

KANSAS FARMER

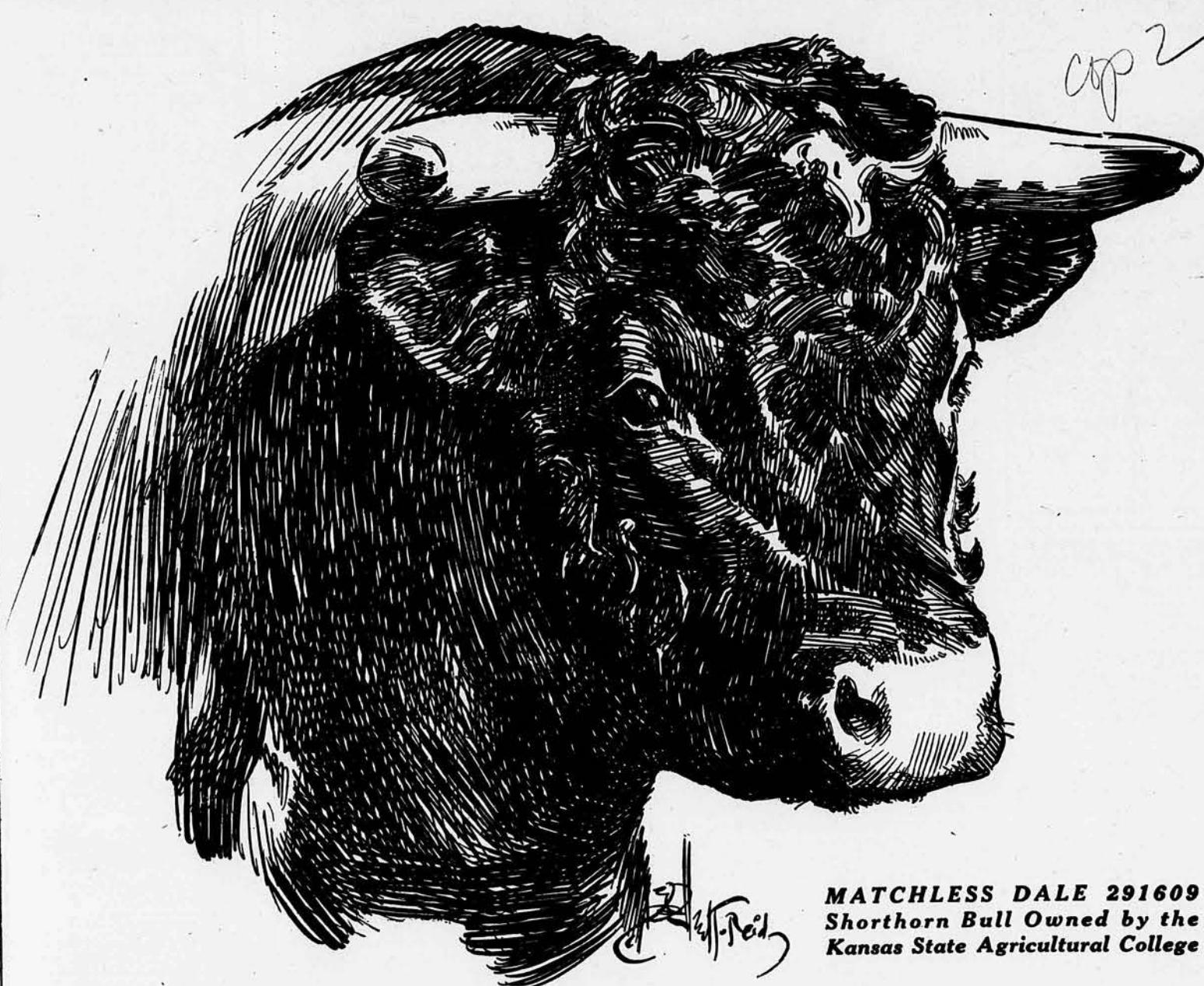
For the improvement of the Farm and Home

Volume 54, Number 12.

TOPEKA, KANSAS, MARCH 18, 1916.

Established 1863. \$1 a Year

R.C. 820 July 16



MATCHLESS DALE 291609
*Shorthorn Bull Owned by the
Kansas State Agricultural College*

THE following show ring record of steers sired by Matchless Dale establishes his merit as a breeding sire.

College Dale—calved October 12, 1912, a winner of nine firsts, one reserve championship, three championships, and one sweepstakes, at leading stock shows of the country. Cash won, \$495. Sold for beef on the Chicago market, December 6, 1915, for \$202.50.

Golden Dale—calved January 7, 1913, first junior calf and third in open class at 1913 International Stock Show. Second at Topeka 1914, third at American Royal 1915.

Kansas Dale—calved January 16, 1913, fifth at 1913 International, and first at National Western Stock Show 1916.

Secret Dale—calved November 2, 1913, first at Topeka, third at Royal 1915.

King Dale—calved January 7, 1914, first and champion at National Western Stock Show 1916.

Merry Dale—calved February 2, 1914, third at Topeka and at Hutchinson 1915.

Barmpton Dale—calved October 3, 1914, fourth at Topeka 1915, fifth at Hutchinson 1915, first at Royal 1915, and first at National Western Stock Show 1916.

Gallant Dale—calved November 6, 1914, second at Royal 1915.

Shorthorn steer herds sired by Matchless Dale won second at Topeka 1915, first and third at American Royal 1915, and first at 1916 National Western Stock Show at Denver.

Kansas Adapted to Pure-Bred Cattle By JAMES G. TOMSON

THE breeding of pure bred beef cattle, or in fact the handling of any kind of live stock, is largely influenced by the natural conditions surrounding such operations. Vegetation and climate are important factors and control, to a certain extent, the growth and development of animals.

To develop beef cattle properly and obtain the most rapid growth without impairing future usefulness, it is essential that they be fed a liberal ration of feeds rich in protein—a ration that will produce flesh and bone rather than fat. By so doing, we will enable them to continue the rapid growth which they have been making on grass during the summer months. It is also important that they be sheltered from violent exposure. Severe cold weather or continued wet weather often causes a noticeable check in growth, if not more serious trouble. It is true, such feeds can be had to a certain extent in almost any section by the purchase of mill feeds, etc., but these often command almost prohibitive prices. Climatic conditions can be greatly modified by the erection of expensive barns, but proper ventilation must be provided or disease will develop.

Since the above mentioned requirements are of greatest importance, let us study what Kansas offers in these. We find an undulating surface naturally covered with our native prairie grasses. Clear streams of water are found over most of the state, and along their banks many natural shade trees furnish shade from the heat of the sun as well as good natural shelter in winter. We have rich, fertile land capable of producing a great variety of crops. Our climate is mild with an abundance of Nature's best disinfectant—sunshine. Our grazing period is greatly lengthened by our mild fall and spring weather.

Throughout the eastern part of the state, blue grass, clovers, and other tame grasses thrive and furnish much pasture, and as our native grass is trampled or fed out these grasses quickly reclaim the ground and greatly increase our grazing season. No other grass seems to quite equal prairie grass during the heat of our summers—a time when tame grasses rest. Visitors from a distance, in looking over our breeding cows in midsummer, often are amazed at the flesh they carry. Some even inquire whether we feed grain on grass, and express no little surprise when told that the grass alone does it. By a liberal use of prairie grass during our hot months, we can spare our tame grasses and later have a rank growth to carry our cattle well up into winter. In fact, when pastures are convenient, the cattle will get much good out of them during the winter months, and are much better off than when confined in close quarters. In the western part of the state, tame pasture grasses do not seem to thrive, but there the wheat fields are a good substitute. An abundance of alfalfa is grown in many parts and in some localities sweet clover is common, so that much fall grazing is practised over our entire state.

Our tillable crops are varied. Small grains do well. Corn, kafir, cane, and such crops produce large yields, both as grain and silage crops. Our alfalfa fields are second to none, while clover, cowpeas, etc., all produce much good feed.

Much of our land is well supplied with lime and this, through the feeds, aids in giving strength of bone to our growing animals.

From this variety of grasses and grains and the abundance of feed to convert into silage, it is an easy matter to find rations that will produce growth, vigor, and bloom in our breeding cattle, and at a very low cost.

Bulls kept on such diet prove useful and vigorous for years. In our own herd we have used three bulls that were use-

ful up to twelve and fourteen years of age. It is not uncommon for our breeding cows to produce up to fifteen and eighteen years of age, when maintained under such conditions. Our young cattle mature early and compare favorably with the best, both in quality and size. Perhaps no better proof of this could be offered than the pure bred steers fitted and shown by our agricultural college. With steers bred in Kansas and developed on Kansas feeds, this institution has won its share of prizes at our best stock shows. During the past eight years Kansas has shown more first prize steer calves at the International Live Stock Show than has any other state, which is pretty strong evidence that our feeds will produce the growth desired.

Our open winters enable us to carry our breeding cows through cheaply. True, we have some severe storms, but they are of short duration and inexpensive open quarters furnish ideal shelter for the bulk of our stock. This not only lightens our expense, but cattle handled in this way are more robust and comparatively free from disease germs.

Another important advantage is our location. Surrounded, as we are, by cattle states, we get trade from all quarters. And with our great Kansas City market, we are favored with an opportunity to come in contact with stockmen, many of whom are buyers of pure bred stock.

Possibly some of our breeders are not making a success of their work, but this is largely because they are not using the talents that have been given them. It is encouraging to note the number of pure bred herds that are being founded over our state, also to note the increased demand for good bulls. Apparently our farmers have in mind taking advantage of our natural resources, and we predict they will be well paid for so doing.

No lover of good cattle can witness one of our better herds, as they graze contentedly in our pastures, or quietly rest in some favorite shade, or even feed in their winter quarters, without experiencing a feeling that Kansas is an excellent breeding ground for beef cattle.

Organized to Fight Hog Cholera.

As a result of the Interstate Hog Cholera Convention held in Arkansas City, February 22, an organization of Oklahoma and Kansas farmers and stockmen was formed to systematically fight hog cholera. This convention, as have all other meetings of its character, developed the fact that there is considerable difference of opinion relative to hog cholera vaccination, but the importance of sanitation on stock farms was recognized by all, and it was urged that farmers exercise greater precautions to prevent the spread of contagious diseases.

The effectiveness of organization in checking and controlling hog cholera was most conclusively shown. Cowley County, Kansas, where the meeting was held, is making considerable headway in reducing the amount of cholera through the agency of the farm bureau.

The Interstate Association of Farmers and Stockmen is the permanent name given the organization perfected at this meeting. F. M. Athey, of Blackwell, Okla., was made president, and G. Homer Brown, of Arkansas City, secretary. Four meetings a year are planned—two in Kansas and two in Oklahoma.

See that the entrance to the farm is neat and clean. Appearances may be improved by a group of shrubs at either side.

To loosen rusty nuts, heat to a cherry red the end of an "S" wrench that will fit, and place it on the nut for a few minutes.



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SCENE IN ONE OF THE TOMSON PASTURES, SHAWNEE COUNTY.—THE COWS KEEP FAT ON GRASS ALONE

KANSAS FARMER

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ALBERT T. REID, President
T. A. BORMAN, Editor-in-Chief

C. C. YOUNGGREEN, Advertising Manager
G. C. WHEELER, Live Stock Editor

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PLOWING UP WHEAT.

At this time a good many are studying the condition of the wheat fields to decide whether there is a chance for a crop or not. This question arises each year. Wheat that got a good start last fall is generally in good shape, but there are fields where the stands seem very thin.

There are many things to consider in deciding on the outlook for a crop. If spring conditions are favorable, a very thin stand of wheat often thickens and makes a good yield. A healthy wheat plant has a great capacity for stooling. In some fields the presence of Hessian fly will present these thin fields from doing what they ordinarily would.

A good many farmers have had the experience of plowing up part of a field of wheat and later seeing the balance of the field come on in good shape and make a profitable crop. Where diversified farming is practiced there is always the chance to put the wheat field into some other crop later in the spring. Sometimes a light harrowing or rolling with a corrugated roller helps a great deal in bringing on a field of wheat that looks most unpromising. If it fails to improve, the work has not been thrown away, as it has helped to put the soil in better condition for a spring crop.

If the land cannot be handled in a cultivated crop, oats can be drilled in where the wheat is badly winter-killed. Oats and wheat grown together make a splendid feed crop. In fact, we have seen these crops purposely mixed where the grain was intended for feed.

Of course, on farms in the middle or western part of the state where large acreages are devoted to wheat, it is not always possible to handle any great amount of land in cultivated crops. On some of these farms, however, it would be a paying proposition to put in more kafir and milo and give these crops good care and cultivation. Land well prepared for wheat will be in excellent condition for kafir or milo, unless seriously infested with chinch bugs. These crops do not have to be planted until late in the season, so the wheat can be let alone until it can be definitely determined whether it is likely to be worth saving.

Wheat is comparatively high in price now. The indications are that it will remain so for the next year at least. As long as the war in Europe continues, these countries cannot be expected to produce their usual crops, and the demand for wheat will be strong. Wheat is a commodity that is in demand the world over, and under present conditions a yield that might not be profitable with prices that have prevailed in times past, would make a good return.

HOG PRICES SOARING.

Hogs have advanced on the central markets over \$3 a hundred pounds since the beginning of the year. This is an extraordinary rise in price for so short a period of time. It is undoubtedly due to a diminishing supply and a strong demand from packers. When prices are as low as they were last fall, we are prone to attribute the condition to a combination among packers, but if such combination existed they have evidently lost control since the first of the year. It is evident from the strong packing demand that these concerns expect a shortage of hogs during the spring and summer.

A good deal of corn was soft and immature through Iowa, Nebraska, and Illinois. Many hogs were marketed at light weight and in unfinished condition. The Chicago packers slaughtered 2,000,000 hogs from November 1 to March 1. This was 724,000 in excess of the number slaughtered during the similar period of the previous year. The actual product stored, however, shows a slight decrease. This, with the unusually strong demand for hog products, is undoubtedly responsible for the present high prices.

The hog growers who bred their usual number of sows last fall in spite of the fact that pork was being marketed at the time for a little more than the cost of production, are now looking forward to good profits when they market their present crop. In answering an inquiry in our issue of December 18, 1915, relative to hog prices, we called attention to

the reduced amount of feeding over the states where the frost caught the corn, thus forcing hogs to market prematurely. We said in our reply that packers were taking advantage of the conditions and were hammering prices down to the lowest notch possible, but that this was not a reason for going out of the hog business—it was rather a time to be going in and making preparations to have the usual supply of hogs to market the next year.

Prices are higher now than they have been since 1910, when the top quotation was \$10.95 a hundred. During the twelve-months period ending March 1, over a million more hogs were slaughtered by the Chicago packers than during the same period the previous year. But at the present time stocks of provisions are less than a year ago. It will pay to give the sows and pigs the best of care this spring. Prices are almost certain to be remunerative when the crop is ready for market.

MILO STANDS TEST.

The experiment station tests in Southwest Kansas are proving each year the reliability of milo as a grain crop for that section. While corn showed up well last year, the safest crop to grow is the one that has been the greatest money-maker during a term of five or more years. Considered from this standpoint, milo is a stand-by for grain production. More than twenty tests of grain sorghums were made at the Garden City Branch Experiment Station last year. In grain yields, dwarf yellow milo proved to be superior to all. It yielded in grain at the rate of 46.6 bushels an acre, and fodder 4,700 pounds. In these same tests white milo produced at the rate of 35.5 bushels of grain, and 4,970 pounds of fodder to the acre. White-hulled kafir produced 32.8 bushels of grain and 5,700 pounds of fodder to the acre.

Two strains of African kafir were tried, one of them producing 18.5 bushels of grain and 5,760 pounds of fodder. "Schrocko" kafir, a variety that was given considerable publicity—some seedsmen selling the seed as high as 20 cents a pound—was given a trial. This did not prove to be superior or even equal to the standard varieties. Its grain yield was 13.9 bushels an acre, and the fodder 6,700 pounds.

Feterita was also included in these grain sorghum tests, the yield of grain being 30.5 bushels an acre, and the fodder 4,990 pounds. The season was too wet for the feterita. It ripened very unevenly and threw out an excessive number of suckers or branches from the main stalk.

Without a question, the safest crop to grow for grain production through this section is the dwarf yellow milo. It is not as good for fodder as is kafir, and farmers needing both grain and fodder will find the improved varieties of kafir better suited to this purpose. The kafir is much more leafy and the leaves do not fall off the plant when it ripens, as is the case with the milo.

The unusually warm days we have had the past week are most favorable for farm work. Every day's work in the field will count, and these warm March days help to put the surface of the soil in such condition that it can be worked. Even a single day of diskling is that much gained. Disagreeable weather will come later which will delay field work. The more that can be accomplished early, the less will be the necessity for doing rush work when the time comes for planting crops.

CHARLES R. WEEKS GOES TO HAYS.
Charles R. Weeks took up his duties as superintendent of the Fort Hays Branch Experiment Station this week. Mr. Weeks was elected by the Board of Administration to take up the work of George K. Helder, whose resignation was accepted a few weeks ago.

Mr. Weeks grew up on a live stock farm near Fairbury, Neb. He comes to the work at Hays from Rock Hill, S. C., where for the past three years he has been Professor of Agriculture and College Farm Inspector of the Withrop Normal and Industrial School—one of the best known institutions of its kind

in the South. While there he was identified with the organization of many prominent agricultural projects. He is a graduate of the State Normal School of Peru, Neb., and also of the Nebraska University. He took advanced work at the Iowa Agricultural College. For three years he was Professor of Agriculture at the normal school from which he graduated. There he aroused a great deal of interest in the bettering of agricultural conditions in the surrounding country. He rented and operated successfully an experimental farm at his own expense, while teaching in that institution.

MUCH GRAIN ON HAND.

Owing to the large exports of grain from this country since harvest, there is more than the usual interest in the amount of grain still stored on farms. According to the March 8 report of the Federal Bureau of Crop Estimates, there was 23.9 per cent of the 1915 crop of wheat still on the farms on March 1, as compared with 17.2 per cent of the crop of 1914 on hand the same date a year ago. The bureau estimates that in Kansas there are twenty-five and a half million bushels of wheat still in the bins; a year ago it was given as thirty millions.

Corn still on the farms is greatly in excess of the amount held March 1 a year ago. For Kansas, the estimates give over seventy million bushels as compared with twenty-nine millions March 1, 1915. About 90 per cent of the Kansas crop of 1915 was estimated to be of merchantable quality. For the whole United States only 71.3 per cent of last year's crop was of merchantable quality as compared with 84.5 per cent of the 1914 crop.

LIVE STOCK ROUND-UP APRIL 7.

Owing to the excessive rain last year, many alfalfa fields grew up with foxtail and crab grass. With the opening up of spring weather these weeds will be fighting with the alfalfa for possession of the ground. Cultivating the alfalfa, either by the use of the spring tooth harrow or the alfalfa renovator, will help give it a good, vigorous start. It will thus be able to withstand the encroachment of the weeds and grass better than if left uncultivated. The ground will be sown with seeds of all these weeds and many fields will need close watching and perhaps another cultivation or the alfalfa will be smothered.

LETTERS INDEX TO BUSINESS.

The standing and the business ability of a farmer is judged to a considerable extent by the kind of letters he writes. Farmers who deal in pure bred live stock of any kind find this of the greatest importance in making sales. An increasing amount of business is being transacted by letter, and breeders are finding that by adopting up-to-date business methods in their correspondence they can make more and better sales. If letters are written in a careless manner, on scraps of paper, the one to whom they are addressed at once assumes that the business cannot be of much consequence or letter-heads would be used. The writing of a good business letter always gives a man an advantage in his dealings with customers, and in the ordering of supplies of various kinds. No farmer should be without suitable letter-heads and, it is well worth while to make a study of the essentials of a good business letter.

The real purpose of keeping cost records on the farm is to determine the cost, income and profit of each enterprise in which the farmer is engaged; to set forth the governing factors of these; to exhibit the efficiency in the management and use of man labor, horse labor, and farm machinery; to show what the cost of living amounts to; and to fit these and all other branches of the farm industry into a complete, comprehensive whole that shall show every detail of the farm organization and operation.

Are the women folks still cleaning and filling coal oil lamps each day, or are they able to use that hour resting or doing something for the family or themselves that will be more lasting than will the results of this drudgery?

HESSIAN FLY SPREADING.

A good many wheat growers who have had no experience with Hessian fly are likely to learn something of this pest the coming season. Western Kansas is not immune to fly damage, as some may have assumed. Serious infestations have been found in the western third of the state.

Through united effort, the Eastern Kansas wheat growers in some sections have succeeded in controlling this insect. It looks as though the wheat growers of the portions of the state so largely given to wheat production, would have to take up, in the near future, this matter of uniting in the control of Hessian fly.

Last fall an extra brood came out late in the season. Ordinarily the fly passes the winter in the pupa or resting stage, the flaxseeds being found under the sheathing leaves of the plant at or near the surface of the ground. This late fall brood, instead of pupating, went into the winter in the maggot form. Professor G. A. Dean of the agricultural college, reports that these maggots have come through the winter alive.

There have been reports going the rounds of the newspapers that the winter killed the Hessian fly "eggs" so they would not hatch. At the experiment station laboratories every single flaxseed that has been placed under observation has been alive and the mature fly has emerged in due time. Even the maggots have lived through the winter, as stated above, and this is most exceptional.

We believe wheat growers will find it necessary to study the habits and life history of this pest and learn how to control it. It can easily become a serious menace to the profitable production of wheat.

LIVE STOCK ROUND-UP APRIL 7.

The most extensive work being conducted in the United States in the handling of beef breeding cattle, is that being done at the Fort Hays Branch Experiment Station. On April 7 will be held the third annual live stock round-up, at which time results from feeding 100 head of high grade cows, 100 head of calves, and 30 mules, will be presented to visiting farmers and stockmen. This information will be most useful to those living in the western part of the state.

The cattle have been handled in a thoroughly practical manner. The purpose of these tests is to determine the most profitable methods of handling cattle in the short grass country. Those who attend will not only be able to learn the results secured from the different feeds, but can see with their own eyes the condition of the stock and can form an opinion as to whether the methods followed can be applied to their own farm practices. There is frequently a feeling that the work carried on by an experiment station cannot be put to practical use. This is certainly not the case regarding experiments being conducted at Hays. These visits will help to overcome any feeling that the work is not practical.

Meetings held on the station farms at the close of feeding experiments are of great value to those who attend. Too few have been taking advantage of the opportunity offered in these meetings.

NEW AGRICULTURAL AGENT.

The counties along the line of the Missouri Pacific Railroad in Western Kansas are to have the assistance of an agricultural agent, beginning this week. P. E. Crabtree, who for a number of years, has been assistant in farm management in the extension division of the Kansas Agricultural College, has been selected by those interested, for this important work. A number of counties will be included in this district. Mr. Crabtree's headquarters will be Scott City. Farmers of that section will find him full of enthusiasm and having a fund of experience and information that will be most helpful in solving the problems of agriculture peculiar to that portion of the state.

The Missouri Pacific Railroad is co-operating with the college and the federal government in making it possible to have a man located in this district.

GENERAL FARM INQUIRIES

*Something For
Every Farm—
Overflow Items
From Other
Departments*

SUBSCRIBER R. W., Harper County, writes that he is having considerable trouble with scours among his young pigs this season.

There is a type of scours that is infectious and pigs seem to be born with it. This is not common, however, and the trouble with our correspondent's pigs is probably due to overfeeding the sow either just before or just following farrowing, especially if the feed was largely corn. There is always a temptation to feed the sow too much while the pigs are little. The first remedy to apply when the little pigs get to scouring, is to cut the sow's rations. Sometimes feeding the sow nothing but oats for a few days, will effect a cure. Cleanliness about the house is always important. Giving the sow limewater in her slop and a dram of copperas twice daily, is a good remedy.

Sows should not be given sour or fermented feeds while suckling little pigs. This will nearly always cause digestive troubles. We once tried to use butter-milk in a brod sow ration but found it could not be done successfully until the pigs were several weeks old.

Getting Start in Live Stock.

J. R. L., a wheat farmer of Graham County, wants to make a start in live stock farming. This correspondent has no pasture, all the land being broken and in cultivation. Stock can be pastured, however, twenty miles distant.

Lack of pasture is quite a drawback in handling live stock. On the wheat farm wheat helps out in favorable years by supplying considerable fall and winter pasture. On wheat farms where live stock is handled, this is always considered a valuable source of revenue. In some cases the value of the wheat pasture has been sufficient to pay for the expense of the crop even when no grain was produced.

Where capital is limited the milking of a few cows will bring a quicker return than the growing of stock cattle, but without pasture cows cannot be milked very well through the summer season unless provision has been made, through a silo, for feeding them during this period. Even where stock cattle are raised we believe it would pay to milk a few cows, at least as many as the family can handle conveniently.

Stock cattle are high in price at the present time, but they are likely to remain high. Cattle are being depended upon to market rough feeds of the farms, and this is what gives them a place on the farms of the wheat belt. A few young cows or heifers could be purchased, and if they can be pastured reasonably, they will grow into money during the summer season. When brought back to the farm they will consume the cane, kafir, and other fodder and some wheat straw and be further enhanced in value. In other words, they have been converting these waste products into something having a cash value. This plan, of course, requires that some of these feed crops be grown and stored.

There can be no profit from handling cattle unless they can be used as a means of marketing such crops. The growing of these feed crops fits in very well with the raising of wheat. There is too much risk attached to growing wheat exclusively. By having a portion of the cultivated land in feed crops, something will be produced that will have a cash value even in years when wheat may fail entirely. The ground from which these feed crops are removed in the fall, can be opened up with the lister to receive the winter's rain and snow. By keeping the weeds down through the following summer season, and giving such tillage as is necessary to prepare a good seed bed for wheat, a good paying crop can quite often be grown even in years when moisture may be deficient. It is really a summer fallow system.

In order to get the best results, the



A HERD OF BREEDING COWS ON THE HAYS EXPERIMENT STATION FARM.—
VALUABLE STUDIES BEING MADE IN CATTLE PRODUCTION FOR WESTERN KANSAS

feed crops should be stored in a silo, and a pit silo is possible on every farm in the western third of the state. By starting in a small way with a few cattle, and storing enough feed to carry them through the winter season each year and a reserve for poor feed years, a good paying live stock business can gradually be built up in connection with wheat growing. This type of farming gives two main sources of income—the wheat, and the sale of stock. Even though young heifers are high in price, they will increase in value, and when they have produced healthy calves they may almost be counted as having paid for themselves.

Handling Native Pasture.

L. R., Pottawatomie County, writes that he has a wild prairie pasture in which there is considerable rank growth left over from last year. He does not want to burn this grass because much of it contains seed and if burned he would lose any advantage that might come from a thickening of the sod.

This question of burning pastures is one that comes up every season. If cattle are turned into a pasture in the spring where there is much old grass, with the expectation that they are to be supported by it, they may seriously injure the pasture. The first grazing will be in the patches that were grazed closely the year before. They will always avoid the old grass because they cannot get at the new shoots underneath. If some cattle could be put into a pasture of this kind early and fed a little cottonseed cake and additional roughage if necessary, they would trample down this old grass and in due time the new growth would come through. This gets the old grass settled down to the soil and at least some of the seed will germinate and help to thicken the stand. It is always an advantage to get the old growth back into the soil. Burning a pasture is to be avoided if possible.

Live Stock at Hays Important.

Early in April the Hays Branch Experiment Station will hold its third annual live stock round-up. This is a meeting to which all stock breeders and farmers interested in the growing of live stock in connection with grain farming, are invited and urged to attend. The experiments now under way in the feeding of breeding cattle and the maintaining of stock cattle through the winter, will be completed by the time of the meeting, and full reports will be made on the methods followed, feeds used, costs, and other details. There will be addresses given by prominent stockmen on subjects of interest to farmers of the western portion of the state. The exact date of the meeting will be announced in the near future.

It may not be generally known that some very practical feeding problems are being worked out at the Hays station. Those being conducted have to do with the economical maintenance of cattle, and the best methods of feeding the rough feeds that accumulate on a farm growing the varied crops incident to diversified farming in Western Kansas.

During the past few years the Hays station has been acquiring some high grade breeding cows, both beef and dairy, from the income received from wheat, hogs, and alfalfa. Work animals have also been purchased, and through the

selection and retaining of young animals the herds have increased and are being developed for further maintenance. The surplus has been sold on the market and animals have also been produced for use in further animal husbandry experiments.

This live stock work was first begun in 1911. There are now 350 breeding cows on the station farm, most of them similar to the young cows shown in the cut on this page. In addition to these, there are 200 head of young cattle, including steers ready for the feed lot. Thirty brood sows are now maintained, most of them farrowing two litters annually. These enable the station to market a couple of carloads of hogs each year and supply meat for use on the station farm.

A flock of Shropshire sheep, now numbering 150, has been handled during the last three years. This flock has been developed from a start of 50 ewes. Many lambs have been sold both locally and in various parts of the state.

Two years ago a good jack was purchased and with its present stock of good brood mares and fillies the station is well started in the work of raising mules both for the extensive field work and for sale. In the very near future the farm will be in a position to replace all aged or undesirable work animals and keep the work stock in better shape than has been possible in the past. It is also having a good influence in encouraging the business of growing better work stock on the farms in the surrounding territory. It is really amounting to a public demonstration in what can be done in the production of work animals.

The live stock work has now reached the point where it can proceed and be of immeasurable value to the live stock interests of the whole state and especially the western part. The station farm consists of 3,500 acres. The land of the Fort Hays reservation apportioned to the Hays Normal is also being used. In all, there is now a tract of 7,500 acres, well organized for practical grain and live stock farming as well as for carrying on the important demonstrations and experimental crop work needed in the West. This big farm has become a most valuable asset to Kansas.

Breaking Sod in Gray County.

C. C. H., Stafford County, writes that he is moving to Gray County where he will begin farming on raw land. He asks the following questions: "What is the best time to begin breaking sod in the spring, and how deep should it be broken? Would kafir and milo be good crops on this new land? If so, what preparation should the sod have, and when should the crops be planted? The land is smooth and not sandy; would it be advisable to go strong on wheat? The breaking will be done with a tractor, and I have a three-section land roller; would it help matters any to use one of the short sections and roll the sod as I break, or would it be better to use a harrow or a small disk? Could I handle sheep satisfactorily?"

Lee H. Gould, district agricultural agent for Southwest Kansas, answers these inquiries as follows:

"The best months for breaking sod in this section of the state, are May and June. The exact date for beginning, for the best results, will vary according to the season. The grass will usually be

started by the middle of May to such an extent that the sod will be in excellent condition for breaking. From this time until the middle of June is perhaps the best time to break sod. However, you will see a lot of sod broken before this time. It is best to plow just as shallow as possible and turn the sod over as is necessary for a good, smooth job of breaking. This will usually be from two to two and one-half inches.

"Kafir and milo sometimes make good crops on sod land. The crop will depend very much on the season. If the sod is plowed as late as the middle of May and the surface is comparatively smooth, no further preparation is necessary. Drill it in with a two-row planter.

"Gray County has grown two good wheat crops in the last two years and the prospects for another are good just now. However, it is not good practice to depend entirely on wheat.

"If the sod is left rough by the plows it will be an advantage to use the land roller to press it to the sub-surface before planting the kafir or milo.

"There is good money in sheep feeding in this section of the country if they are handled in the proper manner."

Cut Back the Peach Trees.

The peach crop for 1916 will total zero. The buds were killed by late fall growth and cold weather.

This offers an excellent opportunity to renew the tops. Long, spreading limbs of old peach trees break easily, with their own weight and that of fruit. Cutting back will renew the top and keep the weight of limbs closer to the trunk.

The fruit of the peach is borne on wood of the previous season's growth. A tree that has been cut back will have quite as much or more new wood than will the uncut one that produces unthrifty wood far out from the main trunk. It is commonly said that peach trees are short-lived. The statement is true if the trees are given only the ordinary treatment. A number of peach orchards in Kansas are from 20 to 30 years old and still in a thrifty condition. This is made possible only by yearly pruning to insure a thrifty new growth. In commercial culture it is the practice to yearly cut back from one-half to two-thirds of the past season's growth, and when severe weather has injured the fruit buds, everything is cut back down to wood one and one-half inches in diameter.

During March or early April the peach trees may be cut back severely if care is taken to cut to thrifty shoots or buds. Many a desirable tree—perhaps a family favorite—may be made to last several years by proper pruning.

GEORGE O. GREENE.

Sows very seldom have difficulty in farrowing their pigs. More sows have been killed by interference than have died of neglect. Farrowing is by no means always a continuous performance embracing two hours or so. It may be extended over half a day or longer; in fact, sows have been observed to farrow pigs throughout the entire 24 hours. Premature interference has often caused the trouble that the farmer attributed to difficult parturition.

Every day now means a little advance in the price of seed. If any seed is needed, now is the time to purchase it.

POULTRY ON EVERY FARM

Items of Interest For Those Raising Chickens For Market or Show

WHILE nearly all incubators made these days will give good results, there are some fundamental principles that must be adhered to when running them or failure will ensue. If the eggs are not properly fertilized and from sound, healthy stock, not all the incubators of the earth will hatch them. If the ventilation is not just right, or the heat not at the proper temperature, or the right amount of moisture applied, failure is liable to occur. Care should be taken to air the eggs two or three times a day, and the incubator should have a proper location with an even temperature. Failure to provide these essentials means a failure of the hatch. It takes intelligent care and attention to properly run an incubator and, while the directions sent with each incubator are generally sufficiently clear if followed implicitly, to insure success, still you cannot use too much of that rather rare commodity, good common sense, in running the machine.

Treatment for Roup.

A lady writes to the effect that her chickens have the roup and wants to know what to do for them. In a bad case of roup we generally advise the killing of the chicken, for roup is a very hard disease to cure; and even after being cured, the chicken never appears to be in as good condition as it was before the attack. But some people like to doctor sick chickens and for their benefit we give the following treatment by one of the greatest poultry experts of the country. First wash the head, eyes and nostrils of the bird with castile soap and warm water, or with warm vinegar and salt, to which a little alcohol has been added. If a mild case, inject some of this preparation into the nostrils and swab the mouth and throat two or three times a day. A solution of sulphate of zinc, say twelve grains to the fluid ounce of water, is excellent for the same purpose. Syringing the mouth and nostrils with water, in which enough permanganate of potash to give it a rich color is dissolved, is good. After thoroughly cleansing the head, face and neck of all matter, press out all you can from the nostrils, and inject with a dropper, a machine oil can, or insert with a feather the following mixture: Equal parts of sugar of lead, pulverized alum and acetic acid; when it becomes the consistency of thick cream, inject into the nostrils twice a day. This mixture will cure most cases. Feed birds on cooked food and keep dry and warm.

Clean Up.

Certain housekeepers have a special time for house cleaning, notably in the spring and fall, but it is never out of season to be cleaning up things around the poultry yards and houses. Now that the winter is over and spring almost here, a general cleaning of the poultry plant is in order. Every year the earth that forms the floor of the poultry house should be removed to the depth of three or four inches, and fresh earth put in place of the old. If you have a garden, this is the very place to put that old dirt, as it will prove the best of fertilizer. This cleaning of the house is very necessary to the health of the fowls, as the earth, after forming the floor of the house for a year, becomes filthy from droppings and germs that produce disease. A neglected house is a sure breeder of cholera and other diseases to which poultry is heir. When the fresh earth is put in, it is well also to make a thin whitewash of lime, adding a gill of crude carbolic acid to every gallon of the wash, then apply with a spray pump and go over the whole building, sides and ceiling, roosts and nest boxes, forcing the liquid into all the cracks and crevices. This should put the building in good condition and the fowls can start on their spring work without being inconvenienced with lice and mites. Then a goodly quantity of straw or hay or other litter should be placed on top of this fresh earth floor. This litter serves to carpet the floor and tends to keep the birds' feet warm and dry, as well as serving as a medium in which to scatter the small grain, and to encourage the fowls to scratch and thereby obtain the exercise they so much need. Five or six inches is about the right quantity of litter, and it should be removed as soon as it gets soiled and fresh litter put in its place.

Now that the house is in order, attention should be paid to the yards or runs. If the yards are large enough to be plowed, this should be done; if not,



WELL KEPT FLOCK OF PURE-BRED POULTRY ALWAYS ATTRACTS ATTENTION.—SUCH BIRDS ARE NOT ONLY MORE PLEASING IN APPEARANCE, BUT MORE PROFITABLE

they should be spaded and the top soil turned under. If they can be sown to rye or oats, they would make an ideal place for the chickens to scratch in. Now the yards are in order; you should see that all the chick coops are cleaned up and whitewashed. Do not handicap the hen and her brood by putting them into a dirty coop. Give them a fair chance for their existence by providing a clean and sanitary home for them. If you see dirt anywhere, don't be afraid to swat it.

Success with Columbian Wyandottes.

My foundation stock was obtained by purchasing eggs from the pens of some of the best and most reliable breeders. I made my start in this way because a first-class breeder will never sell the best stock he has raised except at prices that would be almost prohibitive to the beginner. Most breeders, however, will sell eggs from their best pens, and in this way a beginner may get a bird or two from a single sitting of eggs that he could not have purchased at ten times the price of the eggs. The purchaser of eggs stands just as good a chance to get winners as does the breeder himself.

After the start is made it is necessary to give the young chickens the best of care from the time they hatch until maturity. As they develop they should be culled most closely, saving only those that conform closely to standard requirements, if only a dozen or more are raised. Eat the others, no matter how much you paid for the stock or eggs. Never breed from an inferior bird, no matter what the temptation. It is better to use a pair or trio of really first class individuals for the breeding pen, than a much larger number including many inferior ones. Even though there are a few good ones in the larger pen you will lose sight of their progeny. You cannot expect all the offspring to be as good as their parents. A few may be, and some will be better. The aim should be not so much for numbers as for quality.

After following this system until well established, stock must be shown at the best shows in order to get it before the

public. In dealing with buyers, be scrupulously honest. Do not overstate the merits of your stock. Aim to give a better bird than your customer has a right to expect. The less the customer actually knows about the stock, the more he is apt to expect. I have always tried to carefully describe any defects before selling. This method has lost some sales but I have found that where stock has been purchased by those who realize its true value they eventually become permanent customers.

It is necessary to advertise. I advertise the year around, not using large space, but enough to keep my name before the public at all times.

It is necessary to give the stock the best of care the year around, remembering that when they are molting they require even better attention than when they are laying.

Those who would make poultry profitable must understand that the same care and determination should be used in the selection of foundation stock as a good horticulturist would use in setting out an orchard, or a stock man in selecting his breeding stock. Many are attempting to raise poultry without appreciating this important principle. They start with very hazy ideas as to what is necessary to make a proper beginning. Many start out with the idea that they should buy a large amount of stock at a low price and then gradually breed up. This may be possible, but after forty years' experience in pure-bred poultry, my observation has been that where one succeeds in this way thousands will fail. You cannot develop blue-ribbon birds from "scrubs" and the man who recognizes this fact is the one who will win.—H. A. WATLES, Sedgwick County.

Beginner Learns Through Experience.

The first mistake I made was in failing to discriminate between the genuine breeder and the near breeder—the one who buys his show birds, wins prizes with them, and then sells inferior stock and eggs on the reputation thus gained. After learning my lesson, I secured eggs

from a breeder who was recommended to me by a reliable poultry judge. Disposing of all other stock, I went to work with this strain and had the pleasure of winning seven or eight prizes in my first poultry show. After learning all I could from the man from whom I got my start, I started in on my own hook. We learn much by experience, and I find that the man who makes the most noise is not always the most reliable breeder.

Perseverance, a receptive mind, and close attention to the work in hand, will win out. One who has met with many disappointments but who still perseveres until successful, will eventually be well repaid for the effort.—MRS. H. E. GONDER, Sedgwick County.

Getting Start in White Leghorns.

Several years ago I decided to start raising Single Comb White Leghorns. I found it quite a problem to secure good pure-bred stock. After many trials with both stock and eggs, I had almost decided to give up in despair. Much of the stock that I raised from eggs purchased were either undersized, turned out to be poor layers, or the cockerels were brassy in color. A poultry judge made a remark that I overheard, to the effect that almost all varieties of pure-bred poultry had a fountain head, and that the fountain head for the best strains of Single Comb White Leghorns was a certain eastern breeder. I at once sent to that breeder for a sitting of eggs from his best pen, and divided them between three hens. I succeeded in hatching one lone chick, returning twelve infertile eggs, and receiving twelve in return by paying express both ways. From these I hatched six chicks. Of the seven, five proved to be pullets and two cockerels. At the next state show held in Topeka, I entered one of these cockerels and four of the pullets, winning first, second, and third, on pullets, first on cockerel, first on pen, and sweepstakes for highest scoring bird in the show, and sweepstakes for highest scoring pen.

For fear of making a mistake, I mated this cockerel to the five pullets, and ordered another sitting of eggs from the same breeder in order to raise some cockerels for the next year's mating. I do not believe it a wise plan to cross blood lines too much and have always kept to the same strain. They have proved to be good layers as well as exhibition stock.

There seems to be a generally accepted belief among scientific breeders, that there is a distinct egg type in poultry, and in my judgment the Leghorns seem to conform very nearly to this type.—MRS. ALICE J. LAMB, Riley County.

Do a Few Chickens Pay?

A year ago I decided to see whether it paid to keep a few chickens. I began by arranging a book in which to keep a complete record of everything connected with the raising and handling of my flock. I started with a flock of twenty-eight hens and pullets and two cockerels. The cockerels were White Rocks, and the flock contained three White Rock pullets, seven Buff Orpingtons, seven Barred Rocks, and the balance were just chickens. This mixture was a drawback, but they were good utility stock. They were in the best of health and were laying well at the beginning of the year. I used disinfectants freely and kept the houses clean. On account of the cold, wet spring, I lost an unusually large number of small chickens, and some were drowned after reaching the broiling size. Thieves also paid us a visit which took some more from our profits.

According to my account book, the final results for the year are as follows: Feed, \$31.63; straw, \$1.20; insect powder, 10 cents; disinfectant, 70 cents; medicines, 40 cents; second-hand incubator, \$1.75; eggs for sitting, \$3.75; or a total of \$39.53. On the credit side, 3,569 eggs produced—358 used for hatching; the balance sold brought \$70.77; fifty-five chickens sold, \$33.65; seven pounds of feathers, \$1.75; feed on hand January 1, 1916, \$4.35; total, \$110.52. Deducting the expenses of \$39.53, there remains a profit of \$70.99.—MRS. F. W. FELTON, Shawnee County.

Paint is not a luxury to be added to the building some time in the future—perhaps not until decay has taken place—it is a necessity if the life of the building is to be conserved, and is a profitable investment that should be made as often as the farm buildings require.



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GENERAL FARM NOTES

LATE winter and early spring furnish the best opportunities for planning to make improvements in farm-home surroundings and to plant shrubs. Probably bridal wreath or Spirea Van Houttei, has proved satisfactory to more people than any other single yard ornament, and it may well be included in the order which it is about time to send to the nurseries, if a neighbor cannot supply what you want. The common name, "bridal wreath," is applied to several varieties of spirea, so in ordering it is best to specify the variety. Bridal wreath is inexpensive, has abundant bloom and fine foliage. It improves with age, is graceful in form, free from insect pests, easy to transplant, and conspicuous without being too much so.

As a plant to stand alone, it is unexcelled. Bending under its pile of snow-flake flowers for weeks in the spring, it needs no other shrub in the same clump to give a long-flowering period. Banked against the foundation of the house, it supports and rounds out the architecture and conceals what is usually an ugly foundation or bare corner. For a hedge, it has no superior. Planted in a straight row, three feet apart in the row, it needs no pruning and comparatively little attention. Thus it supplies a fence-like border, ornamental, permanent, dense, and economical, which gives an air of privacy and refinement to any yard. It is a plant made for every man. The millionaire can find no better and the tenant can afford it as well as a package of flower seeds. More spireas (of the variety Van Houttei) are sold than any other shrub on the market, and every man should want the best there is. It has been used with good results on the grounds of the University of Missouri. Why not put a few in your yard early in March? Now is the time to consult a nursery catalog and order some shrubs. Your yard is of as much importance as your parlor—ten times as many people see it.—Circular, Missouri Experiment Station.

Geese Are Profitable.

Geese are grazers, and for this reason are more economically raised than are other classes of poultry. A small flock could be kept on practically every farm. They will make their living during the summer on a bluegrass or clover pasture and will go through the winter on rye or wheat pasture, requiring only a small amount of grain during stormy weather.

It would not be advisable to go into the raising of geese on a large scale because of the distance to market. The principal profit would be in raising enough for home consumption and for feathers.

Geese are not very good mothers, and it would be better to set the eggs under hens. The goslings are somewhat delicate until they are about two weeks old. From then on they are very hardy. During this period they should not be allowed to get out in heavy dews or rains. They should be fed ground grain and this should be soaked for at least 24 hours. Their natural food is grass, worms, and tender roots of plants. They should not be yarded with other poultry because of their quarrelsome disposition. When it is necessary to confine them, they can be kept in with a 24-inch woven wire fence.

The varieties spoken of as "dry land geese" are the most extensively raised, as they require only enough water for drinking purposes.

Balsams or "Touch-Me-Nots."

Balsams are well known flowers. They are usually called "touch-me-nots," so because of their peculiar habit of bursting and throwing the seeds when the ripened pods are touched. This makes them appeal to children, and their beautiful double rose-like flowers borne in profusion for a long season, makes them valuable for decorative purposes. Few of the simple garden flowers are more attractive.

There are several methods of growing balsams. I like to grow them in single stems or columns, pinching off all side branches as they appear. These single stems will be covered with a solid mass of flowers for weeks. The flowers are set so closely and are so double, that each plant looks like a pillar of color. In this form they will grow higher than ordinarily, and can be planted closer together.

If allowed to branch freely the balsam should have plenty of room. I would plant eighteen inches apart for best proportioned plants, but if it is your wish to have the bed filled with flowers quickly, then twelve inches will give satisfactory plants which will soon fill until they touch, each branch being a

mass of flowers. The flowers do not show so well by this method, and the leaves at the end of the branches outside the mass of flowers, hide them to quite an extent.

Balsam flowers are used in bouquets in two ways. The individual flowers are pinched off and banked on a saucer or plate of moist sand, or the whole branches are cut and used in bouquet work. Both ways are attractive, and sometimes we can use one where the other would not do.

The seeds germinate readily, and the young plants grow rapidly, so they can be planted in permanent beds when the ground is warm enough to work well. While the plants will stand no frost, the seeds are hardy enough so they can be planted early without danger. They self-sow and come up thickly, when once established.

Buy the best double seeds and you will have a fine assortment of color and markings and most of them will be double. The more double they are the less seeds they will produce, so you must have some single or semi-double plants in the bed if you would save any of the seeds. Seeds from these will produce double flowers to a great extent if most of the plants in the bed are double.—L. H. COBB.

Grow Garden Greens.

We should eat more greens than we do at all seasons of the year, because they are palpable and help to keep one in good physical condition. In the spring many people eat a few meals of the old stand-by leaf crops such as spinach, lettuce, and dandelion, and then forget that these or similar crops should be grown and eaten throughout the summer and canned for winter use.

When warmer weather makes the spring crops woody or bitter, the tops of cabbage and beets may be used and still later chard or New Zealand spinach may be used because they are able to stand the hot weather, and if they have gotten a good start in a normally wet spring, they will thrive on a very small amount of rainfall. They should be started early in the spring, usually about the time early cabbage is set out.

Chard is sown at the rate of one or two seeds per inch in drills at least eighteen inches apart, and when the plants begin to crowd they are gradually thinned out so that they finally stand six inches apart. The plants so removed are cooked and used much as spinach is. The leaves and stems may be canned either together or separately, as greens are needed ever more in winter than in summer to vary the restricted diet. In ordering seed no mistake will be made in specifying "Lucullus," which has proved a very good variety.

New Zealand spinach is unlike the ordinary early spinach in the manner of growth and the appearance of the leaves. It is a large branched plant with leafy side shoots which are pulled and used like those of the ordinary spinach, which is a squat, rose-like plant. New Zealand spinach should be thinned to stand twelve inches apart in rows at least two feet apart; three or even four feet will be better, especially in rich soil. If the narrower spacing is used, the plants must be trained in windrows as sweet potato vines sometimes are. If the plants grow too rapidly, the tops may be canned about as ordinary spinach is. The foliage should not be allowed to accumulate too much or stay too long on the plants, for the more greens that are removed the more succulent tops there will be, and with proper management the plants will thrive and produce a great deal of food until frost.

In selecting and preparing the soil for these "greens," see to it that too thin a soil is not picked out and that there is plenty of well-rotted manure worked into it both for the sake of the plant food and because it will enable the soil to hold water and withstand drought.—J. S. GARDNER.

When fowls are given their liberty in the early spring after being penned up all winter, to forage on green rye or early grass, they may suddenly appear to have bowel complaint, but such looseness is often due to the laxative effects of the young green food, which contains a large per cent of water. The fowls should be fed on chopped cabbage for a while before allowing them to forage, and then allow them to feed on the green stuff for only an hour or two at first, extending the time as they get used to it. If they should get sick from eating too much green stuff, pen them up for two or three days before allowing them out again, giving a mess of scalded bran and corn meal in the morning, adding a little salt to it.

Proper Oil For Automobile Engine

If an oil of insufficient lubricating quality is used, scored cylinder walls may result. In this case the necessary oil film fails to form between the piston and the cylinder walls.

The piston rings then rub directly against the cylinder walls and, in time, the rings will break.

Scoring and scratching of the cylinders will result. Missing of the motor will follow.

If an oil too light in body is used, it will work too freely past the piston rings and into the combustion chamber.

All petroleum lubricating oils are chemical combinations of hydrogen and carbon. By filtration the objectionable free carbon and other impurities are removed. It is impossible to remove the carbon, however, which is in combination with other chemical elements constituting an oil, without destroying the oil itself.

Consequently, when the oil works freely into the closed combustion chamber, carbon deposit is bound to occur unless sufficient oxygen is present to cause complete combustion of the excess oil.

An unnecessary quantity of oil is consumed. Ignition trouble and, in time, knocking of the motor will result.

If an oil too light in body is used, it will form an insufficient film around the piston rings. If an oil too heavy in body is used, it will fail to spread freely, forming little or no oil film.

In either case, leakage of gases past the piston rings occurs on the compression and power strokes, with resultant loss of power.

The engine bearings differ widely in shape and size and are supplied by different oiling systems.

In determining the oil to be used for bearing lubrication, the requirements of the cylinders must be taken into consideration, as well as the close or free adjustment of the bearings.

Bearings with close adjustment, being lubricated by a pressure oiling system, may use a medium or heavy bodied oil, as the pump pressure forces the oil between the moving parts.

Bearings which are worn require a heavy bodied oil, which will fill the space between the journal and the bearing, and thus prevent knocking.

Two examples resulting from the use of an oil of poor quality or incorrect body, are worn main or connecting rod bearings and worn wrist pins.

Unnecessary wear of main or connecting rod bearings is caused by poor quality of oil, an oil too light in body, an oil too heavy in body to reach the friction surfaces, or an oil unsuited to the method employed for supplying it to the bearings. This wear is indicated by a dull thump at every revolution of the main shaft. Worn wrist pins will result from the same causes. Their location within the heated pistons and the slight angular motion of the bushings demand an oil which will spread readily, yet maintain the proper film between the pins and bushings. The effect of wear will be indicated by a clear metallic knocking.

The circulating oil system which is employed on a large percentage of the late engines is designed to hold the oil in the sump.

The oil is subjected to the heat of the crank case at all times and, as all oils decrease in body, or viscosity, under heat, it is necessary to select an oil having sufficient body, or viscosity, after being constantly subjected to this heat, to meet the lubricating requirements of the engine bearings and form a perfect piston seal.

In an air-cooled engine, the temperature of the cylinder walls is very much higher than in an engine that is water-cooled. This necessitates the use of a rich, heavy bodied oil, as the heat reduces the viscosity of the lubricant.

Clipping Work Horses.

P. W., Labette County, asks if it is a good plan to clip work horses.

Horses grow heavy coats during the winter season. This is Nature's method of protecting them from the cold. In the spring they begin to shed these heavy coats and shorter coats take their place. When horses are put to work before the winter coat has been shed they sweat freely. The coat will remain wet for some time, and they are much more apt to catch cold when the day's work is done. By clipping this heavy coat as soon as the spring work begins, they can be cleaned much more easily and will dry quickly when taken to the stable.

Clipped horses should not be compelled to stand in the open without protection, when a cold wind is blowing.



Intensive Manufacturing

INTENSIVE manufacturing, like intensive farming, is simply efficient specialization. The only object of intensive methods is to secure by the intelligent application of specialized knowledge, a larger, better and less expensive product.

Maxwell Motor cars are products of intensive manufacturing. In the first place, we make only one chassis. We do not build cars of different wheelbases, having long since passed the experimental stage of our development. We know that for our purpose a wheelbase of 103 inches meets all conditions and therefore we have standardized that length.

In the second place, we build only one motor—a powerful, four cylinder, high speed, smooth running motor that has created much favorable comment among Maxwell owners. We do not dabble with this, that and some other type of engine—nor do we ask customers to risk the satisfactory operation of any other new and untried fads or innovation.

Maxwell cars are as nearly standardized as it is possible to make them. In all essentials they are correct be-

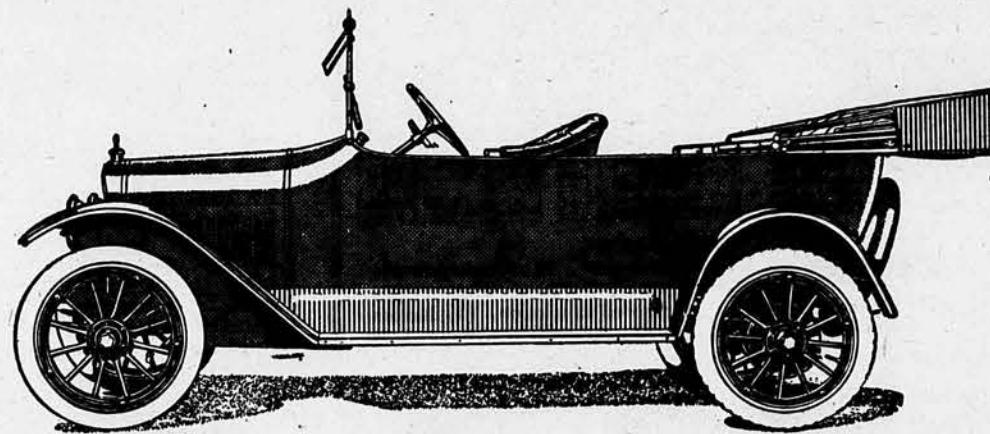
cause they have been put to the test, not only by us but by thousands of owners in all parts of the country. And they have acquitted themselves creditably.

Of course, we are always going forward and striving to produce a motor car that will approach mechanical and engineering perfection. We make minor changes and refinements from time to time, knowing that the march of progress demands it. The "ultimate" car is not here and, like tomorrow, never will be. So the next best thing is to build a car that will approach this condition of absolute excellence.

With a demand exceeding five thousand cars per month, we can and do effect great economies in all manufacturing departments. These economies, as you know, would be impossible with a smaller production or a wide range of types and sizes.

Beauty of lines and finish; sturdiness combined with light weight; economy in first cost and upkeep—these are the qualities contributed by Maxwell intensive manufacturing methods.

Brief Specifications—Four cylinder motor; cone clutch; unit transmission 3 (speeds) bolted to engine, $\frac{3}{4}$ floating rear axle; left-side steering, center control; 56" tread, 103" wheelbase; 30x3½" tires; weight 1,960 pounds. **Equipment**—Electric starter; Electric headlights (with dimmer) and tail-light; storage battery; electric horn; one-man mohair top with envelope and quick-adjustable storm curtains; clear vision, double-ventilating windshield; speedometer; spare tire carrier; demountable rims; pump, jack, wrenches and tools. **Service**—16 complete service stations, 54 district branches, over 2,500 dealers and agents—so arranged and organized that service can be secured anywhere within 12 hours. **Prices**—2-Passenger Roadster, \$635; 5-Passenger Touring Car, \$655, F. O. B. Detroit. Three other body styles.



Maxwell

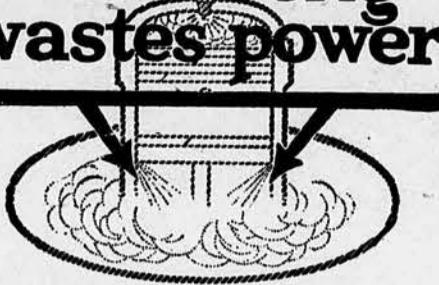
MOTOR COMPANY, DETROIT, MICHIGAN

Write to Department No. 28 for our booklet "22,000 Miles Without Stopping."

FARM FLOCK PROFITABLE

By C. E. WOOD

How the Wrong Oil wastes power



Suppose the oil is too light in body for your motor:

It then fails to seal-up the clearance between the piston, piston rings and cylinder walls. Part of the compression and part of each explosion then escape down past the rings. The result is weakened power.

Or: The oil may be too heavy in body. It then fails to maintain the proper oil film or to reach all friction points. Excess friction results with its attendant power loss.

Motorists are now finding a safe-guard against these power

losses in our complete Chart of Automobile Recommendations, printed, in part, below.

The body of the grade of Gargoyle Mobiloils specified for your car, in this Chart, insures the proper sealing of the clearance between the pistons, piston rings and cylinder walls.

The superior quality or lubricating efficiency of the oil specified—its ability to give full lubrication under the heat of service—is too well-known to need discussion.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.

CORRECT AUTOMOBILE LUBRICATION

Explanation: The four grades of Gargoyle Mobiloils for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"

Gargoyle Mobiloil "E"
Gargoyle Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CARS	1911	1912	1913	1914	1915
Abbott Detroit	A	Arc	Arc	Arc	Arc
American	A	Arc	Arc	Arc	Arc
Apperson	Arc	Arc	Arc	Arc	Arc
Austin (4 cyl.)	A	A	A	A	A
Avery (Model C) 1 Ton	A	E	A	A	A
Buick	Arc	Arc	Arc	Arc	Arc
Cadillac	Arc	Arc	Arc	Arc	Arc
Cars (8 cyl.)	A	A	A	A	A
Chalmers	Arc	Arc	Arc	Arc	Arc
Chandler	Arc	Arc	Arc	Arc	Arc
Chase (air)	B	B	B	B	B
" (water)	B	B	B	B	B
Chevrolet	A	Arc	A	Arc	Arc
Cole	Arc	Arc	Arc	Arc	Arc
Detroit	Arc	Arc	Arc	Arc	Arc
" (8 cyl.)	A	A	A	A	A
Dodge	Arc	Arc	Arc	Arc	Arc
E. M. F.	Arc	Arc	Arc	Arc	Arc
Empire	Arc	Arc	Arc	Arc	Arc
Flanders	E	E	Arc	Arc	Arc
Ford	E	E	E	E	E
Franklin	Arc	Arc	Arc	Arc	Arc
" (Cyl.)	B	A	A	A	A
Grant	Arc	Arc	Arc	Arc	Arc
Haynes	A	Arc	A	Arc	Arc
Hudson	Arc	Arc	Arc	Arc	Arc
Hupmobile (Model 20)	Arc	Arc	Arc	Arc	Arc
I. H. C. (air)	A	Arc	A	Arc	Arc
" (water)	A	A	A	A	A
International	B	B	A	A	A
Interstate	Arc	Arc	Arc	Arc	Arc
Jackson	Arc	Arc	Arc	Arc	Arc
Jeffery	A	Arc	A	Arc	Arc
" (Com'l.)	A	Arc	Arc	Arc	Arc
King	A	E	A	E	A
" (3 cyl.)	A	A	A	A	A
Kissel Kar	A	Arc	A	Arc	Arc
" (Com'l.)	Arc	Arc	Arc	Arc	Arc
" (Model 45)	A	A	A	A	A
Kris	A	A	A	A	A
Lion	Arc	Arc	Arc	Arc	Arc
Marion	A	A	A	A	A
Maxwell	Arc	Arc	Arc	Arc	Arc
Mets	B	Arc	Arc	Arc	Arc
Mitchell	A	Arc	A	Arc	Arc

Stationary and Portable Engines

Your oil must meet the heat conditions in your engine. Many oils thin out too much under engine-heat. Three troubles result: (1) Compression escapes and power is lost. (2) The cylinder walls are exposed to friction. (3) Excess carbon is deposited. The oils specified below will prove efficient.

Water-cooled engines—Use Gargoyle Mobiloil "A" in summer; use Gargoyle Mobiloil "B" in winter. **Air-cooled engines**—Use Gargoyle Mobiloil "B" the year 'round.

Tractors

The design of your engine must determine the correct oil. Send for booklet containing Gargoyle Mobiloils Chart of Recommendations for tractors.

Mobilubricant—In the patented Handy Package. The correct grease for transmissions, differentials and compression cups of automobiles. The spout fits the filling plug opening of the Ford and all other cars. Mobilubricant is just the thing for farm machinery. Simply turn the key. No dirt, no waste, no trouble.

VACUUM OIL COMPANY, Rochester, N. Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

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Boston

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Philadelphia

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Pittsburgh

SHEEP husbandry should receive more attention from the farmers of this country than it does at the present time. Unquestionably, sheep raising could profitably be fitted into the general management of thousands of farms where there is none at the present time. On many other farms the size of the flock could be increased and more attention given to this branch of farming with resulting profit to the owner.

In the breeding of pure bred stock the beginner has a number of valuable breeds from which he can make a selection. It is not so much the breed selected that will lead to success, as it is the care and management. It must be noted, however, that certain breeds have a wider range of adaptability and are more popular. The number of pure bred flocks is increasing every year and the demand for good breeding stock is more than keeping pace with the increase.

With a commercial flock there are several phases that are worthy of consideration. Early spring lambs is one of the most important, while late spring or early fall lambs should receive due consideration. The production of winter or so-called "hot-house" lambs is well worth undertaking by those who are favorably situated. This early lamb is a high-priced product and should prove profitable under favorable conditions.

Many farmers have disposed of their flocks and many others have refrained from entering the business because of some of the difficulties that are peculiar to this industry. Among the most important of these are cur dogs, parasites, and diseases. A certain amount of trouble is inevitable where these abound, but ordinarily this should not be sufficient to discourage the flock master. Good management and proper care will control, if not eliminate, these difficulties. The flock that must rustle for itself is the one that suffers most from these sources. Sheep are good scavengers but should not be made to subsist upon weeds alone, with little or no attention on the part of the farmer. The sooner the owner realizes that his sheep cannot return satisfactory profits under such conditions, the better it will be for him. Any extra care and feed given to the flock generally yields the greatest returns.

Sheep have ever been in the vanguard of civilization. This country has been no exception in this respect. The magnetism of cheap lands has constantly drawn in the industry westward, creating a quite general impression that sheep are unprofitable on high-priced land. This may have been true in the past, but the industry is undergoing an evolution. The range is almost completely occupied and is constantly decreasing in extent. The cost of running sheep in the range country has gradually increased, and today many western sheepmen are returning to the East for the purpose of raising sheep.

The period of exploitation is passing and a new era of constructive live stock farming is at hand, which means that a more intensive system of sheep farming upon high-priced land must follow. This is already in evidence in certain localities and with better care than is now generally given the sheep, should prove more extensive. In England the question is not whether you can afford to keep sheep on high-priced land, but whether you can afford to keep high-priced land without sheep.

Sheep will increase the fertility of the soil if they are handled properly. To do this, they should not be permitted to crop off the grass too closely, which they will do if the pasture is overstocked or if they are permitted to remain in one field too long. Sheep manure, with one exception, is the most valuable of all farm manures. It is thinly and evenly scattered over the ground and does not produce a rank growth in spots of the pasture, as do

other manures. The manure is also worked into the soil by the sharp hoofs of the sheep, so that it is not washed away, but becomes quickly available as plant food. This quality has well earned for sheep the title of "golden hoof." In England, land which during Queen Elizabeth's reign produced only six bushels of wheat an acre, has been made to yield thirty bushels at the present time, by the use of sheep. Many farms throughout the state that have been cropped for twenty or twenty-five years, are rapidly decreasing in their productiveness, and there is no class of live stock as well adapted to the building up of an old, run-down, worn-out farm as are sheep. Their droppings are rich and are scattered over the fields in a better manner than could be done with the most improved manure spreader.

Again, as weed exterminators, sheep have no equal. A few over 600 varieties of weeds are classed as growing in the region of the Mississippi Valley. Sheep will eat 576 of them, horses but 82, and cattle but 56, and the farms in this state that do not need to be cleaned of weeds are very few. Sheep not only destroy these weeds, but at the same time convert them into sweet, delicious meat. There are few farms that have not some odd corners, old feed lots, or waste land that is growing to weeds and brush that might, by the use of sheep, be returning a handsome profit.

An old feed lot sown to rye early in the season will prove a profitable investment; thin patches in the corn field or around its edges, sown to rye, will furnish feed for many lambs during the fall, and after the binders and headers there are always more or less shattered heads that might be turned into mutton if sheep were given an opportunity to get this grain. To the man of restricted means there is no class of live stock that offers greater opportunities for investment. It is estimated that ten head of sheep can be pastured upon the same amount of land and will require about the same amount of feed the year round, that one cow will consume, and ten sheep can be bought for about the same amount of money that a cow can.

Pure bred sheep are worth, when compared with grades, say about in the same proportion that a pure bred cow is worth when compared with a grade. So it matters not whether the comparison is applied to pure bred or grade stock.

In the one case the owner has all the money tied up in one animal; in the other case he has it in ten, and there is no more danger of losing a sheep than there is of losing a cow if proper care is given them. And again, to the man of restricted means, a flock of sheep will give much quicker returns and returns much oftener than the same amount of money invested in cattle. Suppose one should invest in a flock of breeding sheep in the fall of the year. His first returns would be in March or April, when the wool would be ready for market. If the flock had been bred for early lambs, a little later the earliest and best of the lambs would be ready for the market at a time when the market would be ready for them and at very fancy prices. There was a time in the spring of 1908, when early lambs were bringing 12 cents per pound. If it is desirable to dispose of part of the flock soon after the lambs are weaned, if the ewes have been well cared for they will be ready for market. While with a cow, it would take at least two years to get much of a return on the face of the investment. It is a poor sheep that will not shear enough wool each year to pay for its keep for the entire year.

It does not require expensive fencing to keep sheep where they are wanted. A good woven wire fence, of course, is best, but five good barbed wires properly placed will keep them at home. Often the objection is made that sheep cannot be pastured with other live stock. This is not true so long as there is



THE FLOCK REQUIRES CLOSE WATCHING DURING LAMBING TIME



Old Ben Big Lump Coal

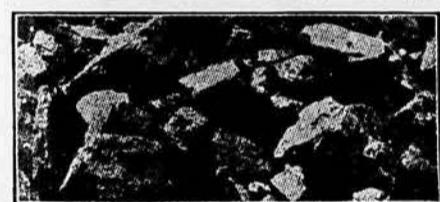
"The fuel of sterling worth" means a clean, warm home and well cooked food. With it you can bake, broil, fry, stew and roast to perfection. Ask your dealer for Old Ben.

**Rich in Heat
Clean & Bright
Starts Quickly
Holds Fire
Low Cost**

It is hard, clean, and bright. It comes in lumps which may be easily broken into any size desired with no waste. Old Ben burns with little ash and no clinkers—a clean, hot fire, easily controlled. **You Will Like Old Ben.**

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Get our big, free Catalog showing 164 styles of fencing and gates. It will save you many a dollar to have your order filled direct from our nearest mills or warehouses in Indiana, Nebraska, Colorado, Texas, California or Kansas. Better fence for less money. WRITE NOW before you forget it.
Ottawa Manufacturing Co., 27 King St., Ottawa, Kansas.

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At a small cost by using our Attachable outfit, FITS ANY BIKE, Easily attached. No special tools required. Write today for bar-gain list and free book **FREE BOOK** describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, \$25 and up.
SHAW MANUFACTURING CO.
Dept. 140 Galesburg, Kansas.

plenty of grass in the pasture. Horses, cattle and hogs will thrive just as well if there is a flock of sheep among them, as if they were in separate fields. The only thing to be guarded against is to have old sows with ewes during the lambing period.

There are many who believe that sheep require a great deal of care and much special attention. This, however, is not correct, as we have no domestic animals that are more easily handled or that require less care for the greater part of the year, than the flock of sheep. For the successful handling of a flock, there will be a period during the lambing season when close attention will be required, but during the remainder of the year very little time need be spent with them. Salt should be kept in the sheep corral at all times. It should be placed where it will be free from dirt and off the ground so they will not be stepping on it. A little sulphur mixed with the salt is considered by many a good preventive of disease.

The ram has as much influence upon the flock as the entire ewe flock bred to him, which fact gives rise to the old saying, "The ram is half the flock." It will thus be seen that the selection of the ram is of prime importance. Improvement in breeding can be brought about in a flock at less expense by the use of a good ram than in any other way. A good ram is a valuable investment, and the few extra dollars in cost over the price of a mediocre one, multiply themselves in returns on the lamb crop. The wise selection of a single ram has in many cases made a flock famous. I am sure it will doubly pay any farmer to invest in a small bunch of breeding ewes and enjoy the large returns yielded by them.

The "Whole Root" Again.

F. P. J., Jefferson County, writes: "There is an agent here selling fruit trees, especially apple trees, who makes the claim that the reason apple trees are dying is because they are grafted on 'piece roots.' He claims to be selling nothing but 'whole root' trees. Is there anything in it?"

George O. Greene, horticulturist at the Kansas Agricultural College, makes reply to this as follows:

"A variety of causes are responsible for the death of so many of our farm orchards. The principal cause is neglect, aided by fungous diseases and insects. Most of the home orchards in your section are old, have never been pruned or sprayed, and have been compelled to fight for place and food with grass, sumac, blackberries, canker worms—and worst of all, blister canker. The stock on which they were grafted and the method of operation had nothing to do with it.

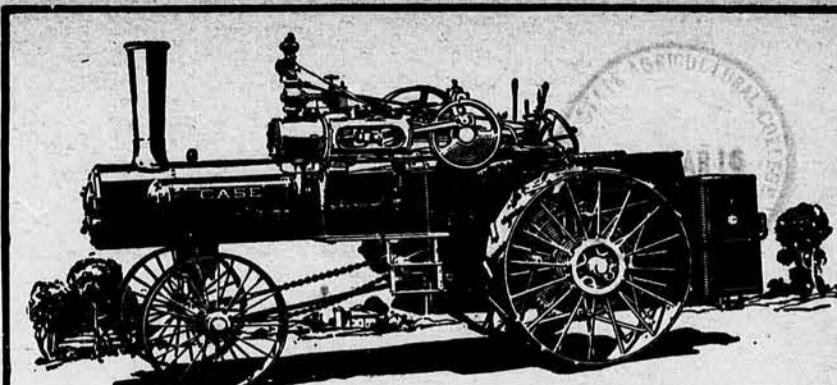
"It is impossible for any nurseryman to deliver to you any tree with a 'whole root.' There is always as much of the tree under ground as above, and in young trees the spread of roots will very much exceed the spread of top. In digging, many of these roots are necessarily destroyed.

"For the same reason it is impossible for the nurseryman to graft on whole roots. The best roots grown in the Kaw Valley sandy loam are from 14 to 20 inches long, $\frac{1}{2}$ inch in diameter, and unbranched. Were it possible to dig them without breaking the tap root, no nurseryman could afford to ditch deeply enough to set them and bury the scion 3 or 4 inches in the soil above the point of graft.

"Under our trying conditions the best trees are undoubtedly those which have become own rooted—that is, roots have started out from the scion above the graft. During the cold weather of 1898-99 the roots of many fruit trees were killed when little damage could be noted in the tops. This showed that the seedlings used are not as hardy as are the varieties generally found in our orchards.

"What is usually meant by 'whole root' by nurserymen, is a graft made at the crown or upper cut of the seedling. This cut will give a somewhat stronger growth the first year under favorable conditions of temperature and moisture. Over a term of years or during the life of the orchard no difference could possibly be noted. This point has been brought out by both the Kansas and Missouri stations, where orchards were grown to maturity on 'whole root,' 'piece root,' and where seedlings were budded. No difference could be noted at either station between the different methods of propagation.

"Well grown, thrifty trees, one or two years old, that have never been stunted, are vastly more important to the grower than is the territory in which they were grown or the manner in which they were propagated. Statements to the contrary are made only by agents who are misinformed."



Where Steam is Needed

With the first signs of a demand by the buying public for the gas tractor, many manufacturers seemed to forget their steam tractors. *Not so with Case.* We are keeping our steam tractors right up to the minute, at the same time that we are manufacturing a full line of gas tractors. It is our policy to strive to improve and refine our steam tractors, just as we have in the past.

Our belief is that steam in certain localities is and always will be the most efficient power. In the steam field, Case has always led. In one contest after another Case steam engines have won first place. For years they have established the standards sought by others. So far as economy and efficiency are concerned, our tractors hold unbeaten records. Successful owners everywhere prove this statement by their own operations.

Superiority Acknowledged

Case has been serving farmers successfully for over 74 years. Back of every machine bearing their trademark is experience in design and manufacture. All over the world the name "Case" is known. There is always a nearby Case branch house. This assures service.

Some Important Facts

Case steam tractors are very simple. They are planned with a most generous sized fire-box, and the space before it to permit of freedom in firing and operating. The working parts, too, are in full view and within easy reach. We know of no tractor so thoughtfully built for the operator's convenience and efficiency.

Case steam tractors weigh from ten to twenty per cent less than the corresponding sizes of other makes. You know that it costs money to haul weight. Unnecessary weight built into an engine is waste. So Case steam tractors save money. We make Case tractors in seven sizes, 30, 40, 50, 65, 75, 80 and 110 h.p.

Of the many features, here are a few:

1. **Simplicity:** As illustrated by the fact that we build the single engine type only.
2. **Stability:** As shown by the fact that our boilers are built so well that they meet the law requirements of practically every country in the world. This means that anyone can use his Case Steam Engine anywhere.
3. **Economy:** Case Steam Engines have won in every contest for fuel and water in which they have been entered.
4. **Accessibility:** All working parts are in full view of the operator.
5. **Power:** Case Steam Engines develop more power per pound of weight than any other.

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Case gas tractors, Case threshing machines, Case road machinery, Case automobiles, and every Case product is each a dominant factor in its own field. Write today for our complete Case Catalog. It is an album of information and should be under the reading lamp in every farm sitting room. It is beautifully printed, with many interesting scenes and reproductions in color. No farmer should miss having it. Especially when it costs you only one penny for a postal card to get it. Merely write, "Send me your general machinery catalog." IT IS FREE.

(372)

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Special Offer

"Here's a dandy extra heavy copper riveted halter, $\frac{1}{2}$ inch wide, sells for \$1.50 every-where; our special offer \$1

—Prepaid—

We Prepay the Freight

Save you from 30 to 60 per cent, guarantee our goods for two years, refund on the minute if goods don't suit you. Send goods with privilege of examination. Get catalog TODAY—it's free for the asking—and see our wonderful direct-from-maker bargains.

H. & M. Harness Shop, Dept. 140 St. Joseph, Mo.

PURE LIFE INSURANCE PROTECTION

No expensive "side features" which add so greatly to the cost, and yet are of so little real value to the insured. Our rates are lower than those companies having the "side features," and justly so.

Several thousand of the best men and women in Kansas have carried our insurance for years. **THOSE WITH US LONGEST** are our best friends.

Rate at age 35, for each \$1,000.00 insurance, \$13.30; other ages in same proportion. Policies from \$2,000.00 to \$10,000.00, providing death, disability and old age benefits, issued to men and women (ages 20 to 50 years) on equal terms, except that the latter are limited to \$2,000.00 each.

More than \$1,500,000.00 in first mortgage farm loans many of them upon Kansas farms, are pledged to sustain our rates.

IT WILL PAY YOU TO INVESTIGATE.

GUARANTEE FUND LIFE ASSOCIATION
OMAHA, NEBRASKA.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS!



Paint Is An Investment Not An Expense

I find that Money-saving Paint Economy means the use of paint that keeps a smooth, firm, unbroken surface and bright appearance even after it has been on a long time. Use that kind and your building is not only protected from the weather, but looks its value. You insure yourself lasting paint service when you use

LINCOLN Barn and Roof Paint

Thousands of paint users in all parts of the country know the extra value of the Lincoln Paints. You take no chances when you say "Lincoln Paints" to your dealer.

FREE Paint Books

A postal card will bring you the name of the nearest dealer, also color samples and booklets telling about Lincoln Climatic Paints and Lincoln Paints and Varnishes for every surface, new or old, indoors or outdoors. Write for these Booklets today. Address

Lincoln Paint & Color Co.
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Factories: Lincoln, Neb., and Dallas, Tex.



Don't Lose Your Only Chance



IT takes more time, and more work, to disk, plow and harrow until you have a furrow slice mellow and moist from top to bottom, and compact throughout. But it pays to do it right.

For many crops, the only chance you have to insure good growing conditions is when you are preparing the seed bed. A well-prepared seed bed is always one of the best guarantees of a good crop at harvest time.

The preparation of good seed beds is important enough to warrant care in the selection and purchase of tillage implements. It will pay you, before you buy, to look over carefully the full line of International Harvester tillage implements sold by your local dealers.

Note the unusual strength of the disk harrow frames. Ask the dealer to show you how the adjustable snubbing block and bowed set-lever bars hold the gangs level. See how carefully the oiling system is designed.

See your local dealer and go over the machines with him, or write us for catalogues and information, but don't buy a disk harrow, spring-tooth or peg-tooth harrow, or cultivator this spring until you have seen the IH C tillage line.

International Harvester Company of America

(Incorporated)

USA



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For Distemper, Coughs, Colds, Epizootic, etc., in Horses and Sheep.
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German Distemper Remedy Co., Jackson, Michigan.

GOPHER TRAPS something the gophers can't cover up. Circular free.
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Hogs For Early Market

In ordinary years the market for hogs is better in October than it is a few months later when the bulk of the supply is being marketed. The reason for this is that most of the hogs over the country are carried along through the summer season without receiving very much grain. The final finishing for market does not begin until into the fall or early winter. Handled in this way they make greater use of pasture and forage, and this is always considered to be in line with economical production. There is some merit, however, to the plan of trying to get some pork ready for market a little in advance of the heavy run. A better price is usually secured, and under some conditions this more than balances the saving in grain brought about by the slower process.

The indications are now that there is a shortage of hogs. Prices were most unsatisfactory in the early part of the marketing season, and many hog men sold their pork at little or no profit. The last month or two, however, the price has been steadily climbing, and in spite of the fact that record prices are likely to be reached in the near future, the supply on the market is still short. What prices will be next fall and winter will depend to a considerable extent on the percentage of the present pig crop that is saved and also war conditions. It looks now as though hogs might be high through the heavy marketing season next winter.

The one who tries for the October market can hardly fail to make a profit, however, if good feeding methods are followed. Where the sows are fed well during the suckling period the pigs go on to pasture in good, thrifty condition, and by keeping them on practically a full grain ration they can be made ready for this early market.

To save labor during the busy season, the corn can be fed in a self-feeder. This method of feeding grain has proved most profitable. In addition to corn, some meat meal or tankage will be necessary to supply the protein. If the pasture is alfalfa, only a small amount of the tankage will be needed, since the alfalfa is rich in protein.

Corn is high in price, and hogs that are finished for this early market can be made to effect some saving by harvesting a crop of corn themselves. A field of some early variety planted convenient to the pasture will be ready for "hogging down" by the middle of the summer. Cowpeas can also be used to save on grain. They can be planted in the same field as the early corn, and by the time the corn is matured the peas will be nicely started. The balance of the season the corn will not be drawing on the soil, and if the peas are an early variety, as the New Era, seed will be formed in 80 to 90 days. These will also be harvested by the hogs, and in combination with corn will make an ideal ration.

While it may take a little more grain to produce a pound of pork in this way, the actual cost can be kept down by eliminating as much labor as possible.

On some farms the hog money is depended upon to pay taxes, and this means that they must be ready for market early in the winter.

Northwest Kansas Live Stock Conference

A live stock conference is to be held in Colby, Kan., March 21 and 22. Considerable interest is being taken in this meeting. A demonstration car of live stock will be furnished by the Kansas Agricultural College. There will be three good geldings, and typical animals

of the Angus, Hereford, Galloway and Shorthorn breeds of cattle. There will also be some fat steers and representatives of the leading breeds of sheep.

The full program of this meeting is as follows:

TUESDAY, MARCH 21.

Morning—W. D. Ferguson, Colby, presiding.

"How to Judge Horses," Lecture and Demonstration. Carl P. Thompson, Extension Specialist in Animal Husbandry, K. S. A. C.

"Some Experiences in Breeding Draft Horses," Joe S. Wilson, Edson, Kan.

"Developing the Draft Horse," Thompson.

Discussion.

"Making the Young Animal Grow," Dr. H. J. Waters, President Kansas State Agricultural College.

Afternoon.—U. A. Boys, District Agricultural Agent, Hays, Kan., presiding.

"How to Select Sheep," Lecture and Demonstration, Mr. Thompson.

"What About Sweet Clover in Northwestern Kansas?" Fred Bremmer, Dresden, Kan.

"The Farmers' Most Suitable Feed Crops, and How to Handle Them," H. T. Nielsen, District Agricultural Agent, Norton, Kan.

Discussion.

"The Fix We Will Be in When the War Is Over," President Waters.

Evening.—Carl G. Eddy, Colby, presiding.

"The Place of Sheep on the Average Farm," Mr. Thompson.

Discussion, led by A. Yale, Grinnell, Kan.

"Farm Progress Through Tests and Demonstrations," Illustrated. Harry Umlberger, Demonstrator, Supervisor, K. S. A. C.

WEDNESDAY, MARCH 22, 1916.

Morning.—E. J. Gilbert, Wallace, Kan., presiding.

"How to Judge Beef Cattle," Lecture and Demonstration. W. A. Cochel, Professor of Animal Husbandry, K. S. A. C.

"Managing the Farming Business," W. M. Jardine, Dean of Agriculture, K. S. A. C.

Discussion.

"Experiences With Beef Cattle," Thos. O'Toole, Banner, Kan.

"A Ready Market for Western Kansas Feeds," Professor Cochel.

Discussion.

Afternoon.—J. M. Day, Colby, Kan., President of the Farmers' Institute, presiding.

Business Meeting.

"A Comparison of Beef and Dairy Cattle," Lecture and Demonstration. Professor Cochel.

"Building Up Our Crop Yields," Illustrated. Dean Jardine.

Discussion.

"The Breeding Herd on the Western Kansas Farm," Professor Cochel.

This is a strong program, and live stock men of Western Kansas who attend will be well repaid for the effort.

Free Martin Heifer.

We have been asked whether a "free martin" heifer ever produces offspring. This term is applied to a heifer born twin with a bull mate.

Such heifers do not ordinarily become breeders. They are really imperfect females. Some of them, however, do produce offspring and all the record associations now recognize that a free martin may be a breeder and accept for registration individuals from cows born with a bull mate.



THE LARGE THRIFTY LITTERS ARE THE PROFITABLE ONES

Live Stock Farms Prosperous

THE whole world over, the most enlightened and progressive agricultural districts are found where live stock provides one of the chief sources of income. This is due to several reasons: The live stock farmer can not live from hand to mouth, but must providently lay in a store of feed for his animals throughout the winter months. This same and foresight is then carried into his other activities. Under some systems of agriculture the returns from the year's crops all come in at once, which makes for extravagance and idleness, with resultant poverty until another crop is harvested. On the other hand, under most systems of live stock farming, income is secured several times during the year.

The care and control of domestic animals, which are intelligent yet submissive to his will, tends to develop the best instincts in man and make him kindly, self-reliant, and trustworthy. The good stockman grows proud of his sleek, well-bred animals and derives a satisfaction therefrom not measured in money. With pride he may hand down to his sons his reputation as a breeder. He is also able to leave them fertile fields which he has built up rather than robbed a heritage, bequeathed by but few grain farmers.

In the early days, with land low in price, pasture abundant, and feed and labor cheap, making a profit from live stock farming was comparatively easy, even though one possessed little knowledge of the principles governing the feeding and care of stock. Conditions have now changed. The great western prairies no longer offer rich fields free for the taking, and hence throughout the country fertile land has advanced in price. No less marked has been the increase in the cost of labor and of feeding stuffs. But the price of live stock products has also advanced, so that satisfactory profits may still be realized from farm animals. However, present conditions call for a more intelligent type of stock farming than has ruled in the past. Good profits are possible only when all the operations are planned intelligently, and there is a thorough appreciation of the requirements of the various classes of animals for food and care.

In the pioneer days of our country the feeds commonly used for live stock were restricted to the grains and forages grown on the farm. Knowledge of the value of these farm-grown products is not now sufficient for intelligent feeding. The problem is complicated by the most of by-products resulting from the manufacture of articles of human food which are offered on the markets as feeding-stuffs for stock. Many of these are valuable and economical supplements to the feeds raised on the farm. However, such products vary considerably in price and even more markedly in nutritive value. Most economical feeding is therefore possible only when the relative value of these different products compared with each other and with the farm-grown crops is clearly understood. In seeking a knowledge of feeds and of feeding we must first consider the plant substances which provide the nourishment for farm animals and study the manner in which these compounds are built up in the living plant. Next we should learn how the food consumed by animals is digested and utilized within the body for the production of meat, milk, work, or wool, and should also study the requirements of each class of animals for food, water, shelter, and exercise. Only then are we in some measure in a position to understand the value and merits for each of the farm animals of the many different feeds, and finally to consider the principles of care and management, the constant observance of which is essential to the highest success in animal husbandry.—From Feeds and Feeding, by Henry and Morrison.

Kindness Pays.

The cow that dislikes her milker and is afraid of him, never does her best. The function of milk production is based on the affection of the cow for her calf. When we take the calf away we are removing the primary incentive to the secretion of milk, and the milker must take the place of the calf. The more he can make the cow think of him, the more milk he will get. Kindness and gentleness with cows thus becomes a matter of dollars and cents.

Many do not appreciate the fact that milk is formed largely during the process of milking. Milk is not stored in the udder as in a reservoir. The glands of the udder are gorged with the materials from which milk is made at the time milking begins. This material is carried by the blood, and the larger the blood flow at this time, the heavier will be the yield of milk. This is under the control of the nervous system to some extent, and any unfavorable conditions will lessen the amount of blood carried to the udder during the process of milking. If the cow is perfectly contented and enjoying the process, the blood laden with the milk-making materials will continue to flow. Excitement or worry, such as could easily be caused by harshness on the part of the milker, will tend to create a nervous condition that will reduce the blood flow. A lessened quantity of milk will be the result.

The effect of changing milkers, even though they are equally quiet and careful, quite often produces a noticeable effect. Cows will become attached to certain milkers and are annoyed by a change.

Some might think that the mechanical milker would not be agreeable to the cows because it is a mere machine. It is largely a matter of habit, however, and after the cows have once become accustomed to being milked by the machine, a change to hand-milking will produce the same result as changing milkers when the herd is milked by hand.

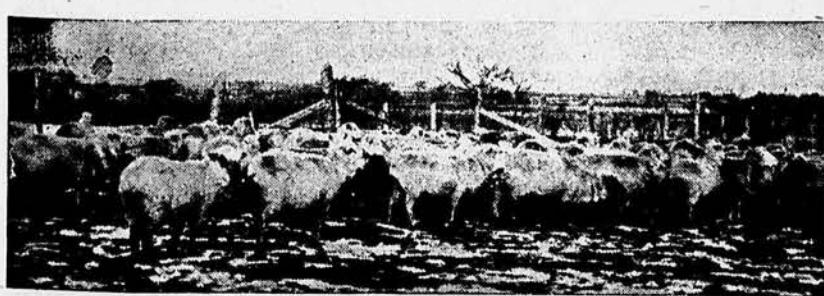
Warming Chilled Pigs.

Sometimes a pig in the early farrowed litters becomes thoroughly chilled, and unless promptly attended to will be lost. A pig in this condition can be very quickly revived by immersing it in warm water. About blood heat is the correct temperature. This is a quick method of applying heat, and sometimes will save a pig that is too far gone to be revived in any other way. The pig's nose must be kept above the water during the process. They should, of course, be carefully dried and kept for a time in a warm place.

The pigs should be taught to eat grain as soon as possible. If given a chance it will not take them long to learn. A feeding pen separate from the sow should be arranged for them by building a partition eight inches from the ground. This allows the pigs to crawl under but keeps the sow out. A little sweet skim milk and corn should be placed for the pigs twice a day. Care should be taken to wash the trough thoroughly each time before the milk is poured in, so the pigs do not get any milk that has soured or that is filthy. The skim milk cannot be put to better use and pigs make rapid and cheap gains from it.

It pays to allow the pigs to suck until they are nine or ten weeks old. It may seem before this time that the pigs are not getting much from their mother. However, the little they do get helps wonderfully, and the pig that has a good start will grow into a profitable hog very quickly.

The ingredients of spraying mixtures are now high in price and are going higher. It might be well to early lay in the supply needed for this season.



THE LAMB CROP FROM THESE EWES BELONGING TO C. S. PERKINS,
LABETTE COUNTY, AVERAGED 145-183 PER CENT FOR FOUR YEARS

You Men Who Have Pipes

Discarded and forgotten pipes—inactive, retired, "out-of-commission" pipes—pipes you've tried to smoke and couldn't smoke—you men try Tuxedo.

You can smoke a pipe—every man can—but you can't smoke any kind of Tobacco without making your tongue rebel and your throat get angry. Put the blame where it belongs—the pipe was innocent—the tobacco was the guilty party.

Give your pipe another chance—fill it with fresh Tuxedo, packed firmly but not hard; smoke slowly; and you'll go into permanent partnership with Tuxedo. One week's trial and you'll know why so many men have forsaken all smokes except Tuxedo.

Tuxedo

The Perfect Tobacco for Pipe and Cigarette

Tuxedo is a good hearted, gentle, quiet, soft-voiced tobacco—it's as genial as a sunny day and as comforting as a raise in salary—no "fighting spirit" in it anywhere to muss up your tongue—or fuss up your throat—as "bite-less" as a baby.

That's because the rich, mellow leaf is first aged in wood from 3 to 5 years and then it's treated by the famous original "Tuxedo Process"—that takes every particle of bite and irritation out of tobacco.

Tuxedo has plenty of imitators—but there can't be another tobacco like Tuxedo, because no other can be made by the secret "Tuxedo Process."

Try Tuxedo this week.

**YOU CAN BUY TUXEDO
EVERYWHERE**

Convenient, glassine-wrapped moisture-proof pouch . . . 5c

Famous green tin with gold lettering, curved to fit pocket 10c

In Tin Humidors, 40c and 80c
In Glass Humidors, 50c and 90c

THE AMERICAN TOBACCO COMPANY



MR. A. M. ROSE
Judge of the Circuit Court of Illinois
"Tuxedo tobacco is pleasantly mild, yet has a fragrance that is most satisfying. I enjoy Tuxedo more than any tobacco I've ever smoked."

A. M. Rose.

Mayer HONORBILT CUSHION SHOES

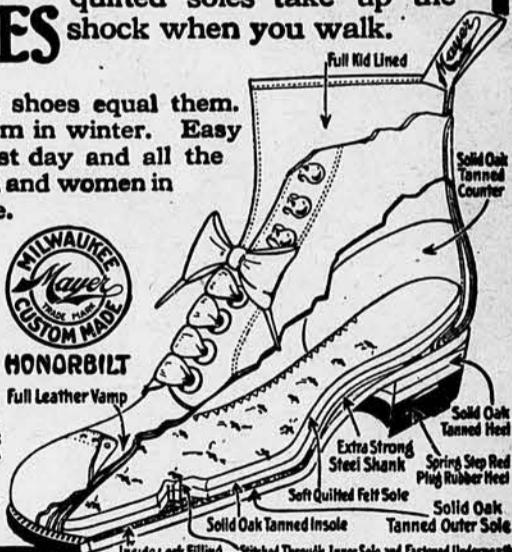
Sensitive feet get quick relief. Wear Mayer Honorbilt Cushion Shoes. The quilted soles take up the shock when you walk.

No other cushion shoes equal them. Cool in summer, warm in winter. Easy on the feet from the first day and all the time. Made for both men and women in all styles to suit every taste.

WARNING. Always look for the Mayer name and trade mark on the sole. If your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes in all styles for men, women, children; Dry-Sox wet weather shoes; Martha Washington Comfort Shoes.

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HIDES and FURS PRICES HIGHER TRAPPING WORTH WHILE

We will pay you the highest prices on your hides and furs. We build our business by giving every man a square deal. We charge no commission, we send you a check the same day shipment is received. We treat you right. The house that has been successful for fifty years could not stand if it did not satisfy its shippers. Try us and see. Write for full list and tags.

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Why Clutter Your House With Pipes and Flues?

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Make your house comfortable. Many farm home owners are deterred from installing a furnace through unwillingness to mutilate the house in order to put in pipes. This trouble and expense are now unnecessary because we offer you

A Patented One Register Furnace

Our wonderful invention makes this possible. You cut just one hole for a register immediately above our furnace and the warm air circulates through the house. No pipes or flues. Your house is cozy from top to bottom. Can be installed in any house, new or old, almost as easily as a stove. By digging a pit you can even put it in a house that has no cellar. The

**Easy
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is guaranteed to use 35% less fuel. Special ribbed firepot gives 600 square inches greater heat radiation than the average firepot. There are no pipes running through the house and cellar to waste heat. The ribbing provides a free air circulation which permits thorough burning of coal without wasteful clinkers. No ashes clinging to firepot to retard circulation. The Caloric Pipeless Furnace burns coal, coke or wood equally well. It does away with the disagreeable task of carrying fuel upstairs and ashes down stairs. It keeps the upstairs rooms and halls uniformly heated at all times.

It is safe for children because there are no hot registers in upstairs rooms to burn them. This is the one furnace that will not spoil your produce in the basement.

Takes less cellar room than an ordinary furnace and saves stove room through the house.

Our Liberal Guarantee

Put this furnace in your home and give it a thorough try-out. If it is not perfectly satisfactory we'll make it so any time within one year from date of purchase. You can't go wrong when you fit your house with the Caloric Pipeless Furnace because we absolutely guarantee it.

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**Monitor Stove & Range
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One gallon can \$1.00
Smaller packages as low as 25¢
Except in the far west and Canada.

**Clean Up! Disinfect!
Prevent Disease!**
Gilbert Hess, M.D., D.V.S.

Dr. Hess Dip and Disinfectant

One Gallon Makes 70 to 100 Gallons Solution

Cures ringworm in cattle, scratches and grease heel; also thrush and foul feet. Invaluable for disinfecting sinks, drains, troughs, garbage cans, outhouses, etc. Good for home and stable. Sold under a money-back guarantee in pint bottles, quart, half-gallon and gallon cans and barrels.

Dr. Hess Fly Chaser

Does not gum, color or blister. Makes stock comfortable.

DR. HESS & CLARK, Ashland, Ohio

Always a Clear Track

In spring, summer fall or winter — for protection against ice, snow or rain, nesting birds or trash — you can always depend on the

Louden Bird-Proof Barn Door Hanger

If you expect to build, or your door hangers are out of repair, you need the bird-proof, a completely enclosed track that will solve your door hanger problems for years to come. The trolleys are thoroughly protected. They can't rust, clog, or jump the track. Hardened steel roller bearings make them roll smoothly and easily. A child can open or close the heaviest door. Booklet No. 5 tells the whole story. It's free; write for it today.

The Louden Machinery Company (Est. 1867)
"Everything for the Barn"
1504 Court Street Fairfield, Iowa



MILK FEVER IN COWS

MILK fever, also known as parturient apoplexy, not only is peculiar to the cow but attacks only cows of the improved breeds and of deep milking strains. It chiefly affects cows that have been developed in the direction of early maturity, rapid fattening, or a heavy production of milk. The victims are not always fat when attacked, but they are cows with great powers of digestion and which have been fed heavily previous to the onset of the disease. Cows are seldom affected until they have reached full maturity and are at the most productive period of their lives—that is, from 5 to 8 years of age.

In heavy-milking cows all the food eaten in excess of that required to make up for the normal waste of the system is turned into milk. When the flow of milk ceases, if the animal is fed heavily, the excess of nutrient from the food has no avenue of escape, and is consequently stored up in the glands and in the blood, causing the animal to become unnaturally plethoric, or affected by excessive nutrition. After the delivery of the calf, the blood which has been supplying the fetus is suddenly turned into the circulation of the mother, and if she does not begin the secretion of milk promptly the plethora of her blood rapidly increases.

SYMPTOMS OF DISEASE.

The disease usually manifests itself within two days after the birth of the calf, although in rare instances the cow becomes affected prior to calving. Great uneasiness is one of the first noticeable symptoms. The cow steps about restlessly and refuses to eat or drink. She may soon begin to show signs of abdominal pain. Paralysis begins to be manifested within a few hours, being indicated by a staggering, uncertain gait. The patient now becomes quieter, rapidly weakens, and finally goes down and is unable to rise. The head is drawn around to one side, usually the left, producing an attitude that is not often seen in any other disease. The animal soon becomes quite unconscious.

The temperature, at first elevated, tends to become lower as stupor and coma progresses. The bowels may become torpid or completely paralyzed, and unless improvement is brought about they are not likely to operate again. The bladder, too, is paralyzed and fails to expel its contents. Action of either bowels or bladder, or both, is always a favorable symptom.

The torpor of the digestive organs nearly always causes grave disorders; the paunch becomes the seat of fermentation, producing gas and excessive bloating. There are frequent belchings of gas or food, which, reaching the paralyzed throat, pass in part into the windpipe, causing inflammation of the air passages and lungs, which condition often becomes the immediate cause of death.

For such a serious disease prevention is more important than treatment. Among the most effective means of prevention may be mentioned a restricted diet for a week or two before calving and for at least four days afterwards. Free access to salt and water is important, as the water serves to dilute the dense rich blood and salt encourages the animal to drink. The water should be warmed suitably, as iced water may have a bad effect. A cow that is in a very plethoric state, or that was attacked by milk fever at her last calving, should be given a purgative dose (1 pound) of epsom salts 12 to 24 hours before calving is due. A most important precaution in a plethoric cow is to avoid drawing any milk from the bag for 12 to 24 hours after calving. Daily exercise is of importance, and the value of the open air cannot be overestimated. Rich clover pastures should be avoided.

METHOD OF TREATMENT.

It is a good practice to give a dose of purgative medicine if the air treatment, to be recommended later, is not available. Epsom salts 2 pounds, carbonate of ammonia $\frac{1}{2}$ ounce, nux vomica $\frac{1}{2}$ dram, is a good preparation to use at this juncture. The bowels and bladder should be emptied, the former by hand and the latter by the use of a small rubber tube. Bags of ice may be applied to the head. Benefit is often derived from the administration of 20 drops of tincture of aconite every four hours. The application of water, as warm as it can be borne by the hand, to the back and loins acts by removing the blood pressure from the vital organs.

In view of the great superiority of the inflation of the udder with atmospheric air as a curative for milk fever, medicinal treatment is seldom attempted at the present time. By former methods of treatment the losses were very great; but by the use of the air treatment in skillful hands, it is claimed that more than 96 per cent may be saved. A large syringe or injection pump is used (a pump for inflating bicycle tires serves the purpose nicely). The whole apparatus should be sterilized before it is used. Boiling for 20 minutes will afford suitable sterilization. The intake opening is filled with sterilized cotton, while a milking tube is attached to the delivering tube.

The teats of the cow should be carefully washed and dried, after which the milking tube on the pump or syringe is inserted into each in turn, while an assistant distends each quarter of the udder with air, without continuing the process after the udder is fully expanded. The tube is now withdrawn and a broad tape is tied around the free end of the teat to prevent the escape of the air. The tube should be disinfected by dipping in a 3 per cent solution of cresol compound or carbolic acid after each application. Should no indications of

BEGIN DAIRY CLUB CONTEST ANY TIME

BOYS or girls entering The Kansas Farmer Dairy Club can begin their year's record whenever the cow they purchase is fresh. There is no set time for beginning. The only limitation is that the cow purchased must be fresh on or before September 1. Those who enter can start with a cow freshening next week, if they happen to secure one near to calving. We believe it better to have cows freshen late in the summer so as to bring the heavy milking period during the fall and winter months instead of during the hot weather. Those entering, however, can start any time.

All the contestant has to do to get started is to notify KANSAS FARMER that the cow is fresh and begin keeping the required records and making the reports.

There are no rigid requirements as to the kind of cow. A cow of dairy breeding, selected in accordance with the instructions given by Professor Reed in last week's issue of KANSAS FARMER, would be more desirable than a cow of ordinary breeding. A pure-bred cow will cost more money than will a grade cow, but the calf will be worth more, and such cow might easily become the foundation of a valuable pure-bred herd. If a common cow is selected, the same rules will apply as to the type likely to be a good milker, as in the case of cows of distinctly dairy breeding.

Ten contestants have completed all arrangements with the banks that are going to finance them in this dairy venture. Their names, with the co-operating banks, are as follows: E. J. Vanscoyoc, Mont Ida, Kansas, National Bank of Commerce, Garnett; W. C. Peacock, Sedgwick, Kansas, Farmers State Bank, Dunavant; Emanuel Weber, Ellinwood, Kansas, Citizens State Bank, Ellinwood; William Perkins, Robert Perkins, Beauford Grant, and Dora Brader, Oswego, Kansas, State Bank of Oswego; Harley Weyer, Zurich, Kansas, Palco State Bank, Palco; Clarence Adams, Parsons, Kansas, State Bank of Parsons; Harvey Russell, Jr., Scott City, Kansas, Citizens State Bank, Scott City.

A good many others are just completing the necessary arrangements.

PRICES CHOPPED

10000 NEW 1916 GALLOWAY SANITARY CREAM SEPARATORS

Special proposition from Nov till Grass—in addition to my new low prices, my way of opening new territory and making further sales, an one separator sold in a neighborhood always sells from one to twenty-five more. Every customer buys theirs, stating coming from my lips would be called "exaggeration." Every Galloway Separator is equal to it, not better than other separators selling for \$75 to \$95.—users say "way ahead." I only ask one thing—before you buy a separator of any make, kind or at any price, see my big book—pick out the separator you want, try it 90 days—180 times—at my expense. If you decide to keep it (you don't have to) I'll give you the choice of 5 open, fair and square selling plans and guarantee my separator for 10 years against defective workmanship and material! A \$25,000 bank bond backs every sale!

NOTE THIS BUILT-IN QUALITY

Heavy, high carbon steel gear shafts and bowl spindle; extra long bearings; strong, sanitary bowls; not fastened together; oil bath lubrication; big, roomy, seamless, pressed steel supply tank; both gear shafts and both spindle bearings supported by one solid casting; heavy sanitary tinware; low bowl speed reduces wear on bearings and gears. No raw, sharp edges in the bowl to cut up the globules of butter fat.

Guaranteed 10 Years

4 Sizes Slimming 275 to 500 lbs. per hr.

4 New Low 1916 Prices

MY NEW 1916 250-PAGE BOOK FREE—Handsome printed, beautifully illustrated in four colors. Tells all about my new 1916 Sanitary Cream Separators, how I build them; gives my 4 new low prices on 4 good sizes, and my 5 easy selling plans, cash or terms, etc., etc. I'll send my special proposition of 10,000 Galloway Sanitary Cream Separators. Drop me a postal today. Separators shipped from Waterloo, Kansas City, Council Bluffs, St. Paul or Chicago.

Wm. Galloway, Pres., The Wm. Galloway Co., 213 Galloway Station, Waterloo, Iowa. Cream Separator Manufacturing Specialists

Don't forget to drop in and see us when in Kansas City. Offices and showrooms across street from the Stockyards Exchange.

15 95 ON TRIAL American CREAM SEPARATOR

A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream. Bowl is a sanitary marvel; easily cleaned.

ABSOLUTELY ON APPROVAL. Different from picture, which illustrates our large capacity machines. Western orders filled from western points. Whether dairy is large or small write for handsome free catalog. Address:

AMERICAN SEPARATOR CO. Box 4091 Bainbridge, N. Y.

GET RID OF Worms and Bots

You can remove every one of them. We guarantee to kill and bring from the body, dead, in a very short time, all pin worms and bots, with the safe and sure remedy.

NEWVERMIFUGE

Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Newvermifuge has removed from 500 to 800 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today. 6 Capsules \$1.25, 12 for \$2.00. BALLING GUN FREE with 4 dozen \$8.00, with 2 dozen \$5.00. Postage paid.

Farmer's Horse Remedy Company, Dept. D 6, 692 7th Street, Milwaukee, Wis.



For Sale—A number of good second-hand separators and engines of different makes. We are manufacturers of Prairie Queen Separators and state agents for A. D. Baker Engines and Separators. Write for description of both second hand and new machines. MCINTIRE BROS. — NEWTON, KANSAS

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

improvement be apparent at the end of two hours, the udder should be inflated again.

Spring Care of Cow.

It is always difficult to keep dairy cows in good condition during the early spring months. Cows that have been milking heavily through the winter, consuming dry feed only, will be run down in vitality. At this season of the year they are shedding their hair and growing a new coat. It is a period that might be compared to the moulting period in fowls. It takes some of the nutrient material in the feed to grow this new coat, and if the cow is giving milk the ration must be a little better in order to meet the double demand. The growth of hair requires a good deal of nitrogenous material. It is a good plan to add a little cottonseed meal or oil meal to the ration to supply the extra amount of protein required at this time. The shedding and renewing of the coat is really quite a strain, and can be met only by feeding a ration a little more concentrated and a little richer in protein than that fed under ordinary conditions. If provision is not made for this extra demand, the milk flow will suffer, for the cow will take care of her body needs first.

We usually do not consider the grooming of cows necessary, but a well bred dairy cow will respond to grooming by increased milk flow and a generally improved physical condition. It is of special benefit during the shedding of the old coat.

Exposure to stormy weather during the early spring months can easily cause serious loss in the dairy herd. We are apt to minimize the effect on the milk cow, of cold spring rains. It is assumed that the winter is over and that such storms as come will not hurt her. These spring storms are felt by all classes of stock if they do not have a chance to get under shelter. It is not the cold so much as the wet and cold combined. The harmful effect will be much more noticeable on the milk cows because the flow is sure to be shortened.

Due to an unusually heavy demand on storage butter during February, reserve stocks have been greatly reduced. A canvass of forty-five leading houses shows that they had over two million less pounds of butter on hand March 1 than a year ago. These conditions have advanced the price, and those who have cream to sell can count on a good price for it during the early spring months.

Sunlight is one of the best known enemies of bacteria. Dairy utensils can be kept sweet and clean by exposing them to the sunlight after washing and scalding. A convenient rack should be provided on the south side of the dairy house or wherever the washing is done. To be effective, the sun must shine on the inside of the pails and cans. Some racks we have held them in an upright position, so that the disinfecting action of the sun was effective only on the outside. The rack should be arranged so that the cans or pails will be inclined at the proper angle for the sun to shine on the inside.

The market for dairy products has ever been more stable than the market for meat products. Butter fat prices in Kansas have increased over 35 per cent during the past fifteen years. The demand for dairy products always increases with the increase in population. Taking the United States as a whole, the percentage increase of milk cows has been about the same as the percentage increase of population.

A dairy farm is sure to increase in fertility. The manure from dairy cattle accumulates around the barns and sheds and more of it is saved and returned to the soil, than when stock cattle are kept. It is also richer in fertility because of the class of feeds used. On a farm where good cows are kept, cottonseed meal, oil meal, and bran can many times be purchased and profitably fed. A second profit can be figured on these feeds from the fertility thus brought to the farm. No other system of farming is so well adapted to building up wornout soil as is dairying.

Would you long use an implement that actually lost money for you every time it was oiled and started? Every cow that is fed and milked and does not make a profit, is losing money for you. The same feed, if given to a good cow, would return a profit. There is only one sure way of knowing whether or not cows are money-makers or money-losers, and that is by weighing and testing the milk and knowing their production—not guessing at it.



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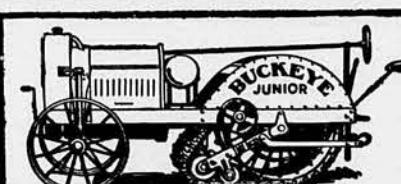
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**Judging Poultry by Score Card**

By THOMAS OWEN

THE score card system in poultry judging seems likely to come into its own again, and that at no distant day. For some years the interest in poultry shows has been diminishing, and as the fancy poultry business depends in a great measure on the poultry shows, it was apparent that there was a great slump in the business. Experts in the poultry industry have sought for the cause of this condition, and a great number of them have come to the conclusion that one of the main reasons why poultry shows have not been as popular as heretofore is on account of the discarding of the score card system of judging in favor of comparison judging.

Such prominent men as are hereby named have lately come out strongly in favor of a return to the score card system in all but the very largest shows. Grant M. Curtis, ex-president of the American Poultry Association, and editor of the Reliable Poultry Journal and Poultry World; a man who has done more for the poultry industry in the last twenty years than any other man in the United States; John Robinson, editor of Farm-Poultry, Boston, one of the greatest wheel-horses of the industry; I. K. Felch, the veteran poultryman who has spent his long life in poultry service; J. W. Bell, editor of the American Poultry Journal; F. L. Platt, Swanton, Ohio; W. C. Denny, Buffalo, N. Y.; H. H. Collier, Tacoma, Wash. All expert poultrymen and well-known writers on poultry matters. All of these and scores of others are agitating the return of the score card.

In a recent issue of the Poultry World, Mr. Curtis says: "Candidly we feel that poultry judging during the last five or ten years has fallen into general dispute. That may be a strong statement, but we are going to let it stand. Speaking our own mind we lay the blame mainly to comparison judging. At best this system is a lazy man's method that gets us nowhere—that accomplishes very little.

"It was on account of the foregoing view, together with our belief that a large majority of the poultry exhibitors of the United States and Canada now strongly prefer a return to the score card method, that we introduced the following motion at the San Francisco convention, which was adopted by unanimous vote and without a word of protest or objection:

"Whereas, it is believed that it will be for the benefit of poultry judges, poultry exhibitors and the general public to have a much larger number of poultry shows or poultry exhibitions judged by the official score card of this Association, as same is published on page 34 of the 1915 edition of the American Standard of Perfection; be it therefore

"Resolved, that this Association in

convention assembled at San Francisco, California, November 19, 1915, hereby expresses its strong approval of the use of the official score card of the A. P. A. at a great majority of the poultry shows or exhibitions held annually in the United States and Canada, with the possible exception of large, sweepstakes shows that as a rule are patronized mainly by experienced or professional poultrymen."

In another issue of the Poultry World Mr. Curtis says:

"Unfortunately the average judge of poultry likes the comparative system. It is a cinch for him. He can do the work this way with about one-fourth the effort and there is no written record of either his good judgment or his blunders. He avoids handling perhaps 75 per cent of the specimens. Therefore what a labor-saving device this plan is! The time that might have to be spent in going over each good bird carefully and making a score card record of it, can be used enjoyably in talking to poultrymen and visiting with the ladies."

I. K. Felch says:

"The score card record of a first class judge is the fact in the case which the public seeks.

"The poultry show which presents a score card record of its exhibits gives to the breeder the best possible advertising prestige. To show a hen, cock, cockerel, pullet and pen which all score above 94 points, is a far better ad than to have won all five prizes in any comparison show in any section of the country."

The editor of the American Poultry Journal says: "It is apparent that there are thousands of would-be exhibitors, true fanciers in the making, who would like to enter shows where they could have their birds scored by card, and in case of failing to win a prize, secure the pleasure and profit of taking something tangible away with them in the form of score cards for their entries signed by the judge."

When such prominent men in the poultry world as these, advocate the return to score card, something is going to be done. Of course they need the assistance of all who favor the score card, and we should rally to their support. Some say the score card system is oldfoggy and behind the times, whereas the very reverse is the case. Comparison judging is an old English method, used in England from time immemorial; whereas the score card is an American system, based on scientific principles. It was by comparison that they used to judge the chickens at our fairs years ago. The fair management would probably pick a Shorthorn breeder to judge the fowls and of course in his estimation the beefiest chicken was the best, and the largest one generally got the

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THE TRUE POULTRY FANCIER IS ALWAYS AN ENTHUSIAST.—HE STUDIES MOST MINUTELY STOCK USED FOR BREEDING PURPOSES

prize. Most anyone could judge a show by comparison, but it takes a man of a calculating mind and sound judgment to be a successful score card judge. He must be able to give a reason for the faith that is in him, and put his sign manual to that effect on the score card. A comparison judge says in effect, "That's my opinion," and lets it go at that. Why or wherefore, no one knows but himself.

It is very discouraging for an exhibitor, after showing his birds and paying his entry fees, not to know why his birds did not get a place. And there are about 80 per cent of this kind in most shows. In the open classes there are generally twelve money prizes offered—first, second, and third, cock, hen, cockerel and pullet—and there are often 200 specimens in the class. This makes twelve winners out of two hundred, but we will say 80 per cent are losers, and in a comparative show never know why they lost. Is there not the same number of losers in a score card show as in a comparative show? The same number, but—and that "but" is an important word—the 80 per cent losers in a score card show have quite some consolation. They have the record of their birds and if they wish to sell them, can sell them on their record, or if they want to sell eggs from these birds, they sell them on the record of the fowls. The comparison show losers have only the knowledge that they also ran and lost. Of course, those who lose in a score card show feel their loss as poignantly as the losers in a comparison show; but after the first shock is over they look over their score cards and find out that they were only a point or so behind the leaders, and that they have pretty good birds anyhow. A comparison loser doesn't know whether his bird was near the head or near the tail end of the procession.

The score card is educational in its tendencies. If a pullet is cut hard because it has poor under color, the breeder goes to work and mates her to a male that is strong in under color and so improves the progeny in the place where it was weak. If the defects in a male are very glaring in comb, shape of body or otherwise, the breeder will take the precaution not to use him at all, so as not to perpetuate his defects in the flock, and so we might go on without end.

Not only is the score card popular among poultrymen, but it is getting to be used quite extensively in judging horses, cattle, swine, eggs, cream, milk and butter. If the butter is not salted just right the score card will note it; if the flavor is objectionable, the score card will say so. If the color is not just the tinge of yellow it ought to be, a cut will be made on the card against the color. If the grain is too coarse the card so states. The butter maker in short can tell from the score card wherein his butter is defective, and will seek to remedy those defects in the future. Even old Uncle Sam—and he is no slouch—uses the score card. The other day he sent an inspector around to score the dairies. A perfect dairy should score 100 points. If below 60 points it is condemned, or disqualified as we poultrymen would say. If the cow stable is not kept clean, that dairy is docked 10 points. If the cows' udders were dirty and not washed before milking, another docking of 10 points. If the attendants were untidy, another cut. The owner of the dairy was not told that his dairy was worse than Jones's dairy, and that he should go and compare that one with his, for Jones's dairy might be twenty miles away. No, he was told definitely, in black and white, where his dairy was deficient, and he knew at once where to apply the remedy.

A week ago all the grocery stores, restaurants and meat markets of Topeka were scored by the pure food inspector. Their scores ranged from 65 to 98. We venture to say that the owners of the scores which scored only 65 know the reason why by their score cards, and will see to it that they have a higher score the next time the inspector comes around.

Talk about the score card being behind the times! Why, bless your soul! They are scoring babies these days, and a sickly, spindle-shanked one covered with Valenciennes lace cannot win over a sturdy, well shaped one, though clothed in overalls. Objection is made to the score card show because the awards are not made or the ribbons put up as soon as in a comparison show. But this does not hold good if you employ enough judges and clerks to do the work. In 1906 we had the greatest poultry show ever held in Kansas; 2,300 birds by actual count. But we had them all scored and the ribbons up on Wednesday afternoon, after starting at noon on Monday. True we had four judges and a dozen clerks, but they paid for themselves.

One of the greatest objections to comparison judging is the ignoring of the weight clause. You have a Standard of Perfection that insists on certain varieties of fowls weighing so much, and counted in value as equivalent to six points, but you pay no attention to weight in comparison shows. I was told in San Francisco that Light Brahmans weighing no more than Leghorns were given places in the awards. They say that if two birds are about equal, then the heavier bird will get the benefit of the doubt. We have attended several comparison shows, but never saw any weighing done. It is very discouraging to a man who has made extra efforts to have his birds up to Standard weight, to have them beaten by birds no heavier than pouter pigeons.

Objection is also made because all score card judges do not score alike. Do all comparison judges judge alike? We venture the assertion that there are just as many criticisms of the judges in comparison shows as in score card shows.

The writer has always been an advocate of the score card, and fought for its retention in the State Show until he stood alone among the officers. We have been secretary of the State Show under the score card and comparison systems, and know the inner workings of both. From the standpoint of a mere secretary we would favor the comparison system, for there is not a tenth of the work connected with it that there is with the score card system. The secretary and one good clerk can take care of the clerical work of a large show, whereas in a score card show of the same size it would take ten times as many clerks and more judges. But the secretary of a show ought not to view the matter from a personal standpoint, but ought to consider the welfare of the majority of the exhibitors. From the standpoint of a judge, the comparison system is much the easier, but the judge, like the secretary, should be willing to do the best he could for the interests of the exhibitors even if it did entail more work. We do not blame the judges for preferring the comparison system. Most anybody would prefer an easy job to a hard one, especially when they get as much pay for the one as the other. We do not claim that the system of score card judging is a perfect system, but we do claim that it is the best system so far evolved, and as far ahead of the comparison system as an agreement in writing is ahead of an oral one. It is not only the best for the amateur, as the comparisonists admit, but it is the best for all poultrymen, young or old, experienced or inexperienced.

There is a definiteness about a score card that is convincing, a tangibility that can be felt, and a value that is real and permanent.

The chirp of the chick is heard in the land.

And when you hear the chirping of the chicks, you may be sure that it is a true harbinger of spring.

Do not forget that the hatching of the chick is but one phase of the poultry business.

More care and attention is required in the raising of a chick than in the hatching of it.

While it is a good idea not to count your chickens before they are hatched, it is a better one not to use your adding machine till they are in the frying pan.

A person hates to admit that there are lice on his chickens or mites in his chicken house, and there may not be any on your premises or on your hens, but it will do no harm to use an insecticide on your hens and clean up your poultry house. The hens will be thankful for a nice, fresh bath, for dusting is their mode of bathing, and there might peradventure be a louse or two on them. Look and see, anyhow.

Experience has proven to us that it does not pay to put too many eggs under a setting hen. Every breeder is anxious to get as many early chicks as possible, and often puts fifteen eggs under a hen. It takes a large hen to cover fifteen eggs, and the nest is often too small for that number. The result is that the hen is too crowded and in turning around breaks some of the eggs. The balance of the eggs are smeared with the contents of the broken egg, and it is doubtful if any of them will hatch. For even if you wash the eggs, the chances are, after they are once smeared, that they will not hatch, as the pores are closed. We have found that eleven eggs is a very suitable number to put under a hen. You will get a greater percentage of chicks from eleven eggs than you will often get from fifteen.

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J. H. YETTER, SALES MANAGER, 625 JACKSON ST., TOPEKA, KAN.



Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

THE truth which another man has won from Nature or from Life, is not our truth until we have lived it. Only that is real or helpful to any man, which has cost the sweat of his brow, the effort of his brain, or the anguish of his soul.—DAVID STARRE JORDAN.

We are all dependent—our lives are influenced by the lives of others—and if one fails in this service and some other life is dwarfed because we have so failed, we have missed one of Life's greatest opportunities.

What Does Your Food Contain?

The best cook makes a study of the ingredients used in the food she prepares. She has a real reason for her preferences in commercial products. The price is not always an index to the value. The composition is the important thing, and should be studied, in order to determine whether or not the product is injurious to health. The palatability and effectiveness should then be considered.

There are good grades and poor grades of foodstuffs on the market, and the poor grades are sold in as attractive packages as are the better grades. The housewife

must make a choice and this should be based upon her knowledge of the product. In choosing a baking powder, it should not be a question of which brand will require the least amount to make the cake and biscuits light, but which will be the least injurious to the health. The same rule—that of healthfulness—should govern the choosing of all commodities that enter the human stomach. There is no better way to protect the health of the members of the family.

Don'ts for Mothers.

A few don'ts might well be conspicuously posted in many a mother's mind:

Don't consider it necessary to systematically underrate your child. Your adult friends will know you do not mean it, but the child will not, and probably more characters are weakened by the lack of self-confidence engendered by such a process than by the vanity which follows the silly bragging of overfond parents.

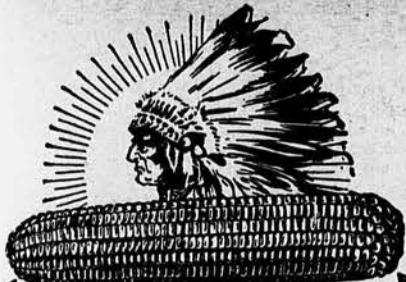
Don't think that the moment you are alone with your boy or girl you must find fault or endeavor to improve the occasion by a little moralizing, no matter in how loving a spirit. No one is so anxious to help a child toward per-

FASHION DEPARTMENT — ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 6 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 1547—Ladies' Waist: Cut in sizes 34 to 44 inches bust measure. This waist may be made of either one or two materials. The closing is at the back and the sleeves may be long or short. The sleeve is finished with a pretty fancy cuff. No. 1581—Girls' Middy Dress: Cut in sizes 6, 8, 10, 12 and 14 years. White linen is used to make the blouse of this dress and dark blue serge is used for the skirt. The blouse is separate and the plaited skirt is attached to an underwaist. The sleeves may be long or short. No. 7537—Ladies' Shirtwaist: Cut in sizes 34 to 42 inches bust measure. Linen, madras, crepe de chine or charmeuse can be used to make this pretty shirtwaist, with a ruffl of lace at each side of the box plait. The box plait may be used or omitted. Long or short sleeves may be used. No. 7583—Ladies' Negligee: Cut in sizes 34 to 46 inches bust measure. This garment can be made in the long or short length, as preferred. Long or short sleeves may be used. The skirt, which is cut in two pieces, may be plaited or gathered. No. 7571—Ladies' Skirt: Cut in sizes 22 to 32 inches waist measure. Whipcord, velveteen, gabardine and broadcloth are liked for plain skirts like this one. The skirt is cut in five gores and has two small plaits at each side of the front. High or regulation waistline may be used. No. 7535—Ladies' Dress: Cut in sizes 34 to 42 inches bust measure. Linen, serge or broadcloth can be used to make this plain and practical dress, with the trimming of plain or contrasting material. Body and sleeve sections are in one and the skirt has four gores.

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or 5 two year Cherry trees, or 75 Raspberry, Blackberry or Dewberry or 20 Grape, Gooseberry, Currant or Rhubarb or 100 Asparagus or 200 Spring bearing or 50 Progressive fall bearing Strawberry plants or eight 2 year Rose bushes or 25 transplanted Red Cedar. Freight paid on \$10 orders. Catalog free. Manhattan Nursery, Manhattan, Kan.

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fection as is the parent, yet it surely leads to an avoidance of the moments alone together, which should be times of happy confidences.

Don't correct the child before others. Pass the matter over until you and the small offender can have it out alone. If the circumstances are such that it cannot be passed over, take him out of the room.

Lastly, laugh often with, but never at, your child. Make up your mind that whatever others may say, he can depend upon you for a quick, sure understanding, without quibble or joke at his expense. The mother who lets her child know that she never makes fun of him will be surprised at the confidence with which he relies upon it.—NELL FOSS FORD in Mothers' Magazine.

Learning from Children.

From our earliest years we are taught the value of the counsel of our elders and that to be wise and useful we should try to follow in their footsteps. This is good advice, and should be heeded. But there are likewise many helpful lessons that can be learned from children if we keep in touch and harmony with them.

This truth was impressed upon us only a short time ago when an evening was spent with two children—a little girl of eight years, and her brother who has just passed his tenth birthday.

At the outset we were enlisted to make a dress for a celluloid doll much cherished by the little girl, and while this was being fashioned the three of us chatted about many things—just how the dress would look when finished, the new marbles acquired in the trades since our last meeting, and the progress being made at school. The evening was very enjoyable and bedtime seemed to gallop toward us.

But the thing that impressed us particularly and which taught us a valuable lesson, was this: In the conversation a word was used that had not before come to the children's attention. The lad looked puzzled for a moment, then went for his school dictionary to find the meaning of the word. The definition contained another word new to him, and this was also found. The meaning of the two words was fitted into the original sentence, and this made it entirely clear to him.

This effort was voluntarily made by the child and he was as interested in it all as though it were a game of marbles or ball. We could not help thinking of the greater progress we would make as life unfolds, if we would use the opportunities for improvement that come to us daily. If we are alert and will accept the daily challenges and pursue them as eagerly as the boy searched for the meaning of the sentence, our reward will be as certain.

Too great importance cannot be attached to the selection of shoes for children. They should be fitted with shoes that conform to the shape of their feet as nearly as possible and that support the ankles. If the feet are injured by ill-fitting shoes, it is hard to find a comfortable fit thereafter.

Kansas' Inter-County Health Contest.

Times are fast changing for the better when we recognize and further health contests.

A movement has been started in Kansas which has for its purpose the checking of the counties of the state to determine which are the healthiest and the best in which to rear children. Can a more beneficial contest be imagined? Those conducting the contest will be helped by having brought to their attention those conditions which promote and menace health and which are controllable. And all are certain to be helped by reason of the enforcement of measures which will safeguard health to a much greater degree than is now the case.

The movement is being launched by the Division of Child Hygiene of the State Board of Health, with the help of an advisory council composed of four members in addition to the director of the division. These members are: S. J. Crumbine, secretary Kansas State Board of Health; Edward C. Johnson, dean Division of College Extension, Kansas Agricultural College; Cora G. Lewis, member State Board of Educational Administration; Catharine A. Hoffman, general federation secretary Kansas Federation of Women's Clubs, Enterprise, Kansas.

Special emphasis will be placed on school sanitation and hygiene as reported by the rural school supervisors. Reports of these supervisors will be used as the basis for determining the hygiene and sanitation of the schools.

It is to be hoped that all county officials, who, by virtue of their public positions, can lend a helping hand in this worthy cause, will do so.

The county showing by its records that it is the healthiest in the state, will be given a handsome trophy offered by the governor.

Full particulars regarding this inter-county contest can be obtained from the Division of Child Hygiene, State Board of Health, Topeka.

By the Old Home-Fire.

The old home-fire where the red sparks race Up the broad-backed chimney, in the old home place! How far we've wandered from its friendly gleams— From the home-winds singing through the dark's still dreams!

Wandered weary in the far, false lights, Yearning vainly for the old home-nights—

For the winter-silence on the frost-flecked ways

And the broad-backed chimney with the home-fire's blaze!

The strange, thronged cities of the storming crowds;

The buildings climbing till they scar the clouds;

The strife of tollers in the stern life-fight Of the days that die not in the hush of night!

The tread of thousands on the thunder-street, With hearts far-sighing for the silence sweet

That fell in blessing on the friendly gleams Of the old home-fire where we read love's dreams!

The traveler listens where the lost lives roam;

The Dark is calling to the Dark: "Come home!"

The loved lights twinkle over vale and hill And the dreams are waiting in the fire-light still,

The winter-stillness that is falling deep With healing sweetness—like the breath of Sleep;

From the dark—or gathered where the false light streams,

By the old home-fire ye shall read Love's dreams!"

—Atlanta Constitution.

Meat Cakes.

2 cupfuls chopped cooked meat
3 tablespoonfuls cracker crumbs
2 eggs
2 tablespoonfuls butter
1 small onion
Salt and pepper to taste.

Chop onion very fine. Beat eggs light without separating. Melt butter, add to cracker crumbs, mix with eggs, meat and seasoning. Make into flat cakes and fry quickly in butter or drippings.

Scalloped Apples.

Butter a pudding dish, and put a layer of peeled sliced apples in the bottom. Sprinkle with sugar, a very little flour, and cinnamon, and some small bits of butter. Then put in another layer of apples, and so on, until the dish is filled. Bake one hour, covering the dish to prevent burning on the top. Serve cold or hot.

If the housewife who uses all her energy in her daily work will remember that she keeps house to live and does not live merely to keep house, perhaps she can devise a plan for conserving energy and time, making it possible for her to get more enjoyment out of life.

Breaking the Sabbath.

The lady of the house was hurriedly finishing some work neglected the day before, when the old negro butler happened to pass by.

"Miss Ginnie! Miss Ginnie!" he remonstrated. "You shore is breaking the Sabbath day!"

"But, Uncle Clay," she argued, "the ox is in the ditch, and—"

"Miss Ginnie," broke in the old man, "that ox ain't nothing but a stumbling block for folks to hide behinst. The Scripture do say if he is in the ditch to pull him out; but it don't nowhere say to push him in on Sat'day so as to have de chance to pull him out on Sunday."—Youth's Companion.

Children's Fears.

Many children are made most unhappy, their lives are rendered less useful, and their normal development hindered, by fear of the dark. It is a sin for an older person to knowingly do anything that will create fear in a child. Once planted, it grows, seemingly without nourishment, until it is the biggest and the most awful thing in the young life. It not only retards mental development, but has a very injurious effect upon the nervous system which may bring serious results. Spare the child this fear torture by precept and example which will dispel all thoughts of any reason for such fear.

A Cheerful Prospect.

They had just become engaged.

"What joy it will be," she exclaimed, "for me to share all your griefs and sorrows!"

"But, darling!" he protested; "I have none."

"No," she answered; "but when we are married you will have."

These are the days when sunshine will do valuable disinfecting work if given opportunity. Hang the bedding on the line frequently, roll up the shades and open the windows daily, that the sunshine and air may accomplish their mission.

**KNOX MAPLE SPONGE**

Soak 1 envelope Knox Sparkling Gelatin in 1/2 cups cold water 5 minutes. Put 2 cups brown or maple sugar and 1/2 cup hot water in saucepan, bring to boiling point and let boil 5 minutes. Pour syrup gradually on soaked Gelatin. Cool, and when nearly set, add 2 cups beaten egg whites, and 1 cup nutsmeats chopped. Turn into mold first dipped in cold water and set in cold place to harden. Serve with custard made of yolks of eggs, sugar, a few grains of salt, milk and flavoring.

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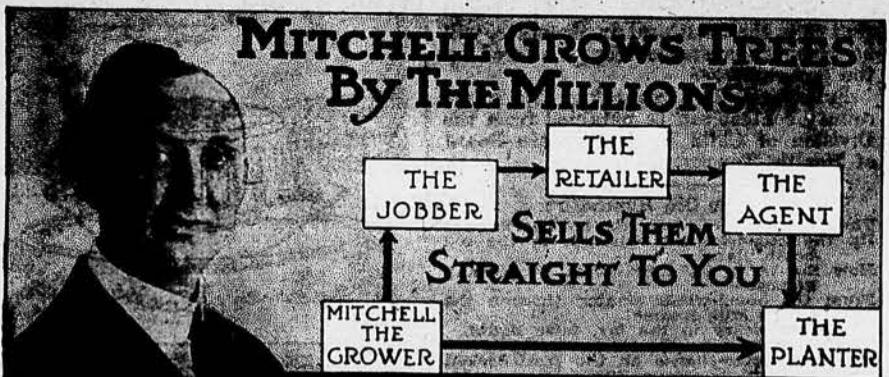
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Every page useful. Price, postpaid, 10c. Pattern Dept. KANSAS FARMER Topeka, Kan.

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Let These Bargains Save You 50% to 75%

No. 1—Apple Collection, 10 select, 6 to 7 ft. trees, 1 Delicious, 2 Stayman, 1 Black Ben, 2 M. B. Twig, 1 Grimes Golden, 3 Winesap. Sold by agents at \$5.00	\$1.50
No. 5—Peach Collection, 10 select, 4 to 5 ft. trees, 3 Elberta, 1 Belle of Ga., 2 Champion, 1 Crawford's Late, 2 Carmen, 1 Heath Cling, gold by agents for \$3.00	\$1.10
No. 11—10 Plum Trees, 3 to 5 ft. Burbank, Abundance, Satsuma, and Wickson, all fine black bearing varieties. Agents charge \$4.00.	\$1.50
No. 13—10 Cherries, 1 yr., 3 to 5 ft., nicely branched. Early Richmond and Montmorency, the two leading varieties. Agents 1916 price \$7.00.	\$2.60
No. 14—Grape Collection, 10 Choice 2 yr. vines, 1 Catawba, red; 3 Concord, black; 2 Niagara, white; 1 Moore's Early, black; 3 Warden, purple. Agents get \$2.00.	\$0.75
No. 15—25 Concord Grape Vines, the most widely planted black grape. Agents get \$1.50.	\$0.50
No. 31—300 Blackberries. Early Harvest, the surest and most productive berry. Succeeds everywhere. Choice root cutting plants, medium size. The greatest bargain ever offered in blackberries. Supply limited—order quickly—make as you want while they last. For 100.	\$3.75
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No. 35—20 Apple Trees, 1 yr., 3-5 ft., best varieties of your locality. Our selection. Agents charge \$6.00.	\$1.80
No. 36—20 Peach Trees, 4-5 ft., varieties to be selected by us expressly for your locality. Agents ask \$5.00.	\$1.70
No. 37—10 Pear Trees, 2 yr., 5-7 ft., extra size.	\$1.25

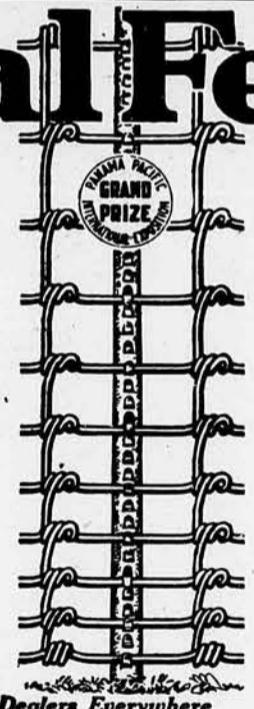
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Write for booklet on how to set posts and erect fence. Every farm owner should have it.

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VEGETABLE seeds, flower seeds, bulbs, slips, vines, shrubs, berry plants, fruit trees—everything for the garden. Barteldes' seeds have grown prize-winning products for upwards of 50 years. Get our beautiful new 1916 catalog with lowest prices for garden and flower seeds in bulk and packet, together with Pink List giving prices of all field seeds in quantities.

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ence, the Farm Guide or Cook Book. Write to nearest address.

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FARMER SOILS FOR APPLE GROWING

DEPTH of subsoil is a necessity for successful apple growing. The presence of Hardpan within three feet of the surface is almost prohibitive. There is no foundation for the popular belief that the presence of stones is useful. Their only benefit is to loosen to some degree the excessive compactness of clayey, still soils which, however, are never the best fitted for fruit growing.

True hardpan is not a clay loam which may under certain circumstances constitute a desirable subsoil, but is a mixture of sand, gravel, soil, and clay with more or less cementing materials which binds the mass together so that the movement of moisture in both directions is seriously impeded. Where hardpan is found close to the surface it can sometimes be broken up by the use of dynamite. This, however, is an expensive process and with the prevailing prices for good orchard lands, it will be better for the fruit grower to select soil which does not require it.

The cultural methods employed in an orchard should always be flexible and adapted to the individual soil characteristics. Thus if the soil is too retentive of moisture, leaving the orchard uncultivated will hasten evaporation. If the soil tends to dry out too quickly, on the other hand, cultivation should be frequent and a good supply of humus maintained by growing leguminous crops. It is better, however, to adapt the varieties to be grown to the soil rather than to attempt to change the nature of the latter.

For any kind of orchard planting the soil should be deep, well drained, and friable, yet not too porous. The exact soil best suited to each variety of apple will depend largely, however, on such climatic factors as the range of temperature, the rainfall, the surface drainage, exposure, etc. If these climatic factors are unfavorable for any given variety the character of the soil will not make it possible to grow this fruit successfully unless it serves to offset the unfavorable conditions. For example, apples ripen earlier on the sandy loam than on heavier soils. Thus a light soil on the north side of a hill may produce earlier fruit than a heavier one on the south side. There are, therefore, many factors which the prospective orchardist should take into consideration before definitely purchasing his land or before deciding what varieties of apples he will select.

The Value of Dwarf Apple Trees.

The commercial orchardist and even the farmer looks upon the dwarf apple as a make-believe. Here they make a mistake. The dwarf apple, like the dwarf pear, has its place, and it bids fair to be even more popular than the year, for it can be more successfully grown. The trees will bear in two or three years from planting, while it takes eight or ten years to get a crop from the standard apples. The fruit of the dwarf trees is just as good as that of the standards of the same variety, and the tree is as healthy. Generally, the fruit on dwarfs is much better than the average standard produces, for the rich soil and better culture that is provided where these trees are planted—usually in the garden—tends to make the fruit superior in size and quality. The leading varieties can all be obtained in dwarfs now.

To the family with the small garden the dwarf apple comes as a boon. A half dozen trees of the sorts that are specially favorites can be planted without using more room than one of the standard trees would require. And in this time of many changes we want to get immediate returns, for the chances are we will not have the opportunity ten years hence. Dwarf trees will produce fruit for several years before the others would start. Where farmers want to sell fruit to a high class market, the dwarf tree will afford the best supply. Planted closely, and given the extra culture possible and profitable, the fruit from a dwarf tree will often bring just as much money as will the fruit from a large tree under ordinary conditions.

Dwarf trees are low enough so the picking is not a difficult task. Pruning and thinning can be more easily done, and spraying is a simple matter. All these advantages should be considered. It is a question in my mind if the dwarf apple will not be a success commercially. It is certain they can be used for fillers to great advantage. If the trees of the standard orchard are planted thirty-six feet apart—many plant them forty feet—two rows of trees can be planted between the rows and two trees between the trees in the row. This will make the dwarf trees twelve feet apart, which is all the room they need. Rows of dwarf apples can be planted around small gardens. Here they can be as close as

feet, being in a single row which will allow the air to penetrate freely from the sides.

In buying the dwarf trees, get from a good nursery and buy only the desirable table fruits. You are not looking for commercial qualities especially. Ben Davis is a showy apple, but I would never plant it for family use. Make it a point to taste and test the cooking qualities of apples, if possible, before planting them. In this way you will get such varieties as will give you satisfaction. Plant for quality and length of season, so you can have fine eating apples from the time the first ones ripen until the new apples the following year are ready for use.—L. H. COBB.

Rag Doll Seed Tester.

To test seed corn easily and effectively, the "rag doll" method can be used. Take a strip of muslin ten inches wide and about five feet long and lay it off in two-inch squares with a margin along each side. The squares can be marked off with a lead pencil.

Lay the ears to be tested out side by side on a board or table. Discard all ears which look too poor to plant. Number the remaining ears to correspond with the numbers in the squares on the germination cloth by fastening a small piece of card board or paper to the butt of each ear with a nail. Moisten the germination cloth by dipping in water. Remove six kernels from ear No. 1, taking the kernels from different parts of the ear and place in square No. 1, germ side up and with the tips of all the kernels pointing in the same direction. In like manner take six kernels from ear No. 2 and place in square No. 2 and so on until all the squares are filled. When all the squares have been filled, again moisten the cloth by sprinkling and roll up carefully so that none of the kernels will be displaced. Tie a string around the center of the roll just tight enough, but not too tight, to hold the kernels in place. Place the rolls containing the kernels into a pail, standing them on end with the tips, or small ends of the kernels, pointing downward. Don't pack the rolls in tight. Ten or twelve rolls in a ten quart pail are sufficient. Fill the pail with warm water. Set it on several thicknesses of newspaper or wrapping paper, and fold over to retain the heat. In three to twelve hours unwrap, drain off the water, and then cover top ends of the rolls with wet cloth and again wrap up as before.

The rolls must be kept moist. In about two days it is always best to remove the newspapers and cloth. Fill the pail with warm water again and let stand for five or ten minutes until the rolls are thoroughly soaked, then drain off as before and replace the covering. Keep the pail in a room where it will not get too cold at night. Don't let it freeze under any circumstances.

In seven or eight days when the stem sprouts are about two inches long, unroll the cloth carefully so as not to misplace the kernels. Examine the kernels in each of the squares and save for planting only those ears the kernels of which show strong, vigorous root and stem sprouts.

Discard all ears the kernels of which show one or more dead kernels, weak sprouts, or kernels affected with mould, which kills the sprouts after they have started.

After the seed has been sorted, tested, shelled and graded for the planter, and the bad kernels removed, it should be placed in half-bushel sacks and hung up in a dry place.

Pruning Rose Bushes.

Climbing roses should not be pruned at this time except for the removal of surplus or interfering branches. Every bit of wood removed now reduces the amount of bloom the plant will bear during the coming season. Roses used in border planting should be treated in exactly the same way as other shrubs, except that many of these species will be improved by having all their old wood cut away once in every five or six years. This would mean cutting all the old canes off within three or four inches of the ground and forcing the bush to throw up entirely new wood.

Roses used for cut flowers, like the hybrid perpetuals, the hybrid teas, and teas, should be severely pruned. The hybrid perpetuals may be cut as soon as freezing weather is past. Pruning of the hybrid teas and teas, however, should be left until the young growth has started. In both cases the plant should be cut to within six inches of one foot of the ground. Four or six eyes to a stem is about the proper amount of wood to leave.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardy enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 300,000 readers for 4 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.

HELP WANTED.

LADY OR GENTLEMAN TO TRAVEL for old established firm. No canvassing. Salary, \$18 weekly, pursuant to contract. Expenses advanced. Address G. M. Nichols, Pepper Bldg., Philadelphia, Pa.

WANTED—FARM HAND FOR GENERAL work, including dairy work. Good wages for right man. State qualifications, habits, age and salary wanted. L. H., care Kansas Farmer.

WANTED AT ONCE A GOOD FARM hand. Must be a good milker. No boozers, dope or cigarette fiend need apply. Good home and steady employment for right party. J. P. Mast, Scranton, Kan.

YOUNG MAN, WOULD YOU ACCEPT A tailor-made suit just for showing it to your friends? Then write Banner Tailoring Co., Dept. 277, Chicago, and get beautiful samples, styles and a wonderful offer.

FARMERS GET \$75 MONTH. MEN AND women. U. S. Government jobs. Short hours. Easy work. Common education sufficient. Write immediately for list of positions now obtainable. Franklin Institute, Dept. H82, Rochester, N. Y.

TELEGRAPHY—MORSE AND WIRELESS. Also station agency taught. R. R. and Western Union wires and complete Marconi wireless station in school. Graduates assisted. Marconi Co. employs our wireless graduates. Low living expense—easily earned. Largest school—established forty years. Investment \$25,000. Correspondence courses also. Catalog free. Dodge's Institute, Bonner St., Valparaiso, Ind.

REAL ESTATE.

CALIFORNIA FARMS FOR SALE—Terms. Write E. R. Waite, Shawnee, Okla.

OZARKS OF MISSOURI, FARMS AND timber lands, from \$5 to \$40 per acre. Write for list. Avery & Stephens, Mansfield, Mo.

SOUTHERN FARMS—MISSISSIPPI, ARKANSAS, Tennessee. Send for booklet. Martin & Cole, Memphis, Tenn.

IF YOU WANT TO SELL OR EXCHANGE your farm, write us. Black's Business Agency, Desk C, Chippewa Falls, Wis.

WANTED—TO HEAR FROM OWNER OF good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

FENCED PASTURE WITH RUNNING water. Section 31, Alta Township, Harvey County, Kansas. Address Peimella Cone, 1533 College Ave., Topeka, Kan.

FOR SALE—160 ACRES FINE SMOOTH wheat land, 125 acres in wheat, 5 miles south town. Write owner, P. M. Imel, Scarville, Kan.

FOR SALE—A MODERN HOME IN Topeka, located on a good street, near school and business district; two lots, modern seven-room house, barn, a choice location. Will sell at a bargain. No trades. Address Z. care Kansas Farmer.

400 ACRES SOUTH PLATTE VALLEY, Northeast Colorado; some irrigated, good improvements, one mile town, on Union Pacific. Want farm in lower altitude or residence in college town. A. B. Lawson, Orchard, Colo.

FARMS WANTED—WE HAVE DIRECT buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 43 Palace Bldg., Minneapolis, Minn.

IN THE WORLD'S BEST CLIMATE—the immigration office of the Elephant Butte Water Users' Association, Las Cruces, N. M., invites the homeseeker's attention to the unequalled opportunities for dairying and general farming on Uncle Sam's greatest irrigation project. Only 45 cloudy days and 8.82 inches rainfall per annum. Association shows lands, supervises sales, protects purchaser's interests, helps him to succeed. Write us.

FOR SALE OR EXCHANGE—A FINE 7-room residence and garage near by, both positively in excellent condition; located in corn belt of Illinois in good live town; good location, rents all the time to good people; residence for \$15 and garage for \$12 a month, always paid in advance and has never been idle. Price, \$7,000; encumbrance, \$2,000. Bank loan 6 per cent, 5 years. Will stand more. I want good clear farm for my equity or would take good clear wheat land not too far west. Also fine 40-acre farm home, Angelzale Co., Ohio, \$8,000. Encumbrance, \$2,700. Will exchange for good clear western farm or land. Address owner, George W. Holl, New Knoxville, Ohio.

HORSES AND MULES.

SHETLAND PONIES, GELDINGS, MARES and colts, all colors. C. H. Clark, Lecompton, Kan.

11-WORTH COUNTY JACK FARM—Twenty head of jacks and jennets, big boned and wide out. Corson Bros., Potter, Kan.

FIVE GOOD SOUND BLACK REGISTERED jacks, guaranteed right every way, \$350 to \$700. Might trade for registered draft, Coach or Morgan. Lewis Cox, Concordia, Kan.

FOR SALE—VERY REASONABLE, REGISTERED PERCHERONS. Five Imported Percheron Society mares, two Percheron Society fillies, one French Draft and her weanling stud colt. A. G. Hamer, Route 5, Lincoln, Neb.

FOUR BIG BLACK REGISTERED jacks, coming three and four years old, 15 to 16 hands. One first and one second prize winner Kansas State Fair 1914 and all sired by champion Tennessee and Kansas State Fair. For sale or would trade on or all for horses, mules or cattle, within 100 miles. J. W. & E. E. Stormont, Dighton, Lane Co., Kan.

CATTLE.

REGISTERED JERSEY BULL PERCY Lill, Mt. Hope, Kan.

GALLOWAY BULLS FOR SALE. REGISTERED. J. W. Priestley, Holcourt, Kan.

FOR SALE—HIGH-GRADE HOLSTEIN cows and heifers, all ages. R. N. Martin, Blue Mounds, Wis.

FOR SALE—PURE-BRED GUERNSEY bulls, unregistered yearling bull, registered bull calf. Adams Farm, Gashland, Mo.

TWO REGISTERED HOLSTEIN BULLS, ready for service, related to world's champion. E. E. Klefer, Lawrence, Kan.

HIGH GRADE HOLSTEIN CALVES—Heifers, \$17; bulls, \$15; registered Holstein bull calves, \$35. Findlay Bros., Whitewater, Wis.

BREED LARGER JERSEYS.—"MODDER's Guernsey Lad" will help. For pedigree and price write C. S. Walker, Route 1, Macksville, Kan.

FOR SALE—REGISTERED GUERNSEY bull calves, grandsons of Masher's Sequel. Seventy-four A. R. O. daughters. Also yearling bull. R. C. Krueger, Burlington, Kan.

FOR SALE—ELEVEN MONTHS OLD pure-bred Guernsey bull. Sired by "Bernice's Duke" by Alpha's Duke 14491, herd bull at Kansas State Agricultural College, 1912. A. C. Larson, Galva, Kan.

MISCELLANEOUS.

FERRETS, FERRETS, RABBITS, GUINEA Pigs, Toulouse Geese. (Jewell), Spencer, O.

2,000 FERRETS FOR SALE. T. BREMAN Co., Danville, Ill.

DETECTIVE—COMPLETE COURSE, \$2; directory, \$2. National Agency, Bigheart, Okla.

MONEY TO LOAN ON IMPROVED KANSAS farm lands. All negotiations quickly closed. No delays. A. T. Reid, Topeka, Kan.

FOR SALE—LATEST PLAT BOOK OF Shawnee County, 44 pages, size 14 x 19 inches. Shows each township in the county, with name of each property owner on his land, also rural routes, school houses, railroads and complete alphabetical list of taxpayers in county outside Topeka and Oakland. Satisfaction guaranteed. Cloth binding, \$5.00. To close out remaining Bristol board binding will sell a year's subscription to Kansas Farmer and Plat Book for only \$1.50. Last previous county map sold for \$10. Send all orders to Kansas Farmer, Topeka, Kan.

SILOS.

MONOLITHIC SILO BUILDER, BUILDS a reinforced concrete silo on your ground. Manufactures every detail from chute to window. Any farmer can operate it. Only ten days to have complete silo set up and in use. Is absolutely a great money saver. Details, photographs and experiences of others sent you for the asking. Address E. H. Euler, 114 Kansas Ave., Topeka, Kan.

PATENTS.

PATENTS PROCURED. INQUIRE ABOUT our \$100 cash prize. Free advice. Free search. Free official drawings. Capital Patent Co., Dept. E, Washington, D. C.

NURSERY STOCK.

TEN ELBERTA PEACH TREES FOR 75¢ postpaid. Fruit book with wholesale prices free. Wellington Nurseries, Dept. G, Wellington, Kan.

HIGHEST QUALITY, LOWEST PRICES, nursery stock and small fruits wholesale. No agents. Free list. Highland Nurseries, Waukon, Iowa.

BERMUDA GRASS.

BERMUDA GRASS—HARDY, RANK growing variety. Stands floods, droughts, hot winds and severe freezing. Best and hardest pasture grass. Great milk producer. Write today for leaflet telling how to get started. Henry Jefferies, Ottawa, Kan.

HEDGE POSTS.

HEDGE POSTS FOR SALE—CAR LOTS. H. W. Porth, Winfield, Kan.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

SITUATION WANTED.

MARRIED MAN WANTS SITUATION ON farm, wife to do cooking. Reference. C. E. Miller, Garnett, Kan.

WANTED—STEADY EMPLOYMENT ON western cattle ranch by young man. Address Leo Wilson, Route 10, Winfield, Kan.

WANTED—WORK ON FARM BY SINGLE young man, experienced in general farming. Can furnish best references. Address L. E. Boyce, 229 Fifth Ave., Homestead, Pa.

WANTED—STEADY WORK ON FARM, experienced hand, age 30 years. A. H. Sprinkle, Jonesville, Va., Route 3, Box 43.

YOUNG LADY, TEACHING AT PRESENT, wants housework in country after April 1. \$5 with washing, \$4 without. Several years' housekeeping experience. Miss B. care Kansas Farmer.

MARRIED MAN WITH FAMILY WANTS work on farm; experienced, good habits. Would farm on shares, everything furnished. References. R. S. Brooks, 912 Fifth Ave., Leavenworth, Kan.

TREES, SEEDS AND PLANTS.

300 RUSSIAN OLIVE TREES, SIX TO ten feet. Farrar Nursery, Abilene, Kan.

NORTHWEST KANSAS ALFALFA FOR SALE. Geo. Bowman, Logan, Kan.

SEED CORN. BRUCE SAUNDERS, HOLTON, Kan.

PURE ST. CHARLES SEED CORN, \$1.25 per bushel. Frank Crosby, Route 2, Belvue, Kan.

FOR SALE—YELLOW DENT SEED corn, "Extra Good." Also German millet seed. Wm. Mortl, Leon, Kan.

EXTRA GOOD SELECTED YELLOW Dent seed corn, will test 95 per cent, \$2 per bushel. R. Sonnenmoser, Weston, Mo.

SEED CORN FOR SALE—WHITE ELEPHANT, largest yielding early corn grown. G. Manville, Faustett, Mo.

TREES AT WHOLESALE. CATALOG free. Agents wanted. Peyton Nurseries, Boonville, Mo.

ALFALFA, SUDAN GRASS, CORN, other seeds. Free samples. F. D. DeShon, Route 4, Logan, Kan.

500 BUSHELS CHOICE PURE "COMMERCIAL WHITE" seed corn. High germination. Sacks free. E. D. King, Burlington, Kan.

GROIT COWPEAS, PURE, \$2.50; MIXED cowpeas, car lots. Two plantations. Ed McGehee, Pinckneyville, Miss.

FOR SALE—UNHULLLED SWEET CLOVER seed. Two-bushel sack, \$7. George F. Lester, Delta, Colo.

ALFALFA SEED, FANCY, RECLEANED, \$12 per bushel. Theo. Smith & Son, Phillipsburg, Kan.

PURE WHITE BLOSSOM SWEET CLOVER seed. Hulled, \$10 per bushel. J. W. Flatt, Norwich, Kan.

PURE WHITE BLOSSOM SWEET CLOVER seed, \$10 bushel. Sample free. H. E. Daws, Norwich, Kan.

RED TEXAS SEED OATS, DIRECT FROM Texas. Recleaned, graded and sacked, 70 cents per bushel f. o. b. Hiawatha, Kansas. Brown County Seed House, Hiawatha, Kan.

McGEE TOMATO—1,200 BUSHELS PER acre. Please send your address for the proof of this great fact. M. C. McGee, San Marcos, Texas.

GARDEN AND FIELD SEEDS—COMPLETE catalog with lowest prices free. The Barteldes Seed Co., 1807 Mass St., Lawrence, Kan.

PURE-BRED DROUGHT-RESISTING SEED corn, over 100 bushels per acre on upland, \$1.50 per bushel. J. J. McCray, Manhattan, Kan.

SUDAN SEED, NORTHERN GROWN, RECLEANED, 10c per pound; 8c on 100 pounds or more. Get neighbor to join. H. H. Townsend, Wellington, Kan.

ALFALFA SEED—BLOODY BUTCHER White Elephant and Iowa Silver Mine seed corn. I have it. Write for prices. Geo. E. Bass, Yukon, Okla.

ALFALFA SEED—KANSAS GROWN, fine germination, \$9.50 bushel while it lasts. sacks free. Brooks Wholesale Co., Ft. Scott, Kan.

BROOM CORN SEED—"STANDARD Dwarf," best quality planting seed; \$2.50 bushel, \$1.50 half bushel. F. T. Ward Seed Dept., Higgins, Texas.

MILLET SEED—I HAVE A QUANTITY of choice German millet seed for sale. Recleaned and fine. Ask for samples and price. Ed Fulcomer, Belleville, Kan.

PURE BRED SEED CORN, FULLY TESTED and guaranteed. Boone County White, Hildreth and Reid's Yellow Dent. M. T. Kelly, 106 Arter Avenue, Topeka, Kan.

WHITE BLOSSOM SWEET CLOVER seed, guaranteed pure white. Hulled, \$10 per bushel, 60 pounds. Funston Bros., Farmers, Carlyle, Kan.

PURE GOLDMINE AND BOONE COUNTY White seed corn. Selected, graded, sacked. \$1.50 per bushel. Samples free. J. F. Feigley, Enterprise, Kan.

RED CEDAR TREES THAT WILL GROW FOR YOU. Windbrake and beauty for the farm and home. Transplanted, budded, plants, plant early and firm. Specialty of ornamentals. Farrar Nurseries, Abilene, Kan.

SCARIFIED SWEET CLOVER, ALSO SUDAN grass, alfalfa, White Wonder, millet, and all field seeds. Write for catalog and prices. The Barteldes Seed Co., 1707 Mass. St., Lawrence, Kan.

FRUIT AND SHADE TREES, ORNAMENTALS, EVERGREENS, STRAWBERRY PLANTS, SPRAY PUMPS, SPRAY MATERIAL, GARDEN IMPLEMENTS. SEED CORN, OUR OWN GROWING. FALLS CITY NURSERY, FALLS CITY, NEB.

SUDAN, 100 POUNDS \$7.50 PREPAID IN Kansas and Oklahoma; \$8 prepaid Nebraska, Iowa, Missouri, Arkansas. Less amounts, 10c per pound prepaid. Claycomb Seed Store, Guymon, Okla.

STRAWBERRY PLANTS, RHUBARB roots, seed sweet potatoes and plants, sweet clover, grass seeds, sorghum seed, Canada peas, etc. Write for list. Southwestern Seed Co., Dept. G, Fayetteville, Ark.

PURE SUDAN GRASS SEED, NORTHERN grown, fancy quality and free from Johnson grass, at \$8 per hundred. Southern grown Sudan seed at \$6 per hundred. The Gould Grain Company, Dodge City, Kan., Drawer 718.

PURE CLEAN SUDAN GRASS SEED, grown from certified seed, inspected in the field while growing, thoroughly cleaned, 25 pounds \$2, 50 pounds \$3.50, 100 pounds \$5, f. o. b. Lubbock. Wheelock Seed & Grain Co., Lubbock, Texas.

PURE SEED CORN THAT WILL GROW. Test from 98 to 100 per cent. Grown on our own farms, hand picked, nubbed, shelled, graded, tested, sacked and delivered to any railroad station in Missouri or Kansas for \$2.50 per bu. We pay the freight. M. A. Violette & Son, Florida, Mo.

SWEET CLOVER AND ALFALFA SEED—White flower hulled sweet clover, 14c; unhulled, 10c per pound. Alfalfa seed, 18c, 18c and 20c per pound. Seamless bags, 25c each. Home grown, non-irrigated and re-cleaned. Samples and delivered price on request. The L. C. Adam Mercantile Co., Cedar Vale, Kan.

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RELIABLE POULTRY BREEDERS

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LEGHORNS—SETTING EGGS, BUFF, \$4 hundred. Jessie Crites, Florence, Kan.

SINGLE COMB BROWN LEGHORN cockerels, good stock, \$2.50. J. J. Stalder, Meade, Kan.

ROSE COMB BROWN LEGHORN EGGS—Heavy laying strain. M. E. Hoskins, Fowler, Kan.

SINGLE COMB WHITE LEGHORN EGGS, \$3.50 per hundred. Heavy laying strain. Mrs. Edw. Dugan, Route 31, Montrose, Mo.

SINGLE COMB BROWN LEGHORNS—Wittman, the great laying strain. Eggs, \$3 per hundred. Ross Simpson, Palmer, Ill.

ROSE COMB BROWN LEGHORN EGGS, fifteen, \$1; thirty, \$1.50; hundred, \$4. Mrs. Frank Seaman, Cedar Vale, Kan.

SINGLE COMB WHITE LEGHORNS EXclusively. Eggs, \$5 per hundred. Mrs. J. G. Olson, Dwight, Kan.

PURE-BRED ROSE COMB WHITE LEGhorn eggs, \$5 per hundred, \$2.50 per fifty, \$1 per fifteen. Jennie Martin, Frankfort, Kan.

EGGS—REDUCED PRICE, SINGLE COMB White Leghorns, Keep-laying strain. Thol. R. Wolfe, Conway Springs, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, hundred, \$3. Eighth year. Mrs. D. A. Woehler, Hillsboro, Kan.

SINGLE COMB WHITE LEGHORN EGGS—Hundred, \$5; fifteen, \$1. Mrs. Mabel Sullivan, Route 7, Abilene, Kan.

SINGLE COMB BROWN LEGHORNS—Pullet mating only. Tiff Moore, Osage City, Kan.

R. C. B. LEGHORN EGGS FOR HATCHING, 75¢ per fifteen, \$2 per fifty, \$3 per hundred. Blue Grass Stock Farm, Oneida, Kan.

BRED TO LAY WHITE LEGHORNS—None better. If you are interested in greatest egg laying machine on earth, write Pleasant View Poultry Ranch, Peabody, Kan.

ROOF'S SINGLE COMB BROWN LEGhorns. Twenty-four prizes at state show, including ten firsts, eight seconds. W. J. Root, Matze, Kan.

S. C. WHITE LEGHORNS—EGGS, \$2.50, from my prize winning pen. Utility stock, \$6 per hundred. Also baby chicks, 12¢ each. Mrs. M. Kettering, Route 4, Wichita, Kan.

ROSE COMB BROWN LEGHORNS—Exhibition and utility cockerels and eggs cheap. Write for prices. Mrs. John Holzhey, Bendena, Kan.

FOR SALE—PRIZE WINNING SINGLE Comb White Leghorns, \$2 to \$2.50 each. Eggs, 5 cents. Chicks, 10 cents. Clara Colwell, Smith Center, Kan.

WINTERLAY S. C. WHITE LEGHORNS—Bred for egg production exclusively. Day-old chicks. Hatching eggs. Barlow & Sons, Kinsley, Kan.

S. C. BROWN LEGHORNS, STOCK AND eggs. Prices reduced for farmers' trade. Write wants. H. C. Short, Leavenworth, Kan.

S. C. B. LEGHORN EGGS EXCLUSIVE, 90¢, setting fifteen; incubator lots, \$4 hundred. Mrs. A. J. Taylor, Route 5, Newton, Kan.

SINGLE COMB WHITE LEGHORNS—Official egg records, Missouri Experiment Station. Harmon, 400½ South X, Springfield, Mo.

WELDAY'S STRAIN SINGLE COMB Brown Leghorns. Prize winners. Grand layers. Choice eggs, 75¢ for fifteen. John W. Moore, Hendrickson, Mo.

SINGLE COMB WHITE LEGHORNS EXclusively. Eggs, fifteen, \$1; hundred, \$5. Fertility guaranteed. Sunnyside Egg Farm, Box C, Hallowell, Kan.

"HARDSCRABBLE" STRAIN S. C. W. LEGHORNS. Bred eleven years from best layers. Eggs, \$5 per hundred. Large orders desired. E. M. Wheeler, Jefferson, Kan.

EGGS FROM HIGH SCORING SINGLE Comb White Leghorns, \$1 per fifteen, \$5 per hundred. Rhode Island Whites, \$3 for fifteen eggs. Shetland Pony Farm, Coffeyville, Kan.

SATISFACTION STRAIN OF ENGLISH White Leghorn hatching eggs, \$1.50 per setting, \$7 per hundred. Satisfaction guaranteed on shipments. Sidney Williams, Route 5, Box 6, Springfield, Mo.

PURE SINGLE COMB WHITE LEGHORN eggs. Young-Frantz-Yesterlaid strains. Fifteen, \$1; hundred, \$4. Chicks, hundred, \$10. Satisfaction guaranteed. Mrs. C. G. Cook, Lyons, Kan.

SINGLE COMB WHITE LEGHORNS—Winning stock mated with winning male, Des Moines, 1916. Eggs, this mating, \$3.50, fifteen. Eggs from stock with egg records of 200 to 250, \$5, fifteen. Range eggs, \$1.50, fifteen. All stock trap-nested. F. Lefebvre, Scammon, Kan.

LAKESIDE POULTRY FARM OF PEERless D. W. Young and Barron strains of S. C. White Leghorns, bred to win and lay. Won at Fredonia, Kan., 1915, six firsts, \$15 cup for best birds in show in strong class; Topeka, second cock, first, third cockerel, first, third pullet. Write for prices. Eggs in season. A. K. Sell, Fredonia, Kan.

POULTRY WANTED.

PAYING 14¢ FAT HENS, TURKEYS 17¢, No. 1 capons 16¢, guineas dozen \$4. Coops loaned free. The Copes, Topeka.

PAYING HIGHEST PRICES FOR POULTRY and eggs. Coops loaned free. Selling egg cases, 15 cents. Edward E. Witchey, Topeka, Kan.

COCHINS.

PARTITION COCHINS—ALL FULL-blooded stock, prize winners. Fifteen eggs, \$2. Hens or pullets, \$2 each; cockerels, \$4 each. Nicholas Bach, Hays, Kan.

PLYMOUTH ROCKS.

BARRED ROCK EGGS, FIFTEEN, \$2; hundred, \$8. Christina Bazil, Lebo, Kan.

BARRED ROCKS—EGGS, \$3 PER HUNDRED. Earl Summa, Gentry, Mo.

BUFF ROCKS—EGGS FOR HATCHING. Prices reasonable. Write for list. William A. Hess, Humboldt, Kan.

WHITE PLYMOUTH ROCK COCKERELS—Large birds. Eggs, \$2 per fifteen. W. W. Pressly, Meade, Kan.

DUFF'S BIG-TYPE BARRED ROCK eggs. Federation medal winners. A. H. Duff, Larned, Kan.

BARRED PLYMOUTH ROCKS—FARM-bred, beauties. Eggs, 4 cents each. Mrs. W. C. Bocker, Solomon, Kan.

PURE-BRED BARRED PLYMOUTH ROCK EGGS, \$1 per setting, \$5 per hundred. Mrs. Thos. VanOrsdol, Route 11, Silver Lake, Kan.

EGGS FROM PRIZE WINNING BUFF ROCKS, \$1.50 setting. C. S. Hart & Sons, Milan, Mo.

WHITE ROCK COCKERELS FROM BLUE ribbon winners, \$1 to \$2. Eggs, \$3 per hundred. Nora Lamaster, Hallowell, Kan.

WHITE ROCKS, SIZE AND QUALITY. Eggs, fifteen, \$1; fifty, \$3; hundred, \$5. G. M. Kretz, Clifton, Kan.

RINGLET BARRED ROCKS—BEST blood lines. Satisfaction guaranteed. T. J. Embry, Baxter Springs, Kan.

BARRED ROCKS—LAYERS, WINNERS, yard eggs, fifteen, \$2; utility, fifteen, \$1; hundred, \$6. A. G. Hammond, Vinland, Kan.

BARRED ROCK EGGS, FARM RANGE, \$5 hundred. Yards, \$2 per fifteen. E. Leighton, Effingham, Kan.

WHITE ROCKS, PURE-BRED, FARM range. Eggs, fifteen, 75 cents; hundred, \$3. H. F. Richter, Hillsboro, Kan.

BUFF ROCKS—EGGS FOR HATCHING. Prices reasonable. Mrs. Wm. Small, Willoughby, Kan.

"RINGLET" BARRED PLYMOUTH ROCK EGGS, thirty for \$2, 100 for \$6; carefully selected and packed. Early chicks pay best. Harper Lake Poultry Farm, Jamestown, Kan.

WHITE ROCKS—EGGS FROM LARGE vigorous range birds, heavy laying strain, setting, \$1; hundred, \$5. S. R. Blackwelder, Isabel, Kan.

MY BARRED ROCK BIRDS AND MATINGS are better this season than ever before, and prices for eggs less. Mrs. H. E. Gonder, Box 664 F, Wichita, Kan.

BUFF AND WHITE ROCK EGGS, Hutchinson and Topeka champions. Fifteen eggs, \$1; hundred, \$5. W. H. Beaver, St. John, Kan.

WHITE ROCKS, WHITE RUNNER Ducks. Descriptive folder free. Booking egg orders now, from fine exhibition and laying strains. Priced right. E. R. Maffa, Neal, Kan.

BARRED ROCKS—SEVENTY-ONE PREMIUMS. Topeka, Manhattan, Clay Center, Denver, cockerel matings. Eggs, Pens 1 and 2, fifteen, \$3, thirty, \$5; Pen 3, fifteen, \$2. Miss Mattie A. Gillespie, Clay Center, Kan.

BUFF ROCKS—EGGS FROM LARGE STOCK, \$1.50 per setting of fifteen; five settings for \$6. Mrs. S. L. Hill, Burlington, Kan.

EGGS—SILVER LACED WYANDOTTES, fifteen, \$1; fifty, \$3. Rouen, Pekin and Muscovy duck eggs, eleven, \$1. Fred Kucera, Clarkson, Neb.

WYANDOTTES.

"BEAUTY" SILVER WYANDOTTES, \$1.50 to \$5. Write Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE EGGS—SEND FOR catalog. B. M. Stephenson, Cawker City, Kan.

WHITE WYANDOTTE EGGS FROM utility and show birds. G. D. Willems, Inman, Kan.

EXTRA GOOD WHITE WYANDOTTES—Regal strain. Fifteen eggs, \$1.50; thirty, \$2.50. M. L. VanOrnam, Superior, Neb.

PARTTRIDGE WYANDOTTES—EGGS, \$1.25, from winning stock. Jacob Klassen, Inman, Kan.

COLUMBIAN WYANDOTTE SETTING EGGS, 75¢ if ordered during next month. James Kerr, Sr., 1027 Arch, Topeka, Kan.

PARTTRIDGE WYANDOTTE EGGS, \$1.00 for fifteen, \$3.00 for fifty. No better ones at any price. Geo. Guilford, Centralia, Kan.

BUY A FEW SETTINGS OF GUTHRIE'S White Wyandotte eggs and improve your flock. \$4 per hundred, \$1 per setting. Geo. Guthrie, Exeter, Neb.

WHITE WYANDOTTE EGGS FROM prize winning stock, \$1.50, thirty, \$4.50 hundred. Some choice cockerels for sale. Mrs. Will Beightel, Holton, Kan.

PURE-BRED SILVER WYANDOTTES EGGS, \$1.50 per setting of fifteen; five settings for \$6. Mrs. S. L. Hill, Burlington, Kan.

EGGS—SILVER LACED WYANDOTTES, fifteen, \$1; fifty, \$3. Rouen, Pekin and Muscovy duck eggs, eleven, \$1. Fred Kucera, Clarkson, Neb.

BRAHMAS.

LIGHT BRAHMAS—FIFTEEN EGGS, \$3. Hens, \$2. Nicholas Bach, Hays, Kan.

EGGS FOR HATCHING FROM PRIZE winning Light Brahmams. Write for prices. Mrs. Evelyn Getty, Downs, Kan.

DARK BRAHMAS—FIFTEEN EGGS, \$3. Pullets or hens, \$2 each. Cockerels, \$5. Nicholas Bach, Hays, Kan.

WARD'S LIGHT BRAHMAS, BARRED Rocks, S. C. W. Leghorns. Send for catalog. Nine yards mated. W. H. Ward, Nickerson, Kan.

LIGHT BRAHMAS EXCLUSIVELY—Cockerels and eggs from carefully mated range flock, \$1.25 per fifteen or \$4 per hundred. Mrs. Mark Johnson, Bronson, Kan.

LIGHT BRAHMAS OF GOOD QUALITY—Large stock bred from our show winners. If you want something fine, write us for prices. We guarantee satisfaction. Schreiber Farm, Sibley, Iowa.

BIG HUSKY FARM-RAISED LIGHT Brahmams. Eggs from St. Louis, Kansas City and Chicago winners, \$3 to \$5 per fifteen. Fine stock for sale. Mrs. W. G. Robinson, Bowling Green, Mo.

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SINGLE COMB MOTTLED ANCONAS, heavy layers. Stock and eggs for sale. Write Fred K. Stevens, Seymour, Iowa.

ANCONAS—FAMOUS SHEPPARD STRAIN—Eggs from sweepstakes winners. Quality and prices right. Write for particulars. Frank Glenn, Newton, Kan.

EGGS FOR HATCHING—ANCONAS, 75¢ per fifteen, \$5 hundred; Rose Comb Rhode Island Red, 75¢ per fifteen, \$5 hundred. Mrs. John Smutny, Irving, Kan.

ANCONAS—STRONG, VIGOROUS, FARM raised stock. Eggs, \$5 per hundred, \$1 per setting. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

ANCONAS OF SHEPPARD'S FAMOUS strain. Eggs all season, \$2, \$1.50, \$1 per eighteen. Mrs. Huldah Hudson, Route 1, Marionville, Mo.

BABY CHICK FEED.

FINE QUALITY BABY CHICK FEED, \$1.75 cwt. f. o. b. Ft. Scott, Kan. "Brooks Best" Calf Meal, \$3.25 cwt. Brooks Wholesale Co.

BABY CHICKS.

ROSE COMB RED BABY CHICKS, EGGS. Order soon. Lily Robb, Neal, Kan.

YOU BUY THE BEST BABY CHICKS, guaranteed, at Colwell's Hatchery, Smith Center, Kan.

BABY CHICKS—REDS, ROCKS, LEGHORNS, 12½¢. Eggs also. Request circular. McCune Hatchery, Dept. M, Ottawa, Kan.

BABY CHICKS—FIRELESS HOT WATER brooder—can't freeze water fountain. Get our circular. Kansas Poultry Company, Norton, Kan.

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EXTRA BIG SCORED BLACK LANGSHAN EGGS. H. Osterfoess, Hedrick, Iowa.

BLACK LANGSHAN EGGS AND BABY chicks. Choice stock. Write. Mrs. Geo. W. King, Solomon, Kan.

EGGS FROM VIGOROUS PURE-BRED White Langshans, \$1 per setting, \$5 per hundred. Mrs. Arta Crayen, Maryville, Mo.

HIGHEST CLASS LANGSHANS—PEN A is headed by a 96 cockerel. Catalog free. J. A. Lovette, Poultry Judge, Mullinville, Kan.

BLACK LANGSHANS—EGGS FROM blue ribbon and sweepstakes winners; pen and range. Mrs. D. A. Swank, Blue Mound, Kan.

BLACK LANGSHANS—EGGS, FIFTEEN, \$1, \$1.25 by mail; one hundred, \$4, \$5 by mail. Baby chicks, 15¢. Mrs. J. B. Stein, Smith Center, Kan.

(Poultry Ads Continued on Next Page.)

LINDAMOOD'S BARRED ROCKS—BOTH matings. Better than ever. Silver cup and sweepstakes winners. Eggs from pens, \$3 and \$5 per fifteen; utility, \$5 per hundred. C. D. Lindamood, Walton, Harvey County, Kansas.

WHITE PLYMOUTH ROCKS STILL hold their popularity. Barring one, they were the largest class at the World's Fair at San Francisco. Good to lay, good to eat and good to look at. I have bred them exclusively for twenty-four years and they are one of the best breeds extant. Eggs from first-class birds, the same kind I hatch myself, \$2 per 15, \$5 per 45, and I prepare express or postage to any part of the Union. Thomas Owen, Route 7, Topeka, Kan.

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WHITE WYANDOTTES, WORLD'S FAIR winners. Mammoth Pekin White Runners and Buff Ducks, Mammoth Bronze Turkeys. Eggs for hatching. Circular free. Mrs. A. J. Higgins, Effingham, Kan.

QUALITY WHITE WYANDOTTES—THE kind that win the blue, the kind that pay. Why? Because they lay; strong and vigorous; broad backs, round, full breasts and stout yellow legs; stock and eggs for sale. A trial order solicited. Square Deal Poultry Farm, G. W. Morris, Prop., Exeter, Neb.

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**"Selecting and Developing the Jersey Herd"**

Is a booklet by Prof. Hugh G. Van Pelt. It tells how you can build a well-developed, money-making Jersey herd by proper selection and judicious breeding. The future of your dairy herd depends upon how you select your foundation animals and how they and their offspring are developed. The Jersey cow combines beauty with dairy conformation. Healthy, vigorous and profit-producing, she lifts the mortgages and increases bank accounts. Send for book today.

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60 - HEAD JERSEY CATTLE - 60**

May 20, 1916.

Send for catalog.

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SUNSET "CORRECT TYPE" JERSEYS
The famous Blue Belle-Golden Rosebay breeding. A few bred heifers and young bulls for sale, singly, pair or trio. Send for circular giving description of herd, breeding, production, etc., and mention your wants.
The Ennis Stock Farm, Horine Station, Mo.
(Just South of St. Louis.)

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Calves, yearlings and two-year-old bulls, sired by Sultan's Trinity King, Fern's Baby Boy and Majesty Western King. From dams that will give 1,000 pounds of 5 per cent or more, a month. Also some choice young Poland China boars.
DR. J. H. LOMAX, Station D, St. Joseph, Mo.

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For Sale—A few great young bulls, ready for light service. Splendid individuals of most popular breeding, sired by Blue Belle's Owl 79641 and H. F. Golden Fern's Lad 9th 101728, all out of great dams. Only bulls from our very best cows, raised and offered for sale. You must buy a good one if you buy here. Address
BOLLA OLIVER, Box 701, St. Joseph, Mo.

LINSCOTT JERSEYS.
First Register of Merit Herd in Kansas—Established 1878.
Oakland Sultan, First Register of Merit sire in Kansas, is dead. Last chance to get one of his daughters. \$100.
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One 2-year-old, two 1-year-old bulls, choice individuals. Thirty cows and heifers, solid colors, a nice lot. Come or write your wants and about the amount you wish to pay. Will describe the best I have for the price. No cows under \$100.
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Geo. McAdam, Holton, Kan.

SHORTHORNS.
E. E. Heacock & Sons, Hartford, Kan.

C. H. White, Burlington, Kan.

HOLSTEINS.

C. E. Bean, Garnett, Kansas.

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FARM AND HERD.

At the recent Lespedeza farm Shorthorn sale at Memphis, Tenn., the Nashville, Chattanooga & St. Louis railway purchased through its industrial commissioner, J. L. Judd, for the railway's demonstration farm at Paris, Tenn., eight Shorthorns at an average above \$600 per head. The yearling bull, Augustine, by Imperial Gloster was selected at \$1,600 for the chief stock bull. Shorthorn bidders from practically all of the Southern states were present and participated in the sale. Secretary F. W. Hardinge, of the American Shorthorn Breeders, attended the sale, but in view of the desire of the states breeders to secure breeding cattle, no purchases were made for export. An average of practically \$300 on the sixty head was realized.

The Nebraska Agricultural College has issued the following bulletin: "Brood sows generally suffer from overfeeding rather than from under-feeding. An abundance of fat is the worst enemy of the litter. Sows that are to raise pigs this spring should be taken away from the rest of the hogs and be fed a different ration. Three rations suggested by the animal husbandry department of the college are: (1) one part high-grade tankage, 12 parts corn; (2) skim milk or buttermilk and corn, using three parts of the milk to one part of corn; (3) wheat and shorts. Whichever one of these rations is used, a rack containing alfalfa should be so placed that the hogs have free access to the hay at all times. In addition the sows should be supplied with minerals. It is a good plan to dump the wood and coal ashes in the lot where the sows run. A mixture composed of a basket of charcoal or fine coal, 5 pounds of salt, 5 pounds of airslaked lime and 2 pounds of sulphur will give good returns if kept easily available."

George Groenmiller, of Pomona, Kan., one of the pioneer breeders of pure-bred stock in this state, died March 4, 1916. Mr. Groenmiller was born in Bavaria, October 10, 1841, and came to this country with his parents in 1851; the family settled in Maryland. In 1866 Mr. Groenmiller settled on his farm in Franklin County, and has resided there since that time. Many years ago with his son, Mahlon, he established herds of pure-bred Percheron horses and Red Polled cattle, and succeeded in building up herds of both Percherons and Red Polled cattle that are among the best in the state. Their show herds have been consistent winners at the leading state fairs.

W. J. Finley, of Higginsville, Mo., held his eighth annual Jack and Jennet sale Monday, March 6. Forty-six jacks and jennets, including some jack colts, sold for an average of \$308.80. Allen McCord, a three-year-old jack, topped the sale at \$1,379. Eastern Star, another three-year-old, was the second high priced jack at \$1,000. Twenty-four jacks averaged \$473, two jack colts averaged \$180, and twenty jennets averaged \$128.75. Hinman & Hutchins, the well known breeders of Sterling, Kan., were the heaviest buyers of jennets.

Ed Boen, of Lawson, Mo., one of the pioneer Jack breeders of that state, and owner of one of the biggest herds of mammoth jacks in existence, reports his herd doing well and a good demand for high class jacks at satisfactory prices. This is one of the herds that has furnished a large number of the best jacks now in service. At this time Mr. Boen has about forty head of jacks of his own raising. Many of the mature jacks are from fifteen to sixteen hands high. He also has a very fine bunch of two-year-old jacks.

Hart Brothers, of Osceola, Iowa, one of the leading firms of importers in that state, report a good demand for high class imported and home-bred Percheron, French Draft and Belgian stallions and mares. Many of the good stallions now in service are from Hart Bros. barns. They have a fine lot this year, and they are the type that attract the attention of all breeders of good draft horses.

Capt. Charles E. Leonard, one of the leading Shorthorn breeders in the country and owner of the oldest herd, died in Bonnville, Mo. Captain Leonard would have been 77 years old March 27. He owned the famous Ravenswood Farm, 2,200 acres in Cooper County, Missouri. It was established the year Captain Leonard was born by Nathaniel Leonard. Captain Leonard and his son, Nelson Leonard, purchased Merry Ravenswood III, dam of the famous bull, Americanus, which sold in Argentina in 1914 for \$38,983 in American gold. This was the highest price ever paid for a bull of any breed. The Ravenswood herd has been maintained seventy-six years by four generations of Leonards. It is the only herd in the country that has been kept intact so long by generation to generation of the same family and gives it the honor of being the oldest herd.

There is nothing that will create a more favorable impression of a business than neat, well printed stationery. Every breeder of pure-bred stock has more or less correspondence, and neat business stationery is just as essential in his business as it is in the business of the merchant, the miller or the banker. It is evident that he is up-to-date in his business methods and in the mind of a prospective purchaser that receives one of his letters, an up-to-date business man means an up-to-date progressive breeder and a safe man to buy from. Every letterhead is an advertisement for the breeder that sends it out.

Bishop Bros., of Towanda, Kan., the well known importers and breeders of Percheron horses, report a good demand for horses this season. They have practically closed out their offering for this season.

C. B. Palmer, of Marion, Kan., one of the progressive Poland China breeders of this state, reports his herd doing well. Sir Dudley, the boar at the head of this herd, was junior champion at Kansas State Fair, Hutchinson, 1915, and is one of the good sires of the breed. Mr. Palmer has a choice lot of gilts by this boar that are bred to a good son of Smooth Columbus. He also has a number of outstanding young boars in his herd by Sir Dudley.

Inquiries for catalogs indicate that the jack and jennet sale to be held by G. C. Roan, of Clover Leaf Valley Farm at La Plata, Mo., March 20, will be one of the good jack sales of the season. Forty head of the choice jacks and jennets of this noted herd have been catalogued, and it will be the last big jack sale of the season.

Records in the office of the Percheron Society show an active trade, particularly as to sales made by breeders. Prices are gradually growing stronger on good Percherons, but demand is slack for poorer sorts. More men are seeking stallions of exceptional merit, fit to head pure-bred studs, than at any time in the last three years, and more confidence is expressed by purchasers generally.

KANSAS FARMER

FARM AND HERD.

HOLSTEIN CATTLE.

CLYDE GIROD—At the Farm.

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PURE-BRED AND HIGH-GRADE HOLSTEINS, ALL AGES. We offer a number of herd young bulls, serviceable age, all registered, from A. R. O. dams and sires. Choice pure-bred heifers, some with official records under three years of age. Two hundred excellent high-grade, heavy springing cows and heifers, well marked, in calf to pure-bred bulls, to freshen before April 1. Fresh cows on hand, heavy milkers. Heavy calves six to ten weeks old, \$25. Bargains. Send draft for number wanted and we will express to you. Wire, write, or phone us. We can please you.

GIROD & ROBISON, Towanda, Kansas

HOLSTEIN COWS and HEIFERS

I have for sale a nice collection of HOLSTEIN cows and heifers; also a few registered bulls to go with them. All big ones, nicely marked, and out of the best milking strains. If you want cows or heifers, I can supply you, and that at the right kind of prices.

J. C. ROBISON



TWO REGISTERED HOLSTEIN BULLS READY FOR SERVICE.

DAMS HAVE A. R. O. RECORDS OF 21 POUNDS AND 23.91 POUNDS BUTTER IN SEVEN DAYS. No. 1—Sir Dekel Lillith Pauline 169477, born December 10, 1914. Sire, Techart Lillith Pauline Dekel, who is also the sire of Little Pieb DeKol with A. R. O. record of 29.59 pounds milk and 920 pounds fat in 365 days and 28.32 pounds butter in seven days. Dam, Clothilde Peep Pride, with 21 pounds butter record in seven days. This cow is in our herd and promises to increase her record. This bull has a full sister in our herd that has just made 25.87 pounds butter from 507.7 pounds milk as a junior 3-year-old. He is well marked, being about two-thirds black, and a good individual.

No. 2—Fobes Canary Homestead 169479, born February 5, 1915. Sire, Canary Fobes Bessie Homestead, whose dam has A. R. O. record of 31.14 pounds butter in seven days. Dam, Johanna Clothilde 3d Canary. This cow is also in our herd. He is two-thirds white and a good individual.

We also offer two bull calves with splendid breeding, having A. R. O. dams. Write for pedigree and prices. Satisfaction guaranteed.

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Holsteins, the best dual purpose breed. The Michigan, Iowa and Nebraska State Experiment Stations report that in their competitive tests the Holsteins made a larger gain per steer at a less cost per pound of either roughage or grain than any of the other breeds. As voluminous and profitable milk producers and as valuable beef animals when their milking days are over, purebred Holsteins are firmly established as the world's leading dual purpose cows. Investigate the big "Black-and-Whites."

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HOLSTEIN SALE

Consisting of the following:

Fifty fully developed high grade Holstein cows, to freshen in the next three weeks.

Eighty high grade heifers, two and three years old, all springing.

Thirty registered cows and heifers, all bred to Johanna King Segis, the 40-lb. \$5,000 bull. Don't wait to write, but wire me at my expense when you will be here. They are priced to sell.

NEAL HOUSLET, OXFORD, WISCONSIN.
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Regier's Holsteins

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

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Eight bulls, 2 to 8 months, \$100 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

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BUTTER BREED HOLSTEINS

Registered bull calves. Prices reasonable. Write today. These bargains will not last long.

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REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

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Golden Belt Holstein Herd

Canary Butter Boy King No. 70508 in Service.

Herd has won more prizes from Holstein-Friesian Association for yearly production than any herd in Kansas. Young bulls for sale from heavy producing cows.

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REGISTERED HOLSTEIN BULL

Registered three-year-old Holstein bull from a ten-gallon dam. He is a guaranteed bull and will be sold at a bargain.

C. MCCOY, BEATTIE, KANSAS.

CORYDALE FARM HERD

Jewel Paul Butter Boy No. 94246

One of the best bred bulls in the state. We offer three bulls ready for service out of good producing dams.

L. F. CORY & SON, Belleville, Kansas.

23 - HOLSTEIN-FRIESIAN BULLS - 23

Best of sires. A. R. O. dams, fourteen over 20 pounds. Seven of the others from heifers with records of 14.89 to 19.2 pounds.

The kind you want. We have only two cows in the herd with mature records less than 20 pounds.

Breeders for Thirty Years.

McKAY BROS., Waterloo, Iowa

CHOICE HOLSTEIN BULLS

Four registered bulls, out of A. R. O. cows. Two ready for service. Best breeding. Choice individuals.

BEN SCHNEIDER, NORTONVILLE, KAN.



Choice Holstein Bulls

Grandsons of the King of the Pontiacs, also of Pontiac Korndyke, from A. R. O. dams. Write for prices and pedigrees. Senior sire, son of the King of the Pontiacs. Junior sire, son of Pontiac Korndyke.

LOVER'S LANE DAIRY

ST. JOSEPH - MISSOURI

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JACKS AND JENNETS
10 Large Mammoth Black
 Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. A few good jennets for sale. Come and see me.
PHIL WALKER,
 Moline, Elk County, Kansas.

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For Sale—A number of good bulls 8 to 18 months old. Some Scotch, others Scotch-topped. Some herd headers among them. Two outstanding ones. Can spare a few females. Farm one mile from town.
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SHORTHORN BULLS.
 Twelve head bulls, breeding age, all sired by a pure Scotch bull. Reds, whites and roans. Herd headed by Scottish Monarch by New Goods by Choice Goods, out of Morning Glory, a granddaughter of imported Lady Star. Will sell a few females.
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Two Shorthorn bulls. One red, 11 months old, sired by Bettie's Albon 339451. One white, eight months old. Extra fine and priced low.
C. E. HILL - **TORONTO, KANSAS**

Sycamore Springs Shorthorns
 Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - **LAFONTAINE, KANSAS**

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 For Sale—Fifteen pure Scotch and Scotch-topped cows and heifers. Five pure Scotch and Scotch-topped young bulls. Prices reasonable. Come and see them.
H. H. HOLMES - **GREAT BEND, KANSAS**

SHORTHORN COWS AND HEIFERS
 Thirty head of good registered Shorthorn cows and heifers. Cows with calves at foot, others to calve soon, open heifers by Bra-with Heir 351808. Priced to sell.
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Doyle Park Shorthorns
 Scotch and Scotch-topped, 50 per cent roans. Bulls 8 to 20 months old, sired by old Double Champion and by Alfalfa News. **HOMAN & SONS** - **PEABODY, KAN.**

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TEN GUERNSEY COWS AVERAGE 947 lbs. FAT
 Large and Economical production is the key to larger profits. The Guernsey Cow is a sure way to increased profit.
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GALLOWAY BULLS
 FORTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
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Five July boars sired by Sir Dudley, the junior champion at the Kansas State Fair, Hutchinson, 1915. Five good gilts by same sire and bred to a son of Smooth Columbus (at head of Belcher & Bennett herd). Price for boars, \$20; gilts, \$25. First check gets choice.
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 Choice September and October boars and gilts by King of Kansas Jr. and Big Ben. Priced right. **O. H. FITZSIMMONS**, Wilsey, Kan.

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 Choice fall boars. Also boars for service. Must sell.
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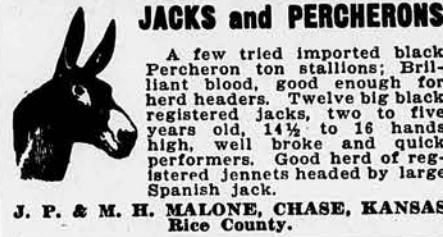
Home of the Famous Dr. McChord. Fifty Head in Herd. If you want an extra good jack, you can buy him here. I raise the good kind and guarantee them as represented when sold.
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A few extra good Belgian and Percheron Stallions and Mares from two to six years old. All priced reasonably. Come and see them.
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A few tried imported black Percheron ton stallions; brilliant blood, good enough for herd headers. Twelve big black registered jacks, two to five years old, 14½ to 16 hands high, well broke and quick performers. Good herd of registered jennets headed by large Spanish jack.
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More registered jacks and jennets than any farm in the West. Jacks to 1,240 pounds. Prices and terms reasonable. Written guarantee with every jack. Car fare refunded if stock is not as represented. Young jennets bred to Kansas Chief. Reference, any bank in Dighton.
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Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for \$500 to \$600 than most speculators can for a thousand. They must sell.
E. BOEN, LAWSON, MO.
 38 MI. N. E. of K. C. on C. M. & St. P.
 40 MI. S. W. of St. Joe, on Santa Fe

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I have three good young jacks for sale and worth the money. Also a few very fine jennets.
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Sixty Mares and Fillys. Thirty Stallions, from weanlings to five years old. At live and let live prices.

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Registered, 7 years old, 15 hands, 1,150 pounds, plenty of bone and quality, prompt service on mares; colts to show. Will sell or trade for high grade mares, nothing under 1,600 pounds wanted. Also three good jennets, will trade on same proposition. Address **J. W. MEARS**, Route 3, RANDALL, KANS.

HORSES AND MULES.**The Champion Breeder --- Missouri Chief 8365**

Sire of the World's Grand Champion Jack, Kansas City 8748 In public service at our ranch south of Ellinwood. Excellent facilities for handling any number of healthy jennets.

Write Us for List of Winnings of His Get.

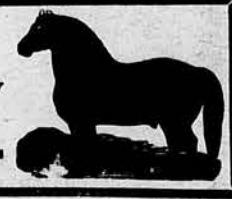
Most liberal terms and other information about this sire possessing excellent size, quality, bone, finish, and unexcelled style and action. Winner first as sire at Kansas State Fair, Hutchinson, 1915.

M. E. RICHARDSON - - - **STERLING, KANSAS**

ROBISON'S PERCHERONS

Forty young stallions from two to six years old. A few young mares for sale.

J. C. ROBISON, **Towanda, Kans.**

**LAMER'S PERCHERONS**

Have just received a new shipment. Also have a barn full of my own raising. A choice lot to select from.

WRITE, WIRE OR PHONE.

C. W. LAMER, **SALINA, KANSAS**
 OFFICE, LAMER HOTEL.

**HORSES AND JACKS**

FOR SALE—Six coming two-year-old fillies, big growthy fillies, dark steel gray; one black mare, three years old, April stud colt, two years old; all extra good; all out of imported sires and dams. Percheron Society of America. Twenty-two head two-year-old jacks; all raised on the farm; all priced to sell, cash or time. You can see the sires and dams of all this stuff. These are the blacks with mealy noses, the color that all breeders raise. I am now breeding white-faced jacks that will produce white-faced mules, and in a few years the breeding of white-faced jacks alone, will be continued on this farm. Since running my advertisement every man who came to the farm found what he wanted and bought.

OAKLAND STOCK FARM, Box 207, CHILlicothe, Mo.

**PERCHERON and BELGIAN STALLIONS**

Twenty head, imported and home-bred. I give a gilt-edge two-year guarantee with every horse sold. Come and see them. Priced to sell quick. Barn four blocks from Santa Fe depot.

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**DEIERLING STOCK FARMS**

Have fifteen large, heavy boned, black, registered jacks, 15 to 16 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Pride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1915, Eastern Lightning, also Demonstrator, first prize aged Jack Missouri State Fair. Reference, Peoples Bank. Written guarantee with each animal. Have a number of Percheron stallions for sale, also saddle stallions. Barn in town. Wabash Railroad.

WM. DEIERLING, Queen City, Missouri.

**Percherons, Belgians and French Draft Stallions**

We want to sell at once three registered Percheron stallions, one French Draft, one Clydesdale, three young Belgian stallions, and forty of both registered and high grade Shetland Ponies. Also a few Percheron and French Draft mares. Come and see our stock. We mean business.

MRS. L. SHORT & SON, Hamilton, Kansas

FOR SALE—PERCHERON, STANDARD BREDS, AND A FEW HOLSTEINS.

BLACK PERCHERON STALLION—Seventeen hands high, weight 1,950 pounds, 5 years old, big bone. **STANDARD BREDS**—Miss Maggie Miller, 20 hands, weight 1,125 pounds, 4 years old, brown color, shows lots of speed, now on the track, sired by Paetolus 2:27, he by Paetolus 2:12, No. 9102; dam, Bessie Miller by Tom Miller 2:10. Fred Miller, 3 years old, black, 15.3, weight 1,100 pounds, broke single and double, was tracked a little last fall, shows speed; is a full brother to the above filly. Luta Miller, black filly coming 3, fair size, sired by same sire, dam Estan Seletta by Blackdeer 2:17, he by Symboler 2:09; second dam Bessie Miller. Ted Miller, black colt, coming 2 years old, good size, a full brother to Luta Miller.

FIVE HOLSTEIN HEIFERS—One 3 years old, giving milk, 2½ bred; two head 2 years old, highly bred and in calf; two yearling heifers, highly bred. Two half calves 11 months old, one very highly bred, other ¾ bred.

RIVERSIDE STOCK FARM - **CHAPMAN, KANSAS**

THE SAUNDERS JACK COMPANY

U. G. Saunders, of Lexington, Ky., and Bruce Saunders, of Holton, Kan., have shipped a carload of registered Mammoth Jacks from Lexington, Ky., to Holton, Kan. Two to six years old, 15 to 16 hands high. Come to Holton and see as good a load of jacks as ever left Kentucky. Write your wants to **BRUCE SAUNDERS**, HOLTON, KANSAS. PHONE 589

MAMMOTH JACKS AND PERCHERONS

Forty big, black, mammoth jacks, 15 to 16 hands standard. Young, black. Percheron stallions and mares, extra quality. Also jennets in foal. Mares in foal to 2,400-pound horse. Reference, banks of Lawrence.

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Stallions from 2 to 5 years old, good ones, the kind that make ton horses. Mares in foal and few yearling fillies. Young bulls, 6 months to 3 years old, some top notchers. All priced to sell at live prices. Come and see us before you buy.

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PERCHERON STALLIONS FOR SALE

A pair of coming fours and a coming three-year-old, two blacks, and the other a bay, sired by the herd stallion Siroco (51358), which we sold to go to Northern Nebraska. They have the size, bone and quality, and are priced to sell.

A. M. DULL & SONS - - - - - **WASHINGTON, KANSAS**

Type, Stamina, Prepotency in our**TRUE MORGANS**

Send for our private sale catalog of stallions and females for sale.

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Robert Morris

Maplewood - - - - - Missouri

Reg. Percheron Stallions—Twenty-nine black ton and 2,200-pound 4 and 5-year-olds, 44 black coming 3's, 41 black coming 2's, 28 registered mares for sale, 19 Belgian stallions. Just above Kansas City.

FRED CHANDLER PERCHERON FARM

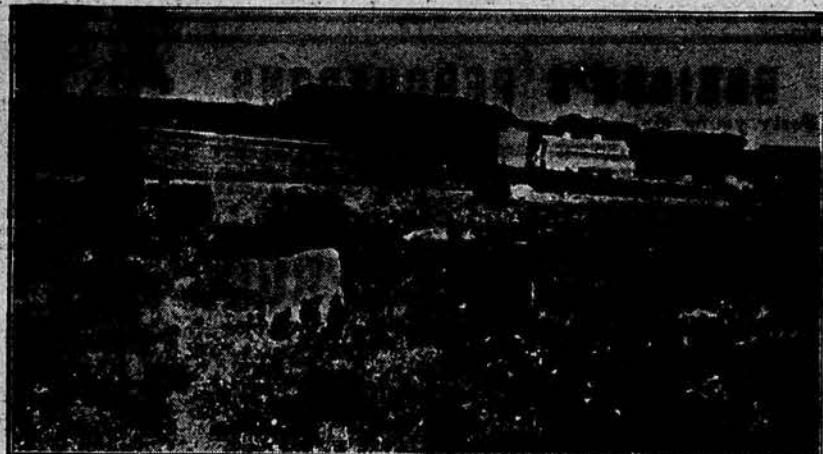
Route 7, Charlton, Iowa

Reg. Percheron Stallions—Twenty-nine black ton and 2,200-pound 4 and 5-year-olds, 44 black coming 3's, 41 black coming 2's, 28 registered mares for sale, 19 Belgian stallions. Just above Kansas City.

FRED CHANDLER PERCHERON FARM

Route 7, Charlton, Iowa

CENTRAL SHORTHORN BREEDERS ASSOCIATION
THIRD ANNUAL SALE OF
SHORTHORN CATTLE
TWO DAYS, APRIL 5, 6, 1916
FINE STOCK PAVILION, KANSAS CITY, MISSOURI.



130 HEAD OF SHORTHORNS drafted from the best herds in the corn belt. Seventy bulls from yearlings to matured sires. Sixty cows and heifers, consisting of cows with calves at side and rebred, heifers bred and open.

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FOR SALE—Herefords and Durocs: 65 yearling and two-year-old bulls by Topham 4th, Hessiod, Anxiety, March On and other good sires. 25 females, some have calves at foot and bred again. 10 head heifer calves. 30 head of registered Duroc gilts sired by a son of Ohio Chief and son of Buddy K 4th, out of sows by grand champions. Come and see me.

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For Sale—Seven cows bred to drop calves in summer. Sixty bulls from 8 to 10 months old. Priced reasonable. Come and see us.

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Murray's O. I. C. Chesters

A few choice boars. Forty choice gilts bred for March farrow; thirty for April farrow. All bred to silver cup winner. They are priced low.

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Weight 125 pounds, \$25. Booking orders for spring pigs, \$15 each; pair, \$25; trio, \$35.

Registered. Express prepaid anywhere in Kansas. F. C. Geokin, Route 1, Russell, Kan.

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RED POLLED BULLS

TWENTY yearling bulls, big rugged fellows, sired by top sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZZELL, Frizzell, Pawnee Co., Kan.

Coburn Herd Red Polled Cattle

AND PERCHERON HORSES.

A few choice bulls. Eight extra good two-

year-old stallions for sale at reasonable prices.

MAHLON GROENMILLER, Pomona, Kan.

RED POLLED CATTLE

FOR SALE—1915 bull calves by Rose's Grand Champion 17998, a 2,400-pound bull;

also a few good cows and heifers.

GAULD BROTHERS, FRANKFORT, KAN.

RED POLLED CATTLE.

For Sale—Eight choice young bulls from 7 to 11 months old.

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BERKSHIRE BRED SOWS

Seventy choice bred Berkshire sows, to farrow every week from March 1 until June. Bred to as good boars as the breed has. Cholera immune.

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"Mr. Horseman," 1916 is the "Get Rich Quick" year for "up-to-snuff" Horse Breeders. Get into the "Easy Money-Making Game." Don't wait. Do it in 1916. No horses will be imported. "Big Horse Farm," 500 horses exported Buyer, buy big Black of horses and wear diamonds. "Iams' kind" are known "world over" as Top-Notchers at Bargain Prices. Try LAMES.

Big, Nifty, Classy "New Horses" are "Town Talk." His 34 years of success in Importing, Breeding and Selling, 5,640 registered horses—his "50 trips" across the ocean—make Iams a safe man to buy stallions from. His "old customers" are "best Paid Advertisers," his Breeding Guarantee backed by "Half Million Dollars." Iams' Imported and Home-bred horses are "classy, model big drafters" of large bone, fine form, quality, finish and flesh movers. Several European

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Bought at "bargain prices" and must be sold. "Iams sells horses on honor." A lady can buy as cheap as a man. Iams is not in the "stallion trust," and is selling more pounds of "model draft horse" for the money than any competitor. Iams is cutting the middle out of high prices on his

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2 to 6 years old, weight 1,700 to 2,410 lbs., all "Branded," "Approved," "Registered and Inspected" by governments of France and U. S. and certificates "stamped" O. K. All "inspected" by a Nebr. Deputy State Veterinarian and certificates of "Health and Soundness" are given with each horse. Iams sells

IMPORTED STALLIONS AT \$1,000 AND \$1,400

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ST. PAUL, NEB.

KENTUCKY JACKS AT PRIVATE SALE



THE firm of Saunders & Maggard, Poplar Plains, Ky., has shipped twenty head of jacks to Newton, Kansas, and they will be for sale privately at Welsh's Transfer Barn. This is a well bred load of jacks, including one imported jack, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. We will make prices reasonable, as we want to close them out in the next thirty days. Anyone wanting a good jack will do well to call and see them. Barn two blocks from Santa Fe Depot, one block from Interurban. Come and see us.

SAUNDERS & MAGGARD, Newton, Kan.

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