Hugoton, Kansas.

FOR SALE—TOMATO, CABBAGE AND the famous Nancy Hall sweet potato plants. Price, 50c, \$2; 1,000, \$3. Postage paid. Write for price in large lots. S. & H. Plant & Truck Farm, North Enid, Oklahoma.

DWARF AND STANDARD BROOM CORN seed, Red Top cane, feritica and common millet, \$6; Fodder Orange and Amber cane, Cream and Red Dwarf maize, and Dwarf kafir, \$5.50. All per hundred pounds, freight prepaid; prepaid express, \$1 more. Claycomb Seed Store, Guymon, Oklahoma.

MILLIONS OF PLANTS—NANCY HALL sweet potatoes from hundreds of bushels of choice seed. 5,000, \$17.50; 1,000, \$3.75; 500, \$2.00; 100, 50c. All plants prepaid by parcel post or express. Satisfaction guaranteed. No disappointment. Fairview Plant Farm, McLoud, Oklahoma.

HARDY OPEN-GROWN PLANTS—NOW shipping leading varieties sweet potatoes, tomatoes, postpaid, 50c, \$2.00; 1,000, \$2.50; hot and sweet peppers, eggplant, beets, 50c, \$2.50; 1,000, \$4.75. Cabbage, Bermuda onions, 500, \$1.25; 1,000, \$2.00. Write or wire for catalog and wholesale prices. Order early and notify us when the ship. Liberty Plant Company, Crystal City, Texas.

## MISCELLANEOUS.

HAY RACK SLINGS—ONE MAN EASILY changes heaviest hay racks and wagon boxes. F. Lovering, Fremont, Neb.

CABBAGE CUTTER, SIX KNIVES—Slices all vegetables rapidly. Excellent for potato chips. Prepaid, \$1; three for \$2. Lusher Brothers, Elkhart, Indiana.

## CATTLE.

REGISTERED GUERNSEY BULL CALVES and yearling bull for sale. R. C. Krueger, Burlington, Kansas.

REGISTERED SHORTHORN BULLS—Reds, from 12 to 18 months old, at farmers' prices. W. T. Hammond, Fortia, Kan.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. \$25, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

## RABBITS

THE NORTH TOPEKA RABBITRY—T. M. Coffey, Prop. Breeder of pedigreed and registered Rufus Red Belgian Hares and New Zealand Reds. 1313 N. Kansas Avenue, North Topeka, Kansas.

## PATENTS.

JAMES N. LYLES—PATENTS, TRADE-marks and copyrights. 734 Eighth Street N. W., Washington, D. C.

## DOGS.

AIREDALES, COLLIES AND OLD ENG. Hush Shepherds. Pups, grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 118, Oakland, Iowa.

## REAL ESTATE.

640-ACRE STOCK AND GRAIN HOME-steads. Duff, Casper, Wyoming.

KINGFISHER COUNTY, OKLA., FARM lands. C. W. Smith, Smith Bldg., King-fisher, Okla.

FOR SALE—EASTERN COLORADO land. A good half section, improved, part in crop. Buy direct from owner and pay one man's price in place of two. O. F. Lovelace, Stratton, Colorado.

SOUTHWEST KANSAS IS DEVELOPING fast. Farmers are making good profits on small investments. It is the best place today for the man of moderate means. You can get 160 acres for \$200 to \$300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6%—price \$10 to \$15 an acre. Write for our book of letters from farmers who are making good, there now, also illustrated folder with particulars of our easy purchase contract. Address W. T. Chiver, Santa Fe Land Improvement Company, 405 Santa Fe Bldg., Topeka, Kansas.

## DEHORNING.

BLACK DIAMOND DEHORNING PREPARED by J. C. Shimer. Guaranteed. Write to phone J. C. Shimer, 1815 Kansas Ave., Topeka. Phone 471.

## HONEY.

REGARDING THE LAST WORD IN pure honey, write to Drexel, the Bee Man, Crestford, Colorado.

HONEY—CHOICE WHITE ALFALFA, 10 lbs., \$24; 60 lbs., \$12.50. Amber honey, 10 lbs., \$22; 60 lbs., \$12. Bert W. Hopper, Rocky Ford, Colorado.

## Real Estate For Sale

### HOME FARM, 320 ACRES

Out 6 1/2 miles. Good buildings. Fine water, 180 wheat, half with sale; alfalfa. Only 98,500, with \$2,500 cash balance long time. One good 160, out 3 miles small house, 100 smooth, 60 wheat, 40 crops, one-fourth with sale; shallow water; only \$2,500, with \$500 cash, balance terms. Have other farms and ranches at small payments now, another payment after harvest.

B. C. BUXTON, Utica, Ness County, Kansas.

### Northeast Kansas Bargain

Forty miles Kansas City, 200 acres, 1/2 mile good town. Fair improvements. 150 acres tillable, balance bluegrass, timber, pasture. This is a real bargain. Price, \$50 per acre.

### Wm. Pennington

McLouth, Jefferson County, Kansas

### EIGHTY ACRES

Near Emporia; alfalfa land, well improved, good orchard, possession at once. \$115 per acre. Write for list of farms.

T. B. GODSEY - EMPORIA, KANSAS

SOUTHEASTERN KANSAS—Farms of all sizes; lowest prices. Terms, \$1,000 and up. Send for booklet. THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

### — OTTAWA —

Business College  
OTTAWA, KANS. CATALOG FREE

### Common Hens Must Go

A Minnesota poultryman who keeps production records is finishing his year's work with a flock of 262 hens, with an average egg production for a period of twelve months of more than 170 eggs per hen. The average farm flock in this state produces about seventy-two eggs per hen. An average of at least 100 eggs per hen should be striven for. This would mean an additional income from the ordinary flock of \$84 a year. Standard bred poultry, given a little attention, will give these results.

Hens that are chronic setters should be fattened and sold to the butcher.

Males, except those for breeding purposes, should be gotten rid of as soon as possible.

Pure-bred poultry means uniformity of products. Uniformity of products means increased profits if they are properly marketed. Given the same care and feed, pure-bred fowls will make a better profit than mongrels.

Market white-shelled and brown-shelled eggs in separate packages. Uniform products command the best prices. Never market small or dirty eggs.

The first bull association was organized in Michigan in 1908. Since that time twenty other states have taken up the work. Not a single farmer has ever lost a dollar by belonging. Better bulls are obtained for less money. Better dairy offspring results. More milk is produced for the same money. The investment for the individual farmer is small and the returns are sure.

When dairy utensils are sterilized by steam, all bacteria and disease germs which may be upon them are destroyed and therefore milk and cream when placed in these utensils will keep much longer.

Lincoln said: "The value of life is to improve one's condition." Saving is the foundation of advancement. Buy W. B.

## Precipitation of April, 1919

Reports Furnished by S. D. Flora, Meteorologist, U. S. Weather Bureau

City	Apr. 1	Apr. 2	Apr. 3	Apr. 4	Apr. 5	Apr. 6	Apr. 7	Apr. 8	Apr. 9	Apr. 10	Apr. 11	Apr. 12	Apr. 13	Apr. 14	Apr. 15	Apr. 16	Apr. 17	Apr. 18	Apr. 19	Apr. 20	Apr. 21	Apr. 22	Apr. 23	Apr. 24	Apr. 25	Apr. 26	Apr. 27	Apr. 28	Apr. 29	Apr. 30	Total	
Abilene	0.99		3.76	3.66	4.27	4.38	4.02	3.82	3.09	4.44	4.49	3.25																				
Altoona		2.17	3.76	4.35	5.41	3.48	6.65	5.14	4.20	4.45	2.97	5.59	3.22																			
Arkansas City	2.92	5.38	4.43	5.20	4.51	6.11	5.21	4.47	4.42	4.03	4.69	4.69	4.33	3.38																		
Atchison	2.77	3.15	5.28	4.07	2.23	3.91	5.27	4.89	3.18	3.76	4.77	4.89	4.01	3.89	3.42	2.46	2.24	4.31														
Barber	2.43	4.60	4.52		3.13		5.00		4.53	4.22																						
Bellevue	3.14	1.88			2.91	3.94			4.77	3.92	3.53	4.21	4.37	4.59																		
Bethel	0.59	4.84	1.77		2.08	1.92		3.57	4.40		4.72	3.90	5.37																			
Big Springs	2.97			1.25	1.77					4.37		5.53																				
Chanute	1.93		0.54		2.37	3.14	2.71	3.91	3.97	5.31	4.78	4.07	4.82																			

MORE moisture fell over Kansas this month than in any other April in the history of the state, except in 1900, and the ninety-day period just closed was the wettest on record for this time of the year, except in 1900. Conditions were ideal for wheat except in the eastern counties, where it grew so rank that even with heavy pasturing it was in great danger of lodging as the month closed. Heads were beginning to show in the extreme southern counties and it was joining generally over the eastern two-thirds. The rains and cool weather prevented the ground from drying out enough to permit of much headway being made in corn planting except in the southern counties. Oats and barley came up to good stands. Alfalfa made a heavy growth and was almost ready to cut in the southeast portion.

# GENERAL FARM ITEMS

If the skin is wrinkled under the horse's collar or saddle, bathe it with diluted vinegar or witch hazel. If the skin is broken, bathe it with clean warm water containing a little salt. Fix the collar with padding or otherwise, so that it will not touch the sore spot the next day. A little carelessness at the beginning may cause a lot of trouble to you and suffering to the horse.

In warm weather, thorough grooming of work horses is almost as important as feeding. Without it, dried sweat, mud and dirt clog the pores, make the horse uncomfortable and affect his health.

When the horses are at work on a farm day, lift up the collars now and then to cool their shoulders, and wipe off the sweat and dirt with a bunch of grass.

Wipe off the harness marks on your horses when you stop work at noon and at night, and clean the inside of the harness, the collars especially. The salt sweat, drying on the skin and on the harness, is what makes the trouble.

## Maintaining Fertility

J. E. Payne, of Parsons, has figured out that the average price per bushel of the fifty-five crops of Kansas wheat brought before 1917 is 73 cents. He calls attention to the fact that if he had to replace the elements of fertility contained in this wheat it would take over half the selling price of the wheat to return to the soil the fertility removed, at present prices of nitrogen, phosphorus and potassium.

The increased use of commercial fertilizers is a factor in the increased prices. It is hard to get enough to supply the demands for commercial fertilizer at the present time. This should be sufficient incentive to take every possible care of home-grown fertility, says J. E. Payne. Wheat straw contains 1.2 pounds of nitrogen, 4.4 pounds of phosphoric acid and 24 pounds of potassium per ton. Corn fodder contains 5.4 pounds of nitrogen, 7.6 pounds of phosphoric acid, and 21 pounds of potassium per ton. Barnyard manure contains 1.2 pounds of nitrogen, 6.6 pounds of phosphoric acid and 11.2 pounds of potassium per ton. The value of these elements, as given by the director of the Ohio Experiment Station, are: Nitrogen, 30 cents a pound; phosphorus, 15 cents a pound, and potassium, 10 cents a pound. Can we afford to sell straw, which less burn it?

## American Manhood

Americans have so conducted themselves in France and Germany that it is quite the logical thing for a Prussian to leave his wife and daughter in the hands of an American officer's charge, as described by a correspondent to Association Men, writing from Coblenz.

In the Army of Occupation is Lieut. J. Dunbar Newton, billeted in a German family, the head of the house being a Prussian member of parliament. One morning the German knocked on the colonel's door and announced: "This day I leave to go to parliament, Colonel." "Yes," responded the colonel; "I wish you a pleasant journey."

"You know," went on the Prussian, "I am leaving my wife and daughter behind, and, Colonel, I am leaving them entirely in your charge while I am gone."

The correspondent notes that this is quite a contrast to the picture the Huns painted with blood in their treatment of the women and children of Belgium in occupied France.

Yes—it is quite a contrast.

## Machinery and Farm Help

Among big tools found on a quarter section Ohio farm investigated in a farm management survey are the manure spreader, tandem disk, two-row corn planter, sully plow, seven-foot binder and foot mower. A gas engine, windmill and electric motor take care of the water supply. The modern home, recently built, is equipped with a furnace, running water in kitchen and bath, electric lights, iron, washer, and cleaner. A coal oil stove is used in the kitchen. The buildings are in the central group. Stock can be turned into eight

acres of bluegrass from the barn lot. This is handy and saves time in the morning in getting up the horses and cows.

The hand on this farm was a single man till last year. He had worked for this farmer three years up to that time. The old house was remodeled and he and the bride moved in. The house has six rooms. This hand gets \$32.50 a month the year round, one-half acre for garden and truck, 300 pounds of pork on foot, all the chickens he cares to raise, is furnished with a cow, his horse is fed, he gets fuel wood, fruit, and gifts throughout the year to a total value of \$15 to \$20. This hand is a Virginian who is making good on this Ohio farm. The city industries and the draft made it cost more to get good help, but this farmer thought the farmers in his locality would get along. The neighbors co-operate well at threshing and other work. The hand's wife helps the farmer's wife when she is needed.

This man gets help and keeps it, he said, for the following reasons:

"Good wages, congenial surroundings, the elimination of drags and drudgery is our plan here. We quit the fields at 6 p. m. and start for the fields at 6:30 in the morning, and this is always adhered to. We think ten hours of honest toil is enough for man and beast. Good teams, tools, and equipment, and plenty of good stock, attract help of the right kind. I am sure the house furnished, with the wage and extras, is appreciated by my man, and I know satisfied help is a big farm asset. We won't put up with a dissatisfied one and never have."

## No Cheap Beef Coming

Beef production must increase before consumers can expect meat at lower prices. This is the opinion of Dr. C. W. McCampbell, head of the animal husbandry department of the Agricultural College, after making a careful study of live-stock statistics. He calls attention to the fact that the population of the United States is increasing at the

rate of 2 per cent each year, while beef production is declining. In order that more live stock be produced, a stable market must be maintained. Violent fluctuations are most discouraging to the stockman, who may lose his profits for a whole year by a quick change in the market.

Then there is the problem of production. More economical methods are being worked out in feeding cattle. These practically all involve using forage crops much more than has been practiced in the past. "The general decline of the range industry may possibly bring about a diminution in the number of cattle grown in this country," said Dr. McCampbell, "although this does not necessarily follow. It will certainly bring about such a diminution unless the price of beef rises and remains permanently above the average of the years preceding the present period."

"In order that the decline in the number of range cattle may be counterbalanced, there must be a corresponding increase in the number of farm bred cattle. But such an increase cannot come about until the price of beef rises sufficiently to compensate for the higher cost of raising cattle on the farms as compared with the ranges.

"When produced in small quantities and as a by-product of agriculture, meat is one of the most economical articles of diet. In growing grain and vegetables there is much waste material unsuited to human consumption, but which animals can consume, digest and turn into meat. The animal is from this point of view a machine for converting inedible waste products into excellent food."

## Ousting His "Boarder" Cows

A good example of what cow testing associations are doing to help dairymen cull unprofitable milk producers is shown in the experience of an Iowa dairyman who reports that through the cow testing association he learned that one cow was paying him \$2.40 for each dollar's worth of feed, while another returned only 58 cents. This dairyman lost no time in selling the poor cow and five others which showed by test that

they were not paying for the feed they consumed. This year he will be able to produce milk at less cost, thus increasing his profits. He writes, "I have cut down on the feed cost by eliminating the boarders, and can still further reduce it by using more clover and alfalfa than was available last year."

Provide a box partly filled with road dust or wood ashes so as to give the hens an opportunity to take a dust bath. It gives them needed exercise and keeps them free from lice and mites.

## Double the Mileage At 1/4 the Cost



**3,000 Mile Guaranteed Tires**  
Economy Double Tread Tires made doubly durable by our secret reconstructed process used in manufacturing. They have double the amount of fabric of any ordinary tire, making them practically puncture and blowout proof. Our customers get from them 6,000 to 10,000 miles of service.

**Look at These Low Prices**

Size	Price
30x3	\$5.50
30x3 1/2	6.50
32x3 1/2	7.50
32x4	8.75
33x4	9.00
34x4	9.25
34x4 1/2	10.75
35x4 1/2	11.00
36x4 1/2	11.50
36x5	12.25
37x5	12.75

**Roller Free with Every Tire**—State whether you want straight side or roller, plain or non-skid. Send \$2 deposit for each tire; \$1 deposit on tubes; balance C. O. D. subject to examination, or 5% discount if full amount is sent with order.

**ECONOMY TIRE & RUBBER COMPANY**  
Dept. 66 1206-10 W. 16th St., Chicago, Ill.

## Don't Waste Wool

Old methods of shearing leave too much wool on the sheep. Shear the modern way with a good machine. The Stewart No. 9 Ball Bearing Shearing Machine works wonders with flocks up to 300 head. Saves time and money—shears 15 per cent more wool. Does away with second cuts. Soon pays for itself. Price only \$14. You can get it by sending \$2.00—pay balance on arrival. Or write for catalog.

**CHICAGO FLEXIBLE SHAFT COMPANY**  
Dept. 122, Twelfth Street and Central Avenue, Chicago

## When Market Prices Come Down Our Prices to You Come Down at Once

When market prices go down, our prices to you are reduced at once. That's a Montgomery Ward policy. No matter what catalog you order from, our price to you is always the lowest possible. This advertisement, taken from our latest Price Cutting Bargain Catalog, shows just one of its hundreds of money saving opportunities. You may order from this ad if you like, or from your regular catalog. Always you get our very lowest price.

**Montgomery Ward Co.** Northeast Station Kansas City

Dept. 3F32

**\$575  
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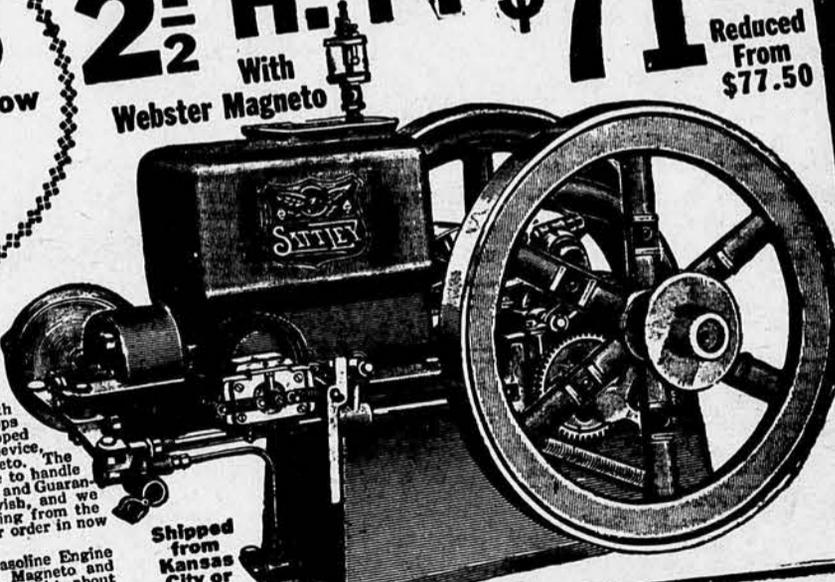
Buy This Engine Now

Regular Catalog Price  
**\$7750**

# Special Sale Price

# 2 1/2 H. P. \$7175

Reduced From \$77.50



**2 1/2 H. P. Sattley**  
Three Speed Gasoline Engine  
With Webster Magneto

This engine is splendidly built with ample bore and long stroke—develops its rated horsepower or more—equipped with Sattley three-speed governor device. The 8 1/2 in. pulley and Webster Magneto. The adjustable speed makes it possible to handle various jobs economically. Tested and guaranteed—60 days free trial if you wish, and we save you excess freight by shipping from the warehouse nearest you. Get your order in now before the close of this sale.

**28865050**—2 1/2 H. P. Sattley Gasoline Engine with 8 1/2 inch pulley, Webster Magneto and three-speed Governor. Shipping weight, about 470 lbs.

For this sale ..... **\$71.75**

Shipped from Kansas City or Lincoln, Nebr.

Send your name and address and get our Latest Bargain Catalog—FREE

**SHORTHORN CATTLE.**

**It Pays to Grow Shorthorn Beef**



H. M. Hill, Lafontaine, Kan., sold 18 yearling pure-bred Shorthorn steers at Kansas City, weighing 1,800 lbs., for \$224.50 per head.

Two Shorthorn grade calves 6 months old sold at Pittsburgh, Pa., March 31, at 18c, weight 605 lbs. each, \$108.90 per head.

Two yearling Shorthorn steers on the Pittsburgh market in December brought 25c, weight 1,350 lbs., price per head \$37.50, and five short yearlings weighing 900 lbs. brought 20c, \$180 each. You get quality and weight both with the Shorthorn.

**AMERICAN SHORTHORN BREEDERS' ASS'N.**  
18 Dexter Park Avenue Chicago, Illinois  
Ask for a copy of "The Shorthorn in America."

**MARK'S LODGE RED SHORTHORNS**

For Sale—25 well bred cows and heifers bred, priced reasonable. A few young bulls by Double Diamond by Diamond Goods. Price, \$150. Come and see my herd.

**M. F. MARKS, VALLEY FALLS, KANSAS**

**ALL SCOTCH SHORTHORNS**

Herd headed by Walnut Type, a grand son of White Hall Sultan, and Silver Plate, a son of Imp. Bapton Corporal. A few young bulls for sale. Robert Russell, Muscotah, Ks.

**SHORTHORN CATTLE**

For Sale—Five young Scotch bulls and ten head of females, bred or calves at foot.

**H. H. HOLMES, R. F. D. 28, Topeka, Kan.**

**DUROC JERSEYS.**

**REGISTERED DUROCS**

For Sale—Ten bred gilts, bred for September farrow. Price, \$60 each. First check gets choice. Satisfaction guaranteed or money refunded.

**J. R. Smith, R. 1, Newton, Kan.**

**Woodell's Durocs**

A choice lot of extra well bred gilts bred for late farrow. Few fall boars.

**S. B. WOODDELL, WINFIELD, KANSAS.**

**HIGHVIEW DUROCS**

FOR SALE—TWENTY FALL BOARS By Repeater, Golden Reaper and Pathfinder. Guaranteed and priced to sell quick.

**F. J. MOSER - SABETHA, KANSAS**

**RED POLLED CATTLE.**

**RED POLLED BULLS**

Twelve head coming two-year-olds and twenty head of coming yearling bulls. This is an extra nice and well colored bunch of bulls sired by ton sires. Inspection invited.

**E. E. FRIZELL & SONS, FRIZELL, KAN.**

**RED POLLED CATTLE FOR SALE**

Young bulls and some extra good young cows to calve in early spring. A few yearling heifers.

**I. W. FOULTON, MEDORA, KANSAS**

**RED POLLS, BOTH SEXES, BEST OF BREEDING.**

**Charles Morrison & Son, Phillipsburg, Kan.**

**SHROPSHIRE SHEEP**

**FOR SALE**



A bunch of registered Shropshire rams, ready for service. Priced worth the money. Also registered ewes.

**Howard Chandler, Charlton, Ia.**

**HORSES AND MULES.**

**Pleasant View Stock Farm**

**PERCHERONS AND HEREFORDS**

**For Immediate Sale**

Six-year-old Ton Stallion, black. Have his fillies. Must sell.

One coming three-year-old, weight 1,750 pounds, gray, broke to service.

One coming two-year-old, weight 1,550 lbs., black, ready to use this spring on a few mares.

All of these horses sound and good individuals.

In Herefords Have About Thirty Cows and Heifers

All that are old enough are getting calves this spring from my herd bull, Domineer 566433, a son of Domino, bred by Gudgeon & Simpson. A few May bull calves yet.

**MORA E. GIDEON, EMMETT, KANSAS**

**PERCHERON-BELGIAN SHIRES**



Registered mares heavy in foal; weanling and yearling fillies. Ten mature stallions, also colts. Grown ourselves the ancestors for five generations on dam side; sires imported.

**Fred Chandler, Rt. 7, Charlton, Iowa**

**JACKS AND JENNETS**

Registered Jacks and Jennets. Good individuals, good colors. Have some choice young jacks that are priced to sell quick.

**GEO. S. APP, ARCHIE, MISSOURI**

**PERCHERON STALLIONS AND JACKS**



FOR SALE—A number of Percheron stallions, yearlings and matured horses. All registered in Percheron Society of America. Sound, heavy bone, splendid colors. I have several horses that would have won in all the classes at our state fairs last year and must be seen to be appreciated. Dr. McCampbell of Manhattan and O. W. Devine, Topeka, tell me I have as good horses as they see on any farm in Kansas. Come and see them.

**J. C. PARKS**

**HAMILTON, KANSAS**

**POLLED DURHAM CATTLE**

**DOUBLE STANDARD POLLED DURHAMS**  
Young bulls of Scotch breeding for sale. Herd headed by Forest Sultan. C. M. HOWARD, Hammond, Kan.

**ANGUS CATTLE**

**Dietrich's Aberdeen-Angus**

Aged bulls, fifteen choice spring bulls. Females, all ages.

**GEO. A. DIETRICH, CARBONDALE, KAN.**

**HAMPSHIRE HOGS**

Registered Hampshire Hogs—Sows and Spring Gilts, bred or open. Choice spring boars. Double treated. Geo. W. Ela, Valley Falls, Kansas

**GALLOWAY CATTLE.**

**Registered Galloway Bulls**

For Sale—Twelve head 2-year-old bulls, big strong fellows, ready to use. Eight head yearlings. Write at once.

**Shive Bros., Burrton, Kansas**

**HOLSTEIN CATTLE.**

**HOLSTEINS!**

We are offering a choice selection of both registered and high grade springer cows and heifers. Also pure-bred bulls and young females. All reasonably priced. Come and see them or write.

**T. R. Maurer & Co.**

**EMPORIA - - - - - KANSAS**

**GOLDEN BELT HOLSTEIN HERD**

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

**W. E. BENTLEY, MANHATTAN, KANSAS**

**CHOICE HOLSTEIN CALVES**

12 Heifers and 2 Bulls, highly bred, beautifully marked, and from heavy producing dams, at \$25 each, crated for shipment anywhere. Safe delivery guaranteed. Write

**FERNWOOD FARM, WAUWATOSA, WIS.**

**BUTTER-BRED HOLSTEINS**

Three choice registered Holstein bulls, ready for light service, and some bred heifers to a 32-pound sire.

**J. F. MAST, - SCRANTON, KANSAS**

**REGIER'S HOLSTEINS**

Registered bulls ready for service and bull calves, out of good producing dams. Sire: Sir Rag Apple Korndyke De Kol and Duke Ormsby Pontiac Korndyke.

**G. REGIER & SONS, Whitewater, Kansas**

**BRAEBURN HOLSTEINS**

Looking for a bull? I can generally offer you choice of half a dozen, by two different sires. That saves time and travel.

**H. B. COWLES**

**608 Kansas Avenue Topeka, Kansas**

**Quality Holstein Heifer Calves**

Four to six weeks old, by pure-bred sire. \$25, express paid to any station. Write for prices on older stock.

**SPREADING OAK FARM**

**Whitewater - - - - - Wisconsin**

**Holstein Calves**

Extra choice, beautifully marked, high-grade calves from heavy milking dams, either sex. Write us for prices and description.

**W. C. Kenyon & Sons**

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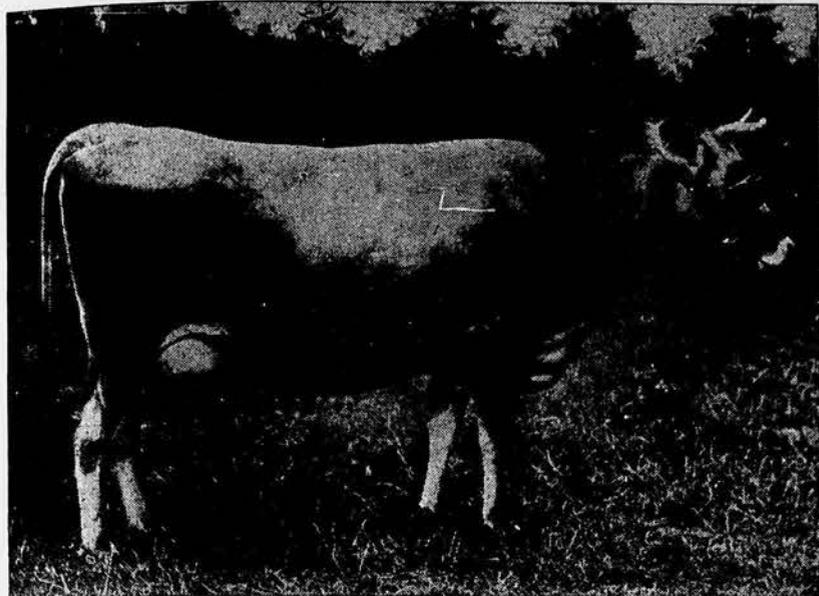
Mr. H. M. Pierce is consigning three splendid cows, one senior yearling heifer and one two-year-old, a double line-bred Owl Interest.

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### CLAIM SALE DATES.

- Jersey Cattle.
  - May 31—Central Kansas Jersey Cattle Club, M. A. Tatlow, Manager, White City, Kan.
  - June 24—Dr. J. H. Lomax, Leona, Kan.
- Shorthorns.
  - May 22—Jefferson County Shorthorn Sale, J. Mitchell, Manager, Valley Falls, Kan.
- Spotted Poland Chinas.
  - May 11—R. W. Sonnenmoser, Weston, Mo.
  - May 14—R. W. Sonnenmoser, Weston, Mo.
- Poland Chinas.
  - May 11—M. Howard, of Hammond, Kansas, owner of one of the good herds of double standard Polled Durham cattle in Kansas, reports his herd doing well. Mr. Howard has the best blood lines of this popular breed of cattle in his herd and a feature of this time is the choice lot of young stock bred by Scotch breeding.
- Volume 58 of the National Duroc Jersey Record is now ready for distribution. This volume contains the pedigrees of males from No. 253501 to No. 260499 and the pedigrees of females from No. 635500 to No. 658498 and the usual amount of information of interest to Duroc breeders.
- Robert Russell, of Muscotah, Atchison County, Kansas, is the owner of one of the best herds of Shorthorns in Kansas. He has now numbers about fifty head of Scotch cattle headed by Walnut Type,

a grandson of White Hall Sultan, and Silver Plate, one of the best sons of Imported Bapton Corporal. The bulls represented in this herd are Sterling Supreme, Walnut Type, Diamond Baron, and Village Jr. by Old Imported Villager. The herd cows represent thirteen of the best Scotch families, such as Victorias, Queen Beauties, Golden Drops and Nonpareil. A feature of the herd at this time is a splendid lot of young bulls of pure Scotch breeding that would improve a lot of herds if properly used. Mr. Russell has been breeding Shorthorn cattle for more than ten years and his motto is to improve his herd and feed and breed them better each year.

F. J. Moser, of Sabetha, Kansas, is the owner of one of the best bred herds of Duroc Jersey swine in Kansas. The herd is headed by Repeater by Joe Orion King and Golden Reaper by Pathfinder, two of the well known sires of the breed. One hundred seventy-five spring pigs are now on the farm. They are by Giant Orion, Giant Pathfinder, Giant Sensation, Jack Orion King 2d and Perfect Giant. Mr. Moser is contemplating holding an August sale of bred sows and gilts and will offer fifty head of choice specimens of the breed to the public. A feature of the herd at this time is twenty-five large fall boars by Giant Wonder, Giant Wonder I Am and Defender's Top Col.

H. E. Myers, of Gardner, Kansas, has enjoyed one of the most prosperous years' business with his herd of Poland Chinas that he has ever experienced. Mr. Myers owns one of the good herds in Eastern Kansas. The herd boars now used are Liberty King by Liberator and Big Giant by Denie's Giant, two splendid individuals that are the correct type of the real big Poland China. Seventy spring pigs are now in the herd. Mr. Myers has announced Tuesday, October 14, for his next annual fall sale. On that date about twenty early spring boars and thirty fall and spring gilts will be offered.

Volume 97 of the American Shorthorn herd book is now ready for distribution. It contains pedigrees received before April 24, 1918, and from No. 637001 to 687000, and the usual amount of matter of special interest to Shorthorn breeders.

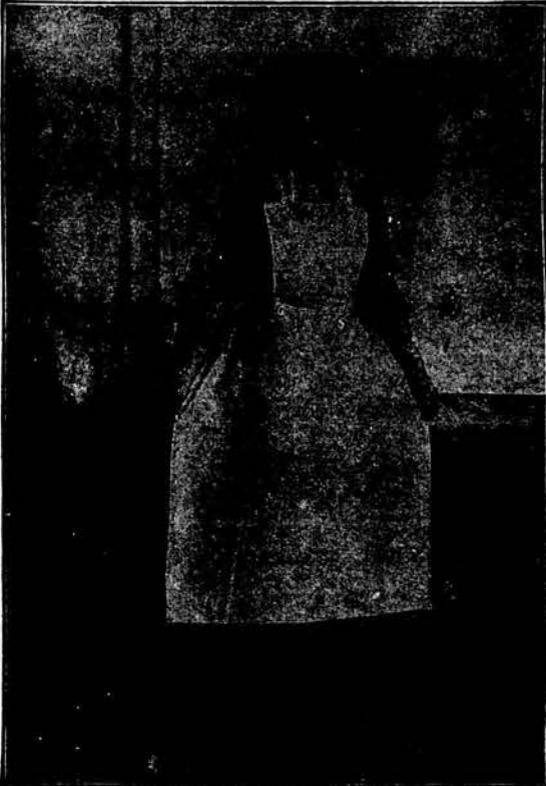
The catalogs are out announcing the Central Kansas Jersey Cattle Club sale at White City, Kansas, on May 31. Forty head of registered Jersey cows and heifers have been consigned by the following well known Jersey breeders: J. A. Comp, White City; H. M. Pierce, Junction City; M. Frazier, Manhattan, and M. A. Tatlow, secretary, White City. This offering promises to be one of the best lots of producing Jerseys to be sold in any Kansas sale this spring.

P. M. Anderson, formerly of Lathrop, Missouri, is now located on his new stock farm near Holt, Missouri. During the past year he has shipped Poland China hogs for breeding purposes to eighteen states. Mr. Anderson grows his hogs in a way that they always go out and make good as breeding stock. The herd is now headed by Giant Buster and is a splendid specimen of the breed. Anderson's Big Bone by Long Big Bone, the grand champion of the National Swine Show in 1917, is also used very successfully in the herd, as is also Anderson's Big Joe, a grandson of Big Joe, which has proven one of the good breeding hogs in the herd, mated with herd sows by Iowa King, King Wonder, Fessey's Timm, A Wonder, Mc's Big Orange and Big Joe 2d by old Big Joe. A feature of the herd at this time is 125 early spring pigs by these herd boars and out of the best herd sows on the farm.

R. W. Sonnenmoser, of Weston, Missouri, has announced October 11 for his annual fall sale of Spotted Poland China hogs.

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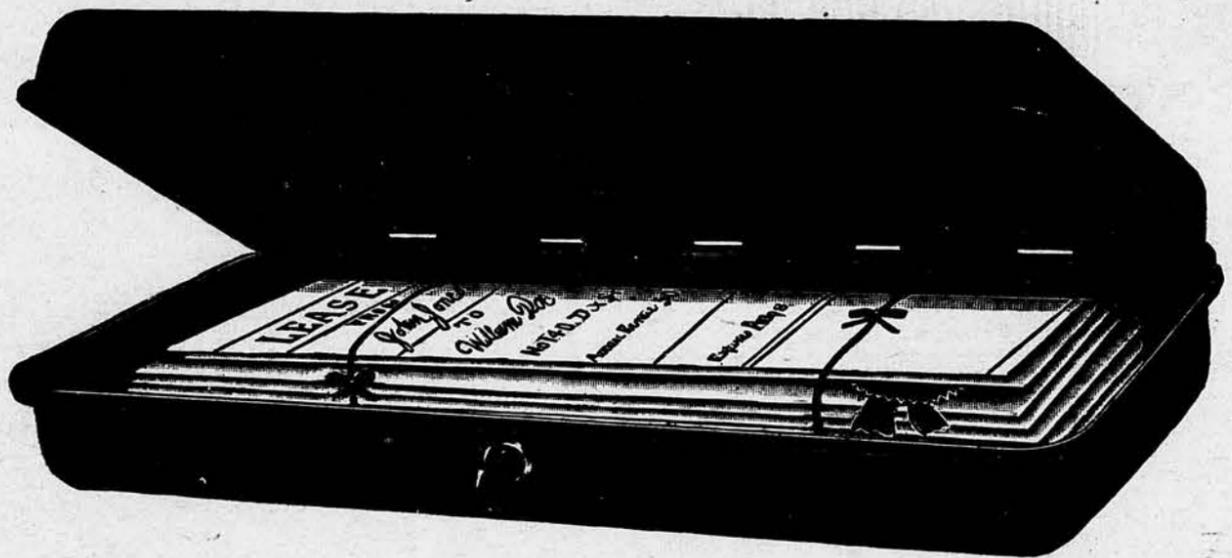
Polands. Major Arbuckle, by Arbuckle Longfellow, is a young hog that is a great prospect and will be fitten and shown at the Missouri State Fair this fall. The Shropshire flock is headed by Broughton 2434 and Senator Bibby 6th, two choice specimens of the Shropshire breed. A feature of the flock at this time is the exceptionally large crop of spring lambs.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



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