

KANSAS FARMER

For the improvement

of the Farm and Home



Volume 54, Number 23.

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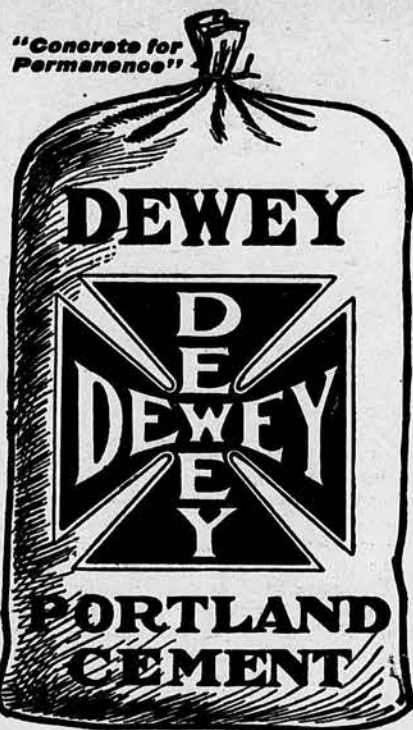
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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE selection of an automobile is one of the problems which many people are trying to solve at this time of the year. The question is too often decided, not by the merits of the car, but by the salesmanship and skill of the demonstrator. It is much safer to purchase a car of a make which is known to be reliable, even without a demonstration, than to select a car by the demonstration alone.

The first thing to decide is the size of car most suitable for the requirements and purse of the purchaser. Briefly, the advantages of the larger cars are: More style, easier riding, more room, smoother operation and greater speed on good roads. The smaller cars, on the other hand, are lower in first cost, as well as in operating expenses. Due to the light weight and to the comparatively narrow tires, small cars travel more easily over muddy, sandy or other heavy roads.

The two chief items of expense in running an automobile are tires and fuel, and these will be almost directly proportional to the weight of the car. It is a great mistake to buy a big car and then use it sparingly on account of the expense of operation. With the same money one can buy one of the smaller cars and keep up with the expenses for 10,000 to 15,000 miles of service.

The type of motor to select depends largely on the preference of the individual. The four-cylinder motor is less complicated and has fewer parts. Sixes, eights and twelves are more flexible, quieter and better balanced. The life and reliability of any motor depends upon the workmanship and design but not upon the number of cylinders.

When ignition systems are considered, there is nothing more reliable than a first class high tension magneto. Due to the limited spark range in the ordinary form of magneto it is not adapted to sixes and eights. In addition to reliability, the pleasure car must have an ignition system which is extremely flexible. Storage battery systems have this quality of flexibility and are cheaper than the magneto installation, because current is drawn from the starting-lighting battery. The Ford ignition system, which is unlike any other, is more complicated than either of the above, but provides a convenient means for locating a "missing" cylinder.

Regarding transmissions, the selective sliding gear and the planetary gear practically cover the field. The sliding gear operates more quietly and provides an intermediate gear for heavy roads and hills. The planetary gear is less liable to be damaged by inexperienced operators, allows quick maneuvering and quick get-away, but requires occasional adjustment and replacement of the transmission band linings.—E. V. COLLINS, Department of Steam and Gas Engineering, K. S. A. C.

Tractor for Heavy Work

On every farm there are certain tasks that can be done more successfully and economically with horses than by any mechanical power known to us at this time, but this does not indicate that it would be necessary or wise to maintain a barn full of horses to accomplish the work of two or three.

The average farm that could use a tractor to advantage usually possesses eight or ten horses, and often more. It is impossible to get along with any less, because in the busy season it takes every available horse to do the work. In the spring when the ground becomes fit, the farmer gets into the field with gang plows, disk and peg-tooth harrows, and land levelers. To do this work properly and finish ahead of the planting season requires a large number of horses.

If it were not for this rush work, the number of horses actually required to handle the farm work could be reduced to three or four. It is to eliminate the surplus of horses that must be maintained for rush seasons only that is inducing progressive farmers to buy small tractors.

It follows then that the farmer with ten or a dozen horses which he keeps for all farm work can profitably dispose of all but three or four of the best and purchase a substantially built, time-tried farm tractor of a size best suited to his requirements. Six or eight horses put on the market today will bring more

than enough to buy a light weight all-purpose kerosene tractor that will not only do all the work formerly done by the horses, but do it quicker, better and much cheaper.

Let us contrast the method and expense of keeping horses with the manner and cost of upkeep of the small farm tractor.

With the spring break-up the horses are thrown into the field and used every available minute from daylight till dark. They are soft from their enforced winter's idleness, and consequently the heavy field work soon begins to tell. They lose weight, contract sore shoulers, occasionally strain their muscles, and become generally run down before the spring work is completed. Every year hundreds of horses die from various causes resulting from overwork.

Starting in the spring of the year with the opening of the season, we see a light farm tractor hard at work in the field. It is pulling two, three or four plows, according to conditions, and instead of lifting them a trifle as is done when we see the horses plowing, we are putting them down to the last notch, turning up soil that has never been exposed. Following the plows comes the disk or peg-tooth harrow, conserving every possible trace of moisture and practically assuring a good crop. We plow straight through to the noon hour, and instead of unhitching and returning to the barn for feed and rest, we replenish the hopper with water and let the boy or the hired man keep on working while we go to dinner. After working steadily through the afternoon, we have plowed more during the day than any horse-drawn gang plow of equal size could possibly turn over. All the heavy farm work can be done quickly and cheaply with the tractor.

Plowing, disking, harrowing, seeding, harvesting, pulling the corn picker, and heavy hauling can be done with the tractor, and when not busy in the field it can be used to saw wood, pump water, run the feed grinder, corn sheller, silage cutter or small thresher. With the exception of the light work, the horses are an unnecessary quantity, and instead of a barn full of expensive horses that represent several thousand dollars' investment and individually eat the produce of five acres of ground, you have three or four horses and a light, economical tractor that costs nothing when not working and needs merely a shelter from the weather.

After deciding to buy a tractor, many farmers have made the mistake of looking for the lowest priced machine, regardless of quality or length of service. The trouble and grief that almost invariably results from such purchases have hindered the growth of tractor farming popularity, because many land owners seeing only the low-priced "freaks" were deterred from buying until they became acquainted with some one of the really practical, all-purpose farm tractors.—Tractor Farming.

Good horses will be in demand even after tractors come into general use. The number of horses on the farm can be reduced, and at the same time the quality of those remaining can be improved. Supplementing the tractor with a small number of high-grade brood mares for the light farm work, we will be able to breed the best, sound, and high-grade horses for which there will always be a demand on the market. As an authority on farm power aptly puts it—"It is the only money-winning, sensible, business like plan to follow—more good horses, fewer bad horses, and more farm tractors."

What farm tasks cost the most in time and give the least in return? Not the big things; not the field work, but the chores. They are, of course, a necessary part of farm work, but they take much valuable time that most farmers would rather spend in the field. What every farmer needs is dependable power to do the routine work about the barn. With an engine of a size to meet his requirements, he will have a dependable hired man to handle his time-taking jobs and to furnish power for his profit-making machines.

There is less loss from damaged hay in large stacks or ricks than in small ones, but a stack at its best is a makeshift in a humid climate.

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KANSAS FARMER

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KANSAS FARMER NOT GUILTY

The following editorial appeared in a recent issue of the Daily Drovers' Telegram of Kansas City:

"The Telegram's attention has been called to the following quotations which appeared in a Topeka farm weekly under date of May 20:

"Hard wheat—No. 2, nominally \$1.09

@1.17; No. 3, nominally \$1.07½@1.16.

"Soft wheat—No. 2, nominally \$1.08

@1.15; No. 3, nominally \$1.04@1.12."

"In Kansas City Saturday, May 20, the nominal range on No. 2 hard wheat was \$1.06@1.13; No. 3 hard, \$1.03@1.11; No. 2 soft, \$1.05@1.11, and on No. 3 soft, \$1.03@1.08. Thus, the prices given in the Topeka farm weekly are as much as 5 cents a bushel out of line with Kansas City prices. The weekly in question gives no indication of what market it quotes, but if its prices are supposed to represent those prevailing in Kansas, its quotations are as much as 10 cents or more out of line.

"Since the market of Saturday wheat prices have suffered a decline. If any readers of the Topeka farm weekly made use of its quotations on wheat in their marketing transactions and refused to sell Saturday, they suffered a severe loss on account of that paper's erroneous quotations. In presenting such quotations, without giving a date and without even naming a market on which they apply, any farm weekly is guilty of a great injustice to its readers.

"Of what avail is it to help a farmer to raise more wheat or more of other crops from cultivated areas and at the same time mislead him as to market quotations? It is as unprofitable to farmers to quote a market too high as to under-quote it, for in each case the producer is misled, often to his financial injury.

"If the editors of some of the farm weeklies which persist in giving market prices without specifying time or place were practical enough to appreciate what it means in dollars and cents to a farmer to have accurate figures, they would hasten to put an end to their reprehensible practice of leaving their readers at sea. The farmer needs accurate market quotations as badly as he needs correct advice on the most approved methods of cultivation, breeding, feeding and other work connected with the business of growing food. The failure of farmers to obtain accurate figures instead of the misleading quotations of the Topeka farm weekly probably results in a loss of thousands of dollars annually, if not millions, in their revenues from the products of their labor."

The Telegram does KANSAS FARMER an injustice in not being more specific. The editors of KANSAS FARMER long ago went into this matter of market quotations and decided that it was worse than useless to attempt such service in a weekly paper for the very reasons assigned by the Telegram in this editorial. We yield this field to the market daily which is in a position to furnish this service accurately. We feel that the Telegram should call the attention of its readers to the fact that KANSAS FARMER follows this policy in the matter of market reports and that the above editorial was not directed at this paper.

INTERNATIONAL STOCK SHOW

A judge from South America will place the grade and cross-bred fat steers at the International Live Stock Exposition to be held in Chicago this year. The man selected is Senor Carlos M. Dugon, Buenos Aires, Argentina, a leading ranch owner of that country. Senor Ricardo F. Pearson, another prominent live stock man of Argentina, has been selected by the American Shorthorn Association to pass on Shorthorn steers.

It has been the custom for a good many years to have foreign judges to pass on the grade and cross-bred steers at this live stock show, but heretofore they have all come from Great Britain. This new departure has considerable significance to the pure-bred live stock interests of this country. For thirty years the leading ranchmen of Argentina have been liberal buyers of breeding animals in Great Britain. The prices paid have at times been startling. They

have been such strong bidders for "tops" that it has been difficult for American importers to compete with them.

American breeders have been looking with longing eyes at this South American trade for some time. It is now generally understood that in most lines our breeders are producing animals that measure up to the highest British standard. Only occasionally, however, have sales been made to South American buyers. The European war has greatly disturbed commercial relations between Argentina and Europe, and this country is now looking to America for breeding stock. Only recently a very large shipment of high-class pure-bred Shorthorns was forwarded from New York to Buenos Aires. The selection of two judges from Argentina for the International will, without doubt, further encourage friendly live stock relations between the two countries.

Following the selection of these judges by the directors of the International show, a cablegram was received from the management of the great breeding show of Argentina, asking that a quartet of American judges be sent to place the awards on the Shorthorns, Herefords, Angus, Lincoln sheep, and draft horses, at this show which will be held in August. The exhibit of Shorthorn classes alone at this Argentina national show frequently extends to more than a thousand entries, which shows the magnitude of this event. The selection of men qualified to respond to this important call was taken up at the recent meeting of the directors of the International. The following selections were made: Shorthorn judge, Prof. C. F. Curtiss; Hereford and Angus judge, Frank VanNatta; Lincoln sheep judge, Robert Miller; draft horse judge, Frank B. Ogilvie.

This exchange of courtesies between these two great live stock shows is certain to lead to considerable development along the line of opening up South American trade to breeders of pure-bred stock in this country.

How long can a tractor be expected to last is a question frequently asked. The average life of a tractor on a 160-acre farm should be at least ten years if given good care, although many, in figuring tractor power costs, estimate the life at only five years. If the tractor is good for only five years and does the work on a 160-acre farm, it will more than pay for itself. Good care means proper adjustment and the attention necessary to keep any class of high grade machinery in good working order. All working parts must be kept clean, well oiled or greased, all take-up bearings must be adjusted and all bolts and nuts kept tight. If this is done the minimum wear results and there is no reason why, unless the tractor is heavily overloaded and subjected to undue strains, a well designed and well built machine will not perform its duties satisfactorily for ten years.

WILL GROW FEED CROPS

The Hessian fly may be the means of compelling more diversified farming in the wheat belt. A good many wheat farmers will have wheat that will be too badly damaged to pay to leave it to be harvested. Already hundreds of acres of wheat have been abandoned. What to do with these fields is the question.

It is not too late to plant feed crops, and nothing will give better returns when properly handled than the growing of such crops. Even at this late date cane and kafir are sure to produce forage and grain under reasonably favorable conditions. If there is any live stock on the place, these feed crops can be converted into money. It is not a bad plan to put out these feed crops even though there may be an insufficient amount of stock on the farm at the present time to consume the crop when grown. The man with an abundant supply of feed can often take advantage of market conditions and buy stock. When feed is lacking, many are compelled to sell stock at a sacrifice.

Some yield figures from the Kansas Experiment Station will be suggestive in connection with the kinds of feeds best to plant. For the years of 1912,

1913, and 1914, kafir yielded at the rate of 10.66 tons an acre, green weight, at Manhattan; cane, 16.93 tons. In 1915, the cane yielded 23.4 tons an acre. The cane did not mature well last fall owing to the nature of the season, but it is a splendid crop both for dry forage and silage, and in ordinary seasons will mature much better than it did last fall. For the central and eastern portions of the state, the Kansas Orange is the best variety. In the western part of the state the Red Amber and the Western Orange will give the best results.

It is our belief that it would be a paying proposition for many of the wheat farmers to list in feed crops in the abandoned wheat fields. It may be the beginning of a better balanced system of farming.

BANKERS ENCOURAGE CLUB WORK

Bankers of Kansas are not alone in the matter of lending their support to such movements as the Kansas Farmer Dairy Club. Bankers all over the United States are realizing the value of such club work as a means of materially improving rural conditions. Pig clubs have been most popular. As far as we know, ours is the first dairy club. Not a few of the bankers in various sections have made it possible for worthy club members to secure pigs on their personal notes. In this way a well-bred pig is secured and the member can pay for it from the proceeds of the pig as a meat animal or from the sale of offspring in the case of a breeding animal. The member enters into a business agreement—with the parents' consent—with the banker. This arrangement is a practical means of teaching business methods to the rural young people. It is also a character-building process, for it is but natural for a boy, when treated as a man, to act in a manly manner.

This generosity on the part of the bankers is in many cases business acumen. A case in point is that of a Texas bank. The president of the bank placed 326 pigs among the pig club members of his county. As a result of the acquaintance made in securing and placing these pigs, many new patrons were secured. These patrons brought in over \$75,000 in individual deposits. Needless to say, this was profitable business for the bank, but it is also a means that will increase with time in its beneficial influence. One of the Texas papers states that the banker "has laid the foundation for a prosperity which will be lasting. The boys that he has helped to get started in the hog business are now on their feet financially and before many years they will be making big shipments of hogs to market each year. The money received from the sale of hogs will be expended in further developing the county. Every merchant in the county will profit, the banks will get more deposits, and the farmers will have more money with which to further develop their farms."

The Kansas Farmer Dairy Club will lead in a similar manner to the development of a profitable industry. It has greater possibilities than the pig clubs because of the great economy of the cow as a producer of food value.

"TITANIC" WHEAT

The Federal Department of Agriculture has recently been advised by a correspondent in California that a variety of wheat is being advertised under the name "Titanic." The assertion is made that it is a new variety of wheat discovered in England about four years ago, and that a small quantity of seed was brought to the United States by one of the survivors of the ill-fated Titanic. The wheat is represented as having extremely high yielding power, the returns reaching as high as 7,000-fold. A photograph sent by this correspondent shows a head identical in appearance with the widely exploited "Alaska" wheat. Five acres of the wheat are said to be growing in the state of Washington, and the seed, it is believed, will be offered at high prices after harvest. The Department has no further or more definite information concerning this variety, but farmers and dealers are cautioned to be on their guard concerning this new exploitation.

MEAT ANIMALS SUPPLANTED

At the meeting of the State Dairy Association recently held in Abilene, President H. J. Waters of the Kansas Agricultural College made a strong case for the dairy cow as an economical producer of human food. A portion of this address appears on another page of this issue. In this discussion he showed how the cow has supplanted meat-producing animals because of her greater efficiency. He stated that as countries become more populous, vegetables and fruits supplant most forms of animal products in the dietary of the people. The one standing exception is poultry, which has held out to the last. It is true that the fowl, when charged with all the feed consumed, produces one of the most costly of animal products, yet domestic fowls live so largely on products which would otherwise go to waste and they are so well adapted to living in close proximity with people that they form perhaps the most enduring animal industry that we have. Fowls and fish are the animal industries China has left. The duck, goose, and the chicken are still there in such quantities as furnish an important item of export. As well adapted as is the state of California to the production of poultry, San Francisco buys large quantities of eggs from China. The fowls themselves are exported to this country in considerable quantities. Much of the albumen used by us in sensitizing photographic plates is made from eggs and comes from China.

President Waters called attention to the fact that the cost of producing a pound of meat from the three principal sources, is perhaps in this order—beef, mutton, pork. Beef is costly to produce and sells at a relatively low price. While it costs less to produce pork than mutton, the difference between the two is not large and on the average is much less than the difference between either of these and beef.

On the other hand, however, these animals bring on the market, when fitted as they usually are, prices in just the reverse order based on the experience of the past. That is, hogs have perhaps sold highest, with sheep a very close second, and cattle considerably below either.

It is evident, therefore, that in a strictly agricultural region, such as the Mississippi Valley, the margin between the cost and selling price has been lowest in beef of any of our meat animals.

LIVE STOCK MEETING AT K. S. A. C.

We again call attention to the important live stock meeting that is to be held at the Kansas Agricultural College, Manhattan, June 9. A paper of exceptional interest to all farmers of Kansas will be that by Dean W. M. Jardine on "Progress with Pastures."

The cattlemen will be especially interested in what Doctor Schoenleber has to say on the new method of controlling black-leg.

Prof. L. E. Call will tell of experimental work in crops and soils.

In addition to these addresses there will be those given by Dean C. F. Curtiss of the Iowa State College, and P. W. Goebel of Kansas City. Special reference was made in last week's issue to the addresses to be made by these two prominent men from out of the state.

The experimental farm and the herds of breeding cattle will be visited before lunch, which will be served in the judging pavilion. We hope many of our readers will plan to attend this important meeting.

The average dressing percentage of hogs is 75, while of cattle it is 53 and of sheep 48. Part of this difference is due to the method of figuring. In the case of the hog the hide, head and feet are included in the carcass weight, while in the case of cattle and sheep the head, hide and feet are not included. Then the hog is very thick-fleshed and has a small digestive system. Cattle and sheep have large paunches and digestive systems. Sheep dress out lowest due to the wool and the rather light fleshing of the carcass.

INEVITABILITY OF DAIRYING

Dairy Cow Three Times as Efficient as Steer in Producing Human Food

By H. J. WATERS, Before State Dairy Association

THIS subject is not of my own choosing. I am not by birth, education or sympathy a dairyman. My sympathies and tastes are all in the other direction—the production of meat, and primarily in the production of beef. I like the Shorthorn, the Hereford, and the Angus much better than I do the Jersey, Holstein, and Guernsey. I like the beef business much better than I do the dairy industry. Nevertheless, I realize that the man who stands out against dairy and poultry husbandry as the basis of a permanent agriculture is standing out against an irresistible force, and he will in the end be as effectual as one who attempts to sweep back the ocean tide with a broom. Either this country is going to be an exception to all human experience, or we must ultimately surrender to the inevitable.

The beef business is primarily adapted to the newer conditions such as broad acres, cheap land, scarce and high-priced labor, and to the transportation of the products over long distances. As population becomes more dense, as land becomes more dear, as labor becomes more abundant, and, therefore, cheaper, we shall produce on our farms products which will employ the maximum of human labor. The dairy cow, the pig, and the hen will be the last animals to be driven from our farms. We must not forget that human labor is the only exhaustless element in production. New York, Pennsylvania, Massachusetts, New Hampshire, and Connecticut were formerly the great beef-producing states of the Union. At that time the dairy industry was being nursed and carried along by its enthusiastic friends just as it was in Kansas a few years ago and as it yet is in some parts of the state. The beef business was able to take care of itself then as it is yet in Kansas. Now the dairy business dominates in the East and they are trying to coax back the vanished beef industry.

FERTILITY RESTORED BY DAIRYING.

Thus, as the farm land of a community is divided into smaller farms, and as the people are forced to work on an economical basis and when their soil fertility has become so depleted by grain farming that they must conserve their resources, the beef industry is the first to wane and in its stead the dairy industry comes. First it is usually combined with beef, but later, especially in the vicinity of the large cities and in the most congested centers, it becomes a highly specialized industry. In the rural districts the combination of beef and dairy production, with dairying as the principal feature and beef as an adjunct, has remained stable in the oldest European countries.

Broadly speaking, the second class of meat animals to diminish outside of the mountain and other strictly grazing regions, is the sheep. Then follows the hog, although on account of the use to which the hog may be put as a consumer of waste products around the home, it remains a prominent feature in the agriculture of the most densely populated regions of Europe.

We have not yet, however, approached the most cogent reason for the elimination of the beef industry when great economy must be exercised in production and consumption.

STEER AND COW COMPARED.

The most striking fact in connection with this whole question is the inefficiency for the production of human food of the beef animal as compared with the dairy cow.

Let us assume that we full feed a steer for 300 days, and that his average daily gain for that time is two and one-fourth pounds, making a total gain of 675 pounds. In the same length of time a dairy cow of quality equal to that of the steer above assumed would produce,



SOME KANSAS FARMER DAIRY CLUB MEMBERS INSPECTING HERD OF O. GIACOMINI, LEAVER, WORTH COUNTY.—HERE THE EFFICIENCY OF WELL-BRED COWS IS RECOGNIZED.—DAIRY CATTLE ALWAYS SUPPLANT BEEF ANIMALS AS LANDS BECOME HIGH IN PRICE

at the very least, 6,000 pounds of milk. The dairy cow will require for the production of her annual milk output less grain, less hay, less grass and less range than will the steer in the production of its 675 pounds of gain in weight.

Let us, however, inspect these total annual products more closely. The 675 pounds gained by the steer will contain 286 pounds of water; 253 pounds of fat; 95.5 pounds protein; and 40.5 pounds ash; or a total of 389 pounds of dry matter.

The 6,000 pounds of milk produced by the cow in the same length of time might be safely estimated to contain 5,160 pounds of water; 276 pounds of fat; 285 pounds of sugar; 231 pounds protein; and 48 pounds ash; or a total of 840 pounds dry matter.

The water in the meat and in the milk is of no more value for food than that which comes from the cistern or spring, and we are, therefore, primarily interested in the quantity of dry matter produced.

MUCH WASTE IN STEER'S PRODUCT

A close scrutiny of the detailed figures given above will show that the whole story is not yet told. The steer's product will need to be still further reduced, because a portion of the gain made is inedible, being in the form of increase in weight of bone, hoof, horn, hide, vital organs, blood, etc. We have no reliable data from which to estimate the amount of the annual growth of this material on a steer, but it is certainly safe to assume that the amount of ash given could be classed as inedible and of use only for the manufacture of leather or fertilizer. On this basis there would need to be deducted 41 pounds from the total of 389 pounds of dry matter, leaving a total of 348 pounds of edible material produced by the steer, compared with 840 pounds produced by the cow.

There is yet a difference to be considered. The fat produced by the cow is the most digestible of all the animal fats. The sugar in milk is perhaps the most easily digested and assimilated of all sugars, and is assumed to be all avail-

able when used as food. In the case of casein and albumen—the protein of milk—it is practically completely digestible, and the same is true of the ash. Therefore, not only is the edible material produced by the cow more than two and a half times as large in amount as that of the steer, but it is a significant fact that practically all of this is digestible and easily assimilated by people of all years, from youth to old age.

STEER'S FAT OF LOW VALUE.

In the case, however, of the production of the steer, there is a further waste. For when the animal is slaughtered the butcher is compelled to trim the carcass of its excess fat or tallow. In the average case this green tallow is not worth as much per pound as he has paid for the steer alive. This tallow has perhaps cost the feeder ten cents or twelve cents a pound to make, and it has a value when sold as such, and not attached to a steak or roast, of perhaps less than four cents. Furthermore, when the butcher divides this carcass into steaks and roasts, the customer is constantly insisting upon having the excess tallow trimmed off before it is weighed. All of this tallow must, like that which was trimmed from the carcass when the animal was killed, go into the tub as low-priced material. Furthermore, when the steak or roast is cooked, a considerable portion of the fat is fried or stewed out, and this is likely to be poured into the garbage can or sewer. Then, when the meat comes to the table, the first protest from the children is against being given too much fat. The portion of the steak or roast is left uneaten is the fat, and this is essentially wasted or fed to the dog, the chickens or the pigs.

Thus, this high-grade material—that is, material that is most expensive of all animal products to make, is really of least practical use for human consumption, because it, unlike butter fat, is of itself not especially palatable.

In New York City so much fat is poured into the sewers that recently the city authorities set about to recover it,

and millions of pounds are thus taken from the sewerage and sold at a low price, chiefly for the manufacture of soap. This means that the corn of the Mississippi Valley is being converted into high-priced fat on our hogs, cattle and sheep, a portion of which finally finds its way into a soap factory through the sewers of our great cities.

Just what number of pounds of the annual production of the steer would be actually left as digestible material it is impossible to say, but it is perhaps not unreasonable to say that the amount of digestible matter produced by the cow is about three times as large as that produced by the steer in the same length of time.

Thus it is perfectly evident that the dairy cow is a very much more efficient machine for the manufacture of our grain, grass, and hay into edible animal products than is the beef steer, or than is any animal producing meat, for that matter.

COW REQUIRES LESS GRAIN

Of equal importance is the fact that the cow will make the yearly product ascribed to her in the foregoing computations on grass alone without grain during the summer months. The rest of the year she will eat less grain per day than the steer will require. On the other hand, it will be necessary to feed the steer to the full limit of his appetite for each one of the 300 days figured in the foregoing tables in order to have him make the amount of gain credited to him. All these figures, of course, the cow are in every way conservative. It is likely indeed that the amount of food consumed by the steer to make the gains used in our computations would produce fully one-third more milk and total solids than has been credited to the cow.

ADVANTAGES OF SELLING BUTTER

The economic advantages of using dairy animals as a market for farm-grown feeds, are most strikingly shown in the table on this page. The amount of butter sold in one year to other states is from actual figures secured from the creameries of the state. The feed required has been calculated on the basis of standard dairy rations and in placing a value on the feeds it has been assumed that they could be sold on the market as readily as the butter. The freight figures were supplied by one of the railroad companies of Kansas and represent actual conditions at the present time.

Foreign countries in making their purchases almost invariably buy raw material and in so doing fatten their soil at our expense. We sell annually twenty million dollars' worth of products to the little country of Denmark and buy but two million dollars' worth of products from that country. They buy enormous quantities of oilmeal, cottonseed cake, and bran. Their chief exports are butter, cheese, and bacon. In the past twenty-five years the Danish farmer has increased the acre yield of his land 50 per cent.

A farm used for dairy purposes should gain constantly in fertility because the manurial value of the feed grown on the farm is retained and that of purchased feeds is added. When milk products are sold from the farm only a small portion of the plant food contained in the entire crop, is sold.

SAVING EFFECTED BY SELLING BUTTER INSTEAD OF FEED

Butter sold to other states in one year by Kansas	9,305,603 pounds	
Total feed required to produce this amount of butter	537,398,000 pounds	
Farm value of this feed		\$1,768,065.57
Value of butter at 20 cents per pound		\$1,861,120.60
Value of skim milk at 1 cent per pound		442,016.14
		2,303,136.74
Excess value of butter and milk		\$ 535,071.17
Value of fertility in butter at 51 cents a ton	2,372.94	
Value of fertility in feed	1,236,714.64	
Saved to farm when marketed as butter		\$1,234,341.70
FREIGHT BALANCE SHEET		
Freight on butter	\$ 50,928.06	
Freight on feed	1,236,016.78	
Saving in freight by marketing butter instead of feed		\$1,176,088.72
Total saving to state through selling-butter instead of feed		\$2,945,501.59

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

ONE of our readers asks if it will pay to go to the expense of putting up shed or barns to protect alfalfa from the rain.

No bulky feed produced on the farm compares with alfalfa in feeding value. It contains almost as much protein as wheat bran. It is rich in ash—animals fed good alfalfa never lack for bone. When the hay is exposed to rain much of this feeding value is dissolved and washed out. By keeping it bright it will command a higher price on the market if it is to be sold, and it is also worth much more for feeding. We believe it would be a paying investment to put up sheds for protecting alfalfa from the rain. Each year there are enormous losses of this most valuable feed because it is left out without such protection. The sheds used need not be expensive. Some 20-foot poles can be set up and a roof made of corrugated steel or roofing boards. The sides do not need to be covered more than five or six feet down from the top. Such a shed will pay for itself in a very short time.

The Binder Engine.

S. L., Clay County, asks if an engine suitable for running a binder is a good investment.

For a number of years a few farmers have used engines to run their binders. The engine furnishes power to operate the machinery so it is independent of the bull wheel. All the horses have to do is to pull the machine over the ground and the bull wheel does not have to deliver any power for running the machine. Last year, owing to the excessive rains, many fields were so wet that only by using engines could the grain be harvested at all. After a crop has been grown a farmer cannot afford to let it go unharvested. All he has put into the crop becomes a dead loss in such case. The engine is so much superior to horse power when used on a binder or header that it is possible to do the harvesting much more rapidly than it can be done where horses must furnish all the power. With an engine to operate the binder, the machine can be pulled through fields where it would be impossible to use the binder at all if the power had to be furnished by the bull wheel. We believe the engine for operating the binder or header should become standard equipment on the harvesting outfit.

These engines can be used for scores of other purposes. If they had no other use than to run the binder during the harvest they might not be profitable investments, but in view of the fact that they are general-purpose farm engines, and can be used the year around, the money put into one is well spent.

It would be a good plan to begin now to make preparations for the coming harvest and if an engine is to be used there is no reason for delaying its purchase. It takes some time to adjust the engine to the binder, and when the crop is ready to harvest there is little time for doing this work.

Testing Milk for Fat.

A. E., a California reader of KANSAS FARMER, asks if the comparative value of cows can be determined by setting samples of their milk in glasses and measuring the thickness of the cream that rises. Also, when two samples measure the same, would the one having the richer yellow color contain more butter fat than the one paler in color?

Measuring the thickness of the layer of cream that rises is a very unreliable method of testing milk for butter fat. The fat in milk is in the form of minute globules. They vary considerably in size in the milk from different cows. When these globules of fat are relatively large the cream or the fat rises quickly; when they are small the fat does not separate quickly, and the separation will never be as complete as in milk having the large globules. Of course, this does not apply to the results secured in using hand separators. These make a complete separation of the milk and cream without reference to the comparative size of the fat globules. In the old days when gravity separation was the method practiced, it was important to have milk upon which the cream would rise quickly when set in pans or crocks. It is characteristic of some breeds of dairy cattle to produce milk having large fat globules. The cream on Jersey or Guernsey milk separates more quickly when set in pans than that of Holsteins. The fat in Holstein milk remains in suspension because the globules are very small, and for

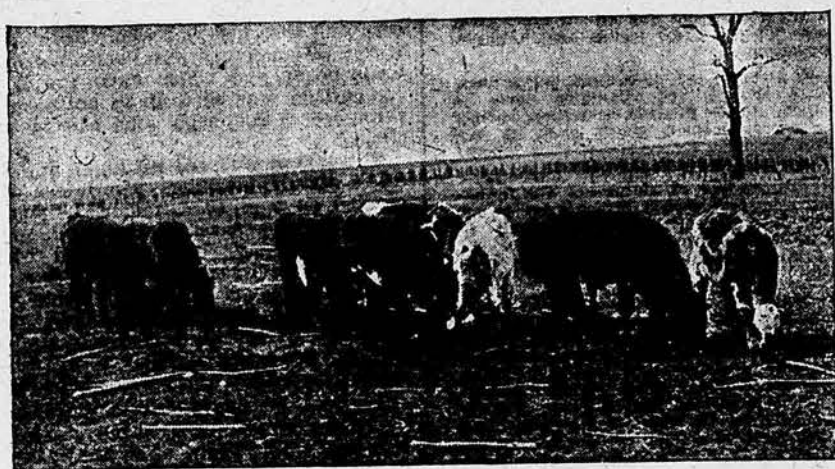
whole milk consumption Holstein breeders claim this is an advantage. It will be seen from these statements that the number of inches of cream that rises on milk cannot be taken as a reliable guide to the percentage of butter fat the milk contains. Of course, when a large amount of cream rises on a bottle or glass of milk it is an indication that it is rich milk, but as an accurate means of determining the amount of butter fat the sample contains, it is unreliable. The Babcock test is the only simple and reliable method of determining the percent of fat in samples of milk. This test should always be employed in determining the amount of fat produced by cows.

Color is commonly associated with richness in milk, but a rich, yellow milk may not contain any more butter fat than another sample much paler in color. It is common observation that all cows give milk of a richer color in spring and summer when they are eating green

planted as late as the middle of June grass or cane for hay. Feterita can be and mature a crop of grain in ordinary seasons. If the season should be too wet it will not do as well as will kafir. Sudan can be planted as late as July 1 and yield a good crop of forage. It should be planted in rows, using four or five pounds of seed to the acre. Some, however, prefer to plant with the grain drill. This will take from fifteen to twenty pounds of seed.

Polled Herefords

E. L. Farmer, a Polled Hereford breeder of Missouri, writes us as follows, regarding this new breed of cattle: "There are over five hundred members in the Polled Hereford Association, over fifteen hundred different herds and more than 7,000 cattle recorded. Kansas has nearly fifty members in the association. In the Polled Hereford sale at Des Moines, February 8, twenty-eight bulls sold at an average of \$558, twenty-nine



SKIM MILK CALVES ON FARM OF E. L. MARSHALL, LEAVENWORTH COUNTY. THEY ARE Sired BY A PURE-BRED POLLED DURHAM BULL. CATTLE ARE SOURCE OF PROFIT ON THIS FARM

feeds, than during the winter season when they are eating dry feeds. It is also a fact that Guernseys and Jerseys give milk that is of a deeper shade of yellow than that of most other breeds. This color is produced by a substance called carotin. This coloring matter is present in the carrot in large quantities—hence the name. Green feeds are rich in carotin, also hay that has been carefully cured so its bright, green color has been retained. Good silage also contains it. Bleached hay, dry fodder, straw and similar feeds are poor in carotin, also most of the commonly used concentrates and grains. This explains why cows produce light-colored milk in winter.

Jerseys and Guernseys have no power to manufacture this coloring matter, but it seems to be a breed characteristic with them to transfer a larger proportion of the color from the feed to the milk. The rich, yellow color of the skin of these breeds and other dairy breeds as well, is due to deposits of carotin. Cows having a large amount of yellow color stored up in their bodies can draw on this reserve and produce yellow milk even when consuming feeds very poor in carotin.

In selling whole milk it is an advantage to have it look yellow because consumers associate yellow color with richness. For the same reason butter that is off in color is not as acceptable as that containing a larger amount of coloring matter. The color, however, has nothing to do with the richness of the milk.

Catch Crops.

E. R., Sumner County, writes that the green bugs have destroyed his oats, and he wishes advice as to what crops to plant at this late date.

No crop should be planted until the bugs have been starved out or brought under control by their parasitic enemies. Planting another crop would simply be supplying feed for the bugs. If it is possible to graze the oats with hogs or other stock, it would be a good plan to pasture them. As soon as they have been grazed down the ground should be plowed. This will turn under the insects and leave no food for those that escape. By keeping the ground in good condition some quick-maturing crops can be planted later, such as feterita or early strains of kafir for grain, and Sudan

females averaged \$397, or an average for fifty-seven head of \$476. These must have been pretty good cattle to make such high sale averages."

Our correspondent fears that some of our readers may misunderstand some of the statements made in a recent article on this new breed. In this article reference was made to the fact that only about 100 naturally polled Herefords were registered in the American Hereford Record Association. The two Polled Hereford record associations do not confine themselves to double standard Polled Herefords, but accept for registry animals that are not eligible in the American Hereford Record. Hornless Herefords are somewhat of a rarity, and in the establishment of the new breed, breeders have not confined themselves to the use of pure-bred Herefords of the old breed. A double standard Polled Hereford is one that is not only possessed of the polled character, but also by its ancestry eligible to registry in the books of the American Hereford Record.

We feel sure this breed has a great future before it. Horns are objectionable in the feed lot, and the demand will undoubtedly be great for cattle possessing the hornless character.

Destroying Peach Tree Borers.

B. T. S., Sedgwick County, writes that borers are injuring his young peach orchard, and asks how he can prevent their doing further injury.

The first thing to do is to dig out the worms. After this has been done, apply a protective solution and mound up the dirt around the tree to a height of eight or ten inches. This is the advice of J. H. Merrill, assistant entomologist of the Kansas Experiment Station.

A good protective wash can be made by adding a pound of arsenate of lead to five gallons of lime and sulphur solution. The arsenate acts as a poison and the lime and sulphur as a repellent. Various kinds of wrappings have been advocated, but these are seldom satisfactory.

Mounding up the earth compels the female to deposit the eggs high up on the trunk of the tree, and this seems to have a tendency to reduce the number of eggs deposited.

This borer passes the winter in the

larval stage, many of them only half grown. They begin working actively in the spring, and as soon as fully mature come out from their burrows and spin themselves a cocoon of silk.

Dock Lambs Before Fly Time

Lambs that have not already been docked should be attended to at once. If docking is delayed much longer, flies will give trouble by laying eggs close to the wounds. The maggots that hatch from these eggs feed in or near the wound and prevent it from healing.

Many neglect to dock the lambs. It may not be absolutely necessary, but it is advisable because docked lambs present a more attractive appearance than those with long tails, they bring from 25 to 50 cents more a 100 pounds when marketed, and in case of scours when the flock is turned on grass filth will often collect on the tails of the docked lambs, making an ideal place for maggots to live.

At the Missouri Agricultural Experiment Station no bad results from docking have ever been noticed and in no case do the records show any loss in weight due to docking. Strong healthy lambs can be docked most easily when from two days to three weeks old by cutting the tails off about an inch from the body with a good sharp knife. Older lambs will frequently bleed badly if docked with a knife or hatchet. Hot irons are used in order to prevent the loss of blood, which in some cases will be so great as to weaken the lambs and cut down their gain for a week or more. The regular docking iron which can be purchased from any sheep supply house at \$1.25 to \$1.50 is used for docking the lambs of the College flock. A hot chisel, no doubt, would be just as successful.

The purpose of the use of the hot iron is to prevent bleeding by thoroughly searing the ends of the blood vessels. The irons should be heated until they are cherry red. If they are too cold, the blood vessels will not be seared; if they are too hot, the tails will be taken off too quickly and some bleeding will frequently occur. An ordinary tin-smith's blow torch is one of the most convenient means of heating the irons, but a portable forge may be used.

Ram lambs that are not to be kept for breeding purposes should always be castrated at docking time. This is not necessary in case of lambs that are to be sold for mutton at the age of three or four months, but spring lambs that are not to be marketed until fall will be much easier to manage and fatten if castrated. This operation should always be performed before flies become troublesome in spring.—H. HACKEDORN.

Fitting the Horse Collar

Ill-fitting collars are frequently responsible for sore shoulders.

The collar should fit snugly. It should not pinch at the crest of the neck and there should be room enough between the collar and lower part of the neck to admit the hand freely when not pulling. The contact surface of the collar should be smooth and plastic and distributed over as much bearing surface as possible. The incrustations that form on a collar should be removed daily to prevent chafing of the skin. Sweat pads or false collars should not be used except in cases where the animal has been galled or has a collar boil, and in this case a hole should be cut in the pad so as to prevent the bearing surface of the collar coming in contact with the sore.

Farm Ice Club

Ice on the farm is a great luxury, but not out of reach.

A number of enterprising farmers could form an ice club made up of men who would join in purchasing a wagon-load of ice from a neighboring town and distribute it to the members of the club. In some sections a possible outgrowth of the idea might be a community ice house, especially if a group of homes were clustered about a cross roads, but where artificial ice is available it is often cheaper and always more sanitary than that obtained in winter from ponds or streams.

Sometimes automobiles need readjustments and repairs. If you know just how to proceed and can make them yourself, you can save considerable money, but it is a good plan never to turn a screw or make an adjustment on your car unless you know absolutely what you are doing.



What The War Is Doing For The Farmer

The European war is not an unmixed evil; nor yet is it an unmixed blessing for this country. We shall not attempt to go into the ethical side of the question at all, nor shall we discuss "war brides", munition plants or other similar phases of the situation. We shall look at the war purely from the standpoint of prices for raw products, either produced here in this country or imported from foreign countries. And



GATHERING SUGAR CANE

amongst them those that have not gone up in price in spite of the war.

For example, here is a peculiar situation in regard to a beverage which is so universally liked that it has become almost a staple. The name of that beverage is Coca-Cola.

Now Coca-Cola, as you know, is really an agricultural product—a product of the soil. Cane sugar—the very purest and finest—constitutes a large part of Coca-Cola syrup. As you know, sugar has gone way up—so every glass of Coca-Cola you drink makes some farmer's heart gladder.

So it is with the pure fruit juices that, combined, produce the inimitable flavor of Coca-Cola. Not so much in quantity seemingly when you consider a single glass of this delicious beverage, but enormous when the entire Coca-Cola output is considered.

Yet this product of nature—the farm—increased in cost though it has been to the makers, has not been raised one penny in price to dealer—or to you. The price at the soda fountain and in the bottle has not risen one iota.

Now inasmuch as the rural population alone of America consumes millions of bottles and glasses of Coca-Cola every year, you and the other agriculturists of this country will not only be able to continue to please your palates and get delicious refreshment with this beverage at no increased cost, but you will be sending back to the farm bigger profits and more money at no greater expense to yourself.

of course when we consider raw products we must carry the subject further on into the matter of the prices we get and the prices we must pay for finished products. We shall confine our consideration, too, to those products which have their origin on the farm either in the raw state or finished and manufactured into edible or wearable articles.

Let us take wheat, for example. We all know that the war has put the price of wheat way up. Very well—this means that the whole country: city, town and rural population as well as the wheat raiser should theoretically be getting rich on a product which it costs him no more to raise than formerly and for which he gets more money.

But wait a minute—there are other things to consider in this matter of growing rich off of the war. Cotton and wool and meats and farm machinery and sugar have gone up too. This means that while the wheat raiser is getting more for his product, he is also paying some other agriculturist more for his product. This cuts down somewhat on the profits the war is bringing to the farmer. Then it would seem that the best way to keep ahead of the game is for the farmer to pay the farmer who raises his necessities the increased prices that the war has brought about and when buying his luxuries or those things that are not bare necessities of life to pick and choose from



FINISHING WESTERN LAMBS

At the Kansas Experiment Station a double-deck carload of 310 lambs was divided into four lots and the lambs experimentally fed the past winter. The purpose of this trial was to study the value of feeds adapted to Western Kansas conditions in finishing sheep for market. Too little is known of the value of such feeds as kafir in finishing stock for market.

The lambs purchased cost \$8.15 a hundred. They were shipped to Manhattan and fed on kafir fodder and corn until November 26, when they were divided into four lots of 75 lambs each, care being taken to have the lots as uniform in weight and quality as possible. The following rations were fed to these four lots: Lot one, shelled corn, cottonseed meal, alfalfa, and silage; lot two, whole kafir, cottonseed meal, alfalfa, and silage; lot three, ground kafir heads, cottonseed meal, alfalfa, and silage; lot four, shelled corn, cottonseed meal, and alfalfa. It will be seen that a direct comparison was made between shelled corn and threshed and whole kafir, likewise a direct comparison between ground kafir heads and whole kafir grain. A comparison was also made between alfalfa as a roughage and alfalfa and silage.

The silage was fed at night and the alfalfa in the morning. The lambs were started on a grain ration of 14 pounds a day to the seventy-five head, gradually increasing to a full feed which amounted to over a pound a day per lamb. The same amount of grain was fed to the lambs in all the lots. The roughage, of course, varied slightly, depending upon the manner in which the lambs cleaned up what was given them.

In Lots 1 and 2 it was possible to study the comparative value of shelled corn and whole kafir. The lambs in the kafir lot made as good gains as those in the lot fed shelled corn and their gains were less expensive since the kafir was figured at a lower cost. The net profit from the kafir lot was six cents more per lamb than the profits on the lot receiving corn.

The lambs fed the ground kafir heads did not show the condition and finish of those in the lot receiving the whole kafir grain. On the market they sold for fifteen cents a hundred less. The probabilities are that there was too much bulky material ground up with the grain. By ordinary methods of heading it is difficult to have all the heads cut short enough.

In comparing alfalfa as roughage with alfalfa and silage, it was found that the lot fed the alfalfa alone made a little better gains than the lot receiving silage in addition. They likewise sold for five cents more a hundred.

In figuring the results of this experiment, the following prices per hundredweight were charged for the grain: Shelled corn, \$1; kafir, 90 cents; ground kafir heads, 72 cents; cottonseed meal,

\$36 a ton. The following prices for roughage were used: Alfalfa, \$8 a ton; silage, \$3 a ton. The table on this page gives the results in full. The total profit is based on the selling weights of the lambs on the Kansas City market where they were sold.

The outstanding lesson in this test is the fact that kafir gave results practically equal to corn. There is no reason why sheep cannot be fattened for market anywhere in the western part of the state. Corn is not essential to finishing sheep for market. When the value of the grain sorghums is more fully appreciated there will be much more live stock grown and fed on the farms now too largely devoted to exclusive wheat growing.

Plan Now for Fall Colt Show

A well managed colt show invariably stimulates interest in better horses. We hear a good deal about the poor prices received for horses, but upon careful investigation it is nearly always found that these complaints have reference to the prices paid for the common, ordinary kind. Really good draft horses are scarce, and farmers who strive to produce this kind will not have much cause to worry about prices.

Where colt shows are held, more of this kind of horses will be grown. Better breeding methods will be followed and there will be more incentive to feeding the colts properly. In many cases poor feeding results in colts not growing out as good as they should.

In order to have a good colt show it is well to begin work early, as the management must have time to thoroughly canvass the community. It is very important to have a man manage the colt show who understands what must be done.

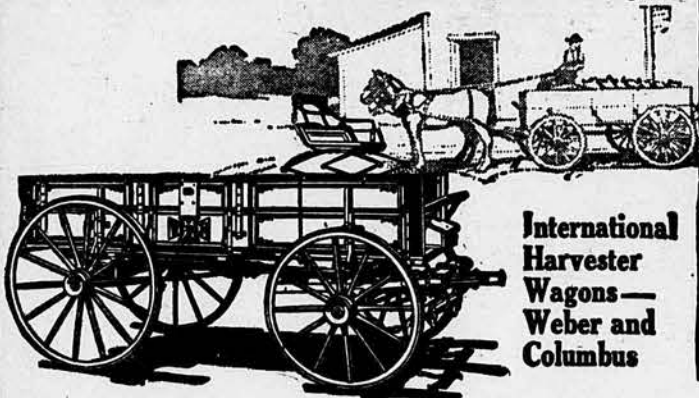
The best time for holding these shows is in October or the fore part of November. Colts can always be shown to better advantage after they are weaned and broken to halter.

One of the first things to do in working up a colt show is to secure the cooperation of the stallion owners in the community. It is not always necessary that they contribute prize money, but they should be made to feel that the colt show will be of much benefit to them in a commercial way, as it will increase interest in better horses. During the spring season stallion owners have opportunity to meet the men who are raising the colts; and they can do much to work up interest.

It is always desirable to have a number of prizes in each class and ribbons should be granted as well as cash prizes. In fact a ribbon will be kept and highly prized long after the money won has been spent and forgotten.

Colt shows have been successfully held in connection with county and township fairs, but it is possible to have it held independently.

More for Your Money



International Harvester Wagons—Weber and Columbus

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION 1915

YOU can be sure of one thing when you buy a Weber or Columbus wagon—You get more service for your money. The good service they give is one of the strongest features of Weber and Columbus wagons. This service is the result of careful design and construction, such as is shown in the International fifth wheel.

Look between the front axle and bolster, where the king bolt goes through. There you will find the fifth wheel (an exclusive feature). Note the wide circular wearing surface of the two substantial fifth wheel plates. Those plates relieve the owner of a lot of trouble. They prevent breaking or bending of circle irons. They prevent the pitching of the bolster that breaks or bends king bolts. They take strain off the reach and keep the lower part of the front axle from sagging.

This one feature adds years to the life of the wagon, but, better even than that, it indicates the care and thought that have been given to every Columbus and Weber feature, and they are many.

Look over the Weber or Columbus wagon carefully, either at the local dealer's place or in the illustrated wagon folders we will send you on request. Then you will see why, if you want more for your money, your next wagon should be a Weber or Columbus.

International Harvester Company of America



CHICAGO

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USA

Champion Deering McCormick Milwaukee Osborne Plano



RESULTS OF LAMB FEEDING TESTS, NOVEMBER 26, 1915, TO

FEBRUARY 14, 1916.

	LOT 1.	LOT 2.	LOT 3.	LOT 4.
	Shelled Corn, Cottonseed Meal, Alfalfa Hay, Silage.	Whole Kafir, Cottonseed Meal, Alfalfa Hay, Silage.	Ground Kafir, Cottonseed Meal, Alfalfa, Silage.	Shelled Corn, Cottonseed Meal, Alfalfa.
Lambs in lot	75	75	75	75
Average initial weight	58.58 lbs.	58.80 lbs.	57.77 lbs.	58.50 lbs.
Average final weight	80.50 "	80.82 "	77.52 "	81.70 "
Total gain	21.92 "	22.02 "	19.75 "	23.20 "
Average daily gain	.274 "	.275 "	.247 "	.290 "
Dressing per cent	56.6%	55.3%	55.0%	56.5%
AVERAGE DAILY RATION:				
Grain	1.01 lbs.	1.01 lbs.	1.16 lbs.	1.01 lbs.
Cottonseed meal	.16 "	.16 "	.16 "	.16 "
Alfalfa hay	.05 "	.05 "	.93 "	1.70 "
Silage	1.24 "	1.26 "	1.09 "	
FEED PER 100 LBS. GAIN:				
Grain	370.68 lbs.	368.80 lbs.	471.64 lbs.	350.23 lbs.
Cottonseed meal	58.39 "	58.11 "	64.82 "	55.17 "
Alfalfa hay	348.54 "	346.85 "	377.11 "	618.39 "
Silage	454.07 "	459.74 "	444.63 "	
Cost of 100 pounds gain	\$6.83	\$6.44	\$6.74	\$6.97
Cost of total feed per head	1.50	1.42	1.33	1.62
Initial hundredweight value	8.15	8.15	8.15	8.15
Final hundredweight value	11.10	11.10	11.00	11.15
Average profit per lamb	1.73	1.79	1.60	1.76

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

STORING WHEAT ON FARM

ABILITY to store the wheat crop on the farm will be perhaps of greater value to the farmers this year than ever before. For this there are two principal reasons—first, the shortage of freight cars, resulting from the congestion of freight on the Atlantic seaboard; second, the lower price per bushel during the early threshing season. This lower price necessarily results from inability to get transportation facilities, from the greater risk and hence greater margin taken by elevators to handle grain before it has gone through the sweating process, and from the fact that the whole grain trade knows that great quantities of wheat will be marketed in July, August and September, whatever the price may be.

In a study of wheat marketing, Prof. L. A. Fitz of the agricultural college has found that two-thirds of Kansas grain is marketed in July, August, September and October, and almost without exception prices are lower than later in the year.

The principal remedy for this condition is in the hands of the farmer himself and consists in the storing of grain on the farm for a short period to several months. This may be done by stacking the grain, by storing it in farm elevators, granaries, or metal bins, or by a combination of stacking first and storing in bins afterwards. Grain well stacked immediately after harvest does not germinate or become bleached, goes through the sweating process in the stack and not in the bin, and when threshed and placed on the market averages one to two grades better than if threshed out of the shock. This means two to four cents more per bushel. The difference is especially marked in a season of wet harvest. Even if bleached in the shock before stacking, the grain regains much of its original color in the stack.

The expense of stacking and threshing may be a little more than if the grain is threshed out of the shock. The fact, however, that many can use their labor more effectively over a period of stacking than over a shorter period of threshing out of the shock, more than counterbalances any loss that may result from the additional labor in stacking.—EDW. C. JOHNSON, K. S. A. C.

Nasal Trouble in Sheep

"Grub in the nose" is the common way of describing a condition caused by the larva of the sheep fly which lodges in the facial cavities of sheep; especially young animals up to yearlings.

A sheep fly deposits its eggs around the nose of the sheep. The eggs find their way into the nasal cavity and thence to the cavities in the bony structure of the face and head. In the spring the larva migrate to the nasal cavity and is dropped to the ground in the nasal discharge. The pupa develops and in from six to eight weeks this develops into the sheep fly. After fertilization the females again deposit eggs in the sheep's nose. The eggs are deposited during the summer months. Usually about noon, when the sun is warmest, the flies swarm from their resting places in cracks, crevices, underbrush, etc. As they approach the flock of sheep will try together, lower their heads and even endeavor to thrust their noses into the ground. However, as soon as the eggs are deposited the flies depart, the sheep become quiet and nothing more is noticed until the following spring when the larvæ make their way out of the nasal cavities.

Usually the discharge from the nose and the evident irritation is sufficiently pronounced for a layman to recognize the trouble. However, sometimes the catarrhal signs are absent, but the animal might show signs of dizziness, become very nervous and may keep on the nose almost constantly, very frequently flicking in the same direction until exhausted. These symptoms are due to the larvæ penetrating to the vicinity of the brain, rather than coming out through the nasal cavity.

Treatment of animals that are showing the brain symptoms seldom, if ever, prove effectual. Therefore, such animals should be sent to slaughter, preferably to an establishment under federal inspection, as soon as possible. Valuable breeding animals that are showing the catarrhal symptoms may be treated by a qualified veterinarian who would open the frontal sinuses and remove the

larvæ. If a considerable portion of the flock is affected the nose of each affected animal should be rubbed with snuff or the animal should be made to inhale an irritating smoke. The object is to cause the animal to sneeze violently and dislodge the larvæ if possible. Diluted vinegar or salt water poured into the nose has also been recommended.

Preventative measures are rather difficult. The animal's quarters should be fumigated with an ill smelling preparation and the sheep's noses should be smeared with some such material as tar, hartshorn oil or any material that has a disagreeable odor. It is suggested that salt be placed in a trough and a board put over the trough. The board may be bored at intervals with holes large enough to admit the sheep's nose. The edge of the hole should be kept thickly covered with the material you desire to have smeared on the nose.

Kafir in Cowley County

Kafir has made a grain crop in Cowley County in nine of the past ten years. During this same period corn has made but three grain crops. J. C. Holmes, the agricultural agent of this county, reports that twenty-four kafir tests are being conducted by members of the farm bureau this year. Improved strains of kafir are being tried out on these various farms in comparison with ordinary varieties and with corn. The members of the farm bureau recognize that kafir is practically a sure crop and these tests are for the purpose of determining the

variety that will produce the largest yields.

This is a splendid type of work for a farm bureau to take up. Too little attention has been given to kafir. The objection is sometimes made that it depletes the soil of moisture late in the season and cannot be followed immediately by wheat, but this is a fault that can be easily overcome by working out suitable rotation systems. The grain of kafir can be harvested as easily and as inexpensively as corn and it is almost if not quite its equal for feed. For silage, it is much more easily harvested and handled than corn, and it is growing in favor as a silage crop.

Milo for Grain

M. R., Stafford County, writes that he has abandoned part of his wheat owing to Hessian fly damage, and wants to know if he can hope to produce grain by planting milo or feterita at this late date.

Both of these crops are used successfully as catch crops in Oklahoma and Southern Kansas, even after wheat or oats have been harvested. The feterita will mature grain in a shorter period of time than will the milo. These quick-maturing grains are the safest crops to plant where wheat has been abandoned in the south central part of the state. They will produce good yields of grain where the annual precipitation is twenty inches or less. Yields of milo ranging from six to sixty bushels an acre were reported by Western Kansas growers in 1913. To produce such yields it must be given a chance. We have known of yields ranging from nothing to fifty bushels an acre in the same neighborhood. The difference was largely due to conditions controlled by the growers.

When chinch bugs are numerous they are likely to do much damage to milo or other similar crops planted in wheat fields, but this year there are very few chinch bugs to be found, and we believe

wheat growers who are abandoning wheat fields can profitably put out considerable quantities of these quick-maturing grain sorghums.

Must Fight Orchard Enemies

Kansas has nearly the whole list of insects and fungous diseases in her orchards right now, according to George O. Greene of the extension division of the Kansas Agricultural College. These can be kept in check easily by the proper use of various spray materials. Spray early—do not wait until the insect pests or diseases are beyond control. Spraying is a preventive and not a cure. The man who does not have time to spray his orchard is about ready for the horticultural scrap heap.

Fight pests at their first appearance. Use the right spray for the right pest at the proper time. That is, use fungicides for fungus and insecticides for insects.

Bordeaux is preferred as an effective fungicide, and arsenate of lead is the most reliable insecticide. The former consists of three pounds of copper sulphate and four pounds of lime added to fifty gallons of water. Arsenate of lead is prepared commercially and should be used at the rate of one pound of powder to two pounds of paste added to fifty gallons of water.

The draft colt that does not weigh a thousand pounds or better at the age of one year, is not likely to get into the top drafter class. It is an easy matter to skimp the colt's feed during this first year so he cannot possibly make the growth he should. It takes liberal feeding to make a draft horse. The feed and care the colt receives during the first year largely determines what it will be at maturity. The colt should early be encouraged to eat grain. It should also have plenty of alfalfa or clover. These feeds are rich in bone material and this is something the growing animal must have.



Supremacy has long belonged to CASE Threshing Outfits

If Others Prefer CASE There Must Be Reasons Why You Should

Most men who buy threshing outfits demand Case. We build and sell each year more rigs than the next three concerns combined. This means that the safe way for you is to join the majority and to buy the one threshing rig which has won practically universal approval.

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The all-steel construction of Case threshers is absolute insurance against fire, wind and water. The frame is solidly constructed of steel channels. There is no danger of warping and getting out of line.

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The big cylinders of Case separators, with their steady motion, are thorough, so that unfavorable weather conditions do not stop threshing—damp and wet grain is handled easily.



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Why Men Prefer Case Engines

The chief reason is that every owner can depend utterly upon the ability of his Case steam, kerosene or gasoline engine and his Case separator to work from morn till night—or any number of hours—without wasting any time.

And better is this two-fold economy: (1) Case engines have won top place because of their simplicity and dependability, (2) Case threshers get all the grain there is to be gotten.

In the past 74 years, Case has tested out all kinds of power for agricultural use. Today we sell the three final types, in steam, kerosene or gasoline classes.

Owners of Case threshing rigs have nearby and continuous service facilities. You run no risk in the busy harvest season, for parts and repairs are ever handy. Write for our thresher catalog—it tells the story complete. Study it before you buy.

J. I. Case Threshing Machine Co., Inc. (FOUNDED 1842) 711 Erie St., Racine, Wis.

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GRAIN BINS

are just right for threshing directly, into and saving the extra time and labor of hauling during the busy season. They are also

RAT PROOF—FIRE PROOF

and will protect your wheat from all danger of loss, enabling you to store your grain in perfect safety until the market is high

BEST CONSTRUCTION

Butler Bins have every feature for economically and quickly handling grain. Large and small doors, shoveling board, manhole, removable slats, etc. All are fully described in our new 1916 Grain Bin Booklet, which your dealer will give you or we will mail direct. Write now—prices may advance at any time, as the war-time steel market is very uncertain.

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Threshermen's Tanks and Outfits.

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"YOUR OWN NAME"

RIGHT SIZE  3 1/4 INCH

ON THIS EXTRA FINE KNIFE

Two best quality steel blades. German silver tips, brass lined. Transparent handle showing your own name.

We will send this beautiful knife with your own name on it for one yearly subscription to Kansas Farmer at \$1.50 or a three years' subscription at \$2.25. Address

KANSAS FARMER - TOPEKA, KANSAS

BUSINESS STATIONERY

At the prices quoted herewith you cannot afford to use anything but printed BUSINESS STATIONERY. Write for samples.

LETTER HEADS—
8 1/2 x 11 inches. Bond paper. White. 500 for \$2.50, 1,000 for \$3.00, additional 1,000 \$1.50. If you wish ruled stock, add 75c per 1,000.

ENVELOPES—
No. 1, 6 1/2, Commercial size. White. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.75.

ENVELOPES—
No. 2, 6 1/2, Commercial size. White. 500 for \$2.25, 1,000 for \$3.00, additional 1,000 \$1.75.

ENVELOPES—
No. 6 Special Addressed Envelopes. 500 for \$1.75, 1,000 for \$2.25, additional 1,000 \$1.25.

BUSINESS CARDS—
Round corner, 2 1/4 x 3 1/2 inches. No. 88. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.75. These can be supplied in square corners if you wish.

The following items are put up in pads of 100 if you desire, at no extra charge:

LETTER HEADS—
Special Packet, size 6 1/2 x 9 1/2. Ruled. White. 500 for \$2.25, 1,000 for \$3.00, additional 1,000 \$1.50.

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No. 2, size 7 x 8 1/2 inches. Ruled. White. 500 for \$2.75, 1,000 for \$3.00, additional 1,000 \$1.75.

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All prices are quoted delivered to you at your home address, prepaid. For this reason we ask remittance with order.

**KANSAS FARMER
TOPEKA, KANSAS**

White Plymouth Rocks

Hard to beat as all-purpose fowls. Excellent layers, with yellow legs and yellow skin. Eggs, \$2 per 15, \$5 per 45, express or postage prepaid. Have bred them exclusively for twenty-four years.

THOMAS OWEN, Route 7, TOPEKA, KAN.

Cards—Free

If you will send us the names of ten persons who are not now subscribers to KANSAS FARMER, we will send you a set of Twentieth Century Travel Cards free for your trouble. Address KANSAS FARMER, Travel Dept., Topeka, Kansas.

Kansas Farmer Dairy Club

Importance of Keeping Milk and Feed Records Properly

FOR the benefit of the dairy club members who have started their year's records, we give a sample of the milk record on this page to show how it should be kept. The record for each calendar month must be kept separate. For instance, if your cow freshened on May 11, close the record for this month on May 31. The milk given each day should be recorded in the space to the right of the proper date. Provision is here made for recording both the night and morning milkings. Some may have cows giving enough milk to warrant milking them more than twice a day. Where this is done, you should make the figures small and crowd in the extra milking.

Unless your cow happens to freshen so that you begin the year's record on the first day of the month, this first month's record will not be a full one. It will be easier, however, to have one short month, than to have the record for every month contain parts of two calendar months. Several of our members have been confused on this point. You should read carefully all the instructions given in KANSAS FARMER and save each paper for future reference. The method of keeping these records was explained several weeks ago.

If you start a record past the middle of the month the butter fat test for the month following is to be used. You will have to wait until the test is made before you can calculate the total amount of butter fat the cow gave in the beginning month.

The records for each month should be sent in to KANSAS FARMER and a copy of each furnished your bank before the tenth day of the following month. An exception to this will be made where it is necessary to wait until the butter fat test can be secured for the first month and in which case this butter fat test will apply to the starting month and the month following.

The feed record is to be kept in the same manner, each day's ration to be recorded in the space to the right of the date.

There is a good reason for following the calendar month in closing the records. The business world generally balances accounts and closes all records on the last day of each month. Keeping the dairy records in the same manner thus fits into the ways of the business world.

Co-Operate in Cow Buying

A county agricultural agent called KANSAS FARMER by telephone recently and told us there were twenty boys in his county lined up for the dairy club

if they could get the cows. In the same county a number of the men are also wanting to get some good cows.

The thing to do in this community is to decide just what is needed and then send someone to a locality where the cows can be purchased. This has been done in many places in Kansas. Prof. O. E. Reed of the Kansas Agricultural College has given freely of his time to assist in selecting cows for Kansas buyers. A prominent dairyman said at the recent meeting in Abilene that too much credit could not be given the agricultural college for permitting Professor Reed to render this splendid service to the dairymen of Kansas. The way in which the beginner gets started in the dairy business will have much to do with the progress our state makes in this great industry.

We hope this community will make this arrangement to go and select such cows as are needed. We are especially anxious to have all our dairy club members get started right. We want you to have your first dairy experience with cows that are right in every respect. There are a lot of things that can be wrong with cows purchased for dairy purposes, and you should seek the best advice and assistance in making your selections.

Boys Investigate Cows

Evidence is accumulating to the effect that Kansas Farmer Dairy Club members are selecting their cows carefully.

Ernest S. Asbury, a Leavenworth County boy, wanted to get started in the club and went to Mr. Wulfekuhler of the Wulfekuhler State Bank of Leavenworth, to talk it over. This banker was willing to let Ernest have the money, but like all wise bankers, he was interested in knowing into what sort of investment the money was going. Ernest had located a grade Shorthorn cow that he could buy, but in talking it over they decided he ought to more closely look up her record as a producer before buying her. Ernest called on Mr. Ross, the agricultural agent, to help him in securing the information needed. He has finally made a very satisfactory deal. The following from a letter just received tells how he managed to secure a good dairy cow:

"The cow I bought is a grade Shorthorn, and I paid \$90 for her. She has a heifer calf about three weeks old. My father has a good grade Jersey that he said he would trade me even for my grade Shorthorn. The Jersey will be fresh in about two weeks. She will give 40 or 50 pounds of milk a day when fresh and her test is 5.6. The Shorthorn cow gives 50 pounds a day but it

Kansas Farmer Dairy Club

Name of Contestant John Mann Name of Cow Ruby
Postoffice Dover, Mo. R. F. D. 2

For Month Ending April 30, 1916

Milk Record

DAY	TIME	DAY	Brought Forward	DAY	Brought Forward	DAY	Brought Forward	DAY	Brought Forward
1	A M	8		15	77 1/4	22	249 1/2	29	425 3/8
	P M				12		13 1/2		13 1/4
2	A M	9		16	12		13 1/2	30	14
	P M				12		12 3/4		11
3	A M	10		17	11 3/4		13 3/4	31	
	P M				13 1/2		13 1/4		
4	A M	11		18	12 3/4		13 1/2		
	P M		10		13 1/4		11		
5	A M	12	10	19	12 1/2		12 3/4		
	P M		11 1/4		13 1/4		12 3/4		
6	A M	13	11 1/4	20	12		11		
	P M		11 1/4		13		11		
7	A M	14	11 3/4	21	10 1/4		13 3/4		
	P M		11 3/4		12		11 1/4		
Total Carried Forward			77 1/4		249 1/2		425 3/8	Total Milk	477 3/8
								Per Cent Butter Fat	3.8
								Total Butter Fat	18.14

THIS SHOWS HOW MILK RECORD SHOULD BE KEPT

Dr. Hess Dip and Disinfectant



Kills Disease Germs Destroys Foul Odors

Nothing better for disinfecting stables, barns, sinks, troughs, garbage cans, outhouses, etc. Good alike for home and stable.

For scab, mange, hog lice, ticks on sheep, fleas on dogs, and all parasitic skin diseases of horses, cattle, sheep, dogs, hogs and poultry.

Pint bottles, quart, half-gallon and gallon cans and barrels. One gallon can, \$1.00 (except in Canada and far West). Smaller packages as low as 25c.

Dr. Hess Fly Chaser

Doesn't gum, color or blister. Makes stock comfortable. At your local dealer's.

DR. HESS & CLARK, Ashland, Ohio

SELF HOG FEEDER only \$16.75

In 54 days the Meyers Self-Hog Feeder pays for itself. FREE circular tells all about it. Hogs must root against feed arm to get feed—only a certain amount is released with each rooting. Waste impossible. Accommodates 50 hogs. Made of galvanized and cast iron—lasts years. FREE TRIAL.

AUTOMATIC—SAVES FEED—SANITARY **PREVENTS DISEASE**
BACKED BY \$10,000 BOND



THE MEYER CORPORATION
Dept. 201 MORTON, ILL.

Only \$2 Down One Year to Pay!

\$24 Buys the New Butter-Fly Jr. No. 2. Lightning-fast cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 5 1/2 shown here.

30 Days' Free Trial. Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO. (INC)
2181 Marshall Blvd. CHICAGO

Send for Catalog FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.

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Full line of everything needed. Write for new 1916 catalog. Lowest prices.

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256 Pages, 6x8 in Size, Fully Illustrated.
110 Different Subjects

Including average temperature and precipitation, water power, farm crops, great war, income tax, national parks, banking, pensions, tariff, public lands, army and navy, all the subjects of common interest.

While they last we will send this invaluable book free, postage paid, to any one who sends just \$1.00 for a year's subscription to KANSAS FARMER. If you are already a subscriber, time will be extended one year. Address

KANSAS FARMER, TOPEKA, KANSAS

tests only 2.9. Mr. Ross thought this was a good trade for me to make and told me to write to KANSAS FARMER to see if it would be all right to trade my Shorthorn for the Jersey. Mr. Ross has seen both cows. As soon as I hear from you I will send in my blanks properly filled out."

This shows that Ernest has given much thought and effort to getting a cow that is likely to make a good record. KANSAS FARMER thoroughly approves of this transaction.

George H. Kuhnhoff, another Leavenworth County boy, writes that he has just purchased a two-year-old grade Holstein heifer that will be fresh in about three weeks, but says he may not use her in the contest, as he thinks he can get a registered cow.

If all the club members are as keen to get good cows as these boys are, and give them the right kind of care and feeding, we can expect some splendid records in the dairy club work.

If you have no faith in advertising your breed of cattle it is because you have never tried it out properly. Well-designed advertising is a valuable asset to any breeder.

Weeds Reduce Crop Yields

By H. F. ROBERTS, K. S. A. C.

WEEDS cause serious losses in crop production. Unless we begin a systematic campaign against these troublesome plants that are each year becoming more numerous, they will become most difficult of eradication. Billions of weed seeds are in the fields as a result of the luxuriant 1915 crop of vegetation. Early and frequent cultivation will kill weeds by the millions.

WEEDS WASTE TONS OF WATER

Weeds waste tons of water that should go into growing crops. It takes more water to make a ton of pigweeds or Russian thistles, than to make a ton of sorghum. Sunflowers will cost an acre of Kansas land 13,000 barrels of water a year, or enough to irrigate an acre of alfalfa a whole summer. It pays better to raise crops than to raise weeds, and it is just as easy if one starts in time.

Rest the overgrazed pastures and let the native grasses come back and crowd out the ironweed, wild verbena, horsebur, snow-on-the-mountain, wild cotton, poverty grass, drop-seed grass, and other pasture weeds. Salt the bindweed, whenever it appears in a new locality, with an application of common crude salt applied at the rate of twelve tons to the acre. Have alfalfa seed tested at the seed laboratory of the experiment station, to find what weed seeds are in it.

There is no seed law to protect the farmers, so the farmers will have to protect themselves. If Sudan grass seed is planted, be certain that the sources insure its being free from Johnson grass seed. The seeds of the two species can scarcely be distinguished from each other.

It is hoped that the county agents will give special attention this year to the weed problem in their respective localities and report unknown or troublesome weeds to the state botanist for identification and for information as to means of eradication.

When weeds are sent in for examination and identification, enough of the plant should be sent to show the characteristic leaves and the flowers or seeds. The latter are indispensable in many, if not most, cases for correct identification. Seedlings should not be sent. Specimens should be forwarded in as fresh condition as possible, wrapped in damp paper, tied, rewrapped in strong dry wrapping paper or newspaper, tagged with the name of the sender and his address, plainly written, and mailed, parcel post, to the Department of Botany, Kansas State Agricultural College.

Despite the extensive literature on the subject of weeds, a vast amount of definite information on their life habits is needed. Nearly every experiment station issued a weed annual and the weed books by various authors are increasing in number.

STUDY THE WEED PROBLEM

More thorough work in weed biology is needed. It would pay the state of Kansas, for example, to employ a man to devote his entire time for the next five years at least exclusively to a study of the weed question in the field.

In addition to the pernicious new weeds that are constantly coming in and invading fields, new weed problems are constantly arising with regard to native weeds, the habits of which have never been thoroughly investigated.

Treatment of Spoiled Udder

F. R. E., Chase County, writes that one-quarter of the udder of a grade Shorthorn cow he bought last fall is badly swollen and very hard. This quarter did not seem to be right last fall when the calf was weaned. The cow freshened again this spring and the calf is thin and rather small. He asks if the ordinary treatment for garget will do any good, and if rubbing would be beneficial. If so, how long would such treatment be required?

Dr. R. R. Dykstra, of the agricultural college, offers the following suggestions:

"In view of the fact that your cow's udder has been diseased for more than a year, the chances of recovery are very poor, indeed. In a case of this kind the changes in the udder are so extensive that no remedial agents can bring it back to normal. It is possible that daily vigorous massages of the udder in the form of rubbing and kneading movements will be of benefit. Before applying such manipulations, the udder should be oiled with some non-irritant lubricant, such as vaseline, unsalted lard or butter, because otherwise the skin will be injured by the massaging."

Sometimes native plants that have hitherto attracted little attention, suddenly become noxious weeds on account of special conditions. This was notably the case in the drouth of 1913.

During that year a native herbaceous prairie plant growing in dry soil from Kansas to Texas, known as eryngo, although hitherto unknown as a weed, became in certain localities temporarily a noxious and vicious weed. On one farm alone, near Wichita, is caused \$1,000 worth of damage.

In the same year a little narrow-leaved native annual plant, the western horse-weed, swarmed over the pastures and alarmed the farmers, who thought it a new introduction. It had always been with them but had been held in check, in years of normal rainfall, by the other prairie plants.

A native plant of the plains, fog fruit, because of its underground root system, has become in certain places in West Central Kansas a pernicious weed of gardens, vineyards, and orchards. The western ragweed, an ordinary prairie plant, often becomes a nuisance in cultivated fields because of its propagation by means of horizontal roots.

BINDWEED IS RAMPANT PEST

Among introduced weeds, the bindweed is common but not dangerous in Europe and the Eastern States, where it is held in check by the growth of competing vegetation. In the dry, western country, though, it is a rampant pest—the most dangerous and the most nearly ineradicable weed merely because its deep ranging root system enables it to collect the moisture that should rightly go to the growing crops. Spreading by means of its underground system more extensively than by its seeds, it advances steadily and never retreats.

A more complete knowledge of the range and spread of introduced weeds is seriously needed. At present, a new weed is usually allowed to spread sufficiently to become troublesome before it is reported to the state botanist.

There are approximately 800 kinds of weeds in the United States. Fully 400 may be called common weeds, and about 200 range from merely troublesome nuisances to dangerous pests. Strange to say, most of the worst weed pests in the United States have come from Europe and Asia. It is sufficient to mention Canada thistle, Russian thistle, field sow thistle, field bindweed, Johnson grass—sub-tropical—quack grass, crab grass, foxtail, cheat, buckhorn, most of the wild mustards, the cockles, catchflies, and champions, mullein, burdock, pigweed, lamb's quarters, and wild carrot. These and scores of other weeds have come into the United States in seed shipments or in ballast and have made their way steadily inland.

The botanist finds weeds interesting because they generally are successful types of plants, and it is of scientific value to find out how and why they are so successful. The scientific knowledge thus gained lies at the basis of the study of weed eradication.

Increased fertility means maximum returns from the soil, and only in such returns are there great profits. Corn and silage call first for tillage, then for stock, and these two insure the greatest yields.

98% Of the World's Creameries

Separate their cream with a DE LAVAL

TEN YEARS AGO THERE WERE A DOZEN DIFFERENT MAKES of creamery or factory separators in use. Today over 98 per cent of the world's creameries use De Laval Separators exclusively.

IT MEANS A DIFFERENCE OF SEVERAL THOUSAND DOLLARS a year whether a De Laval or some other make of separator is used in a creamery.

EXACTLY THE SAME DIFFERENCES EXIST, ON A SMALLER scale, in the use of farm separators. Owing to the fact, however, that most farm users do not keep as accurate records as the creameryman, or test their skim-milk with the Babcock tester, they do not appreciate just what the difference between a good and a poor separator means to them in dollars and cents.

NOW IF YOU WERE IN NEED OF LEGAL ADVICE, YOU WOULD go to a lawyer. If you were sick you would consult a doctor. If you had the toothache you would call on a dentist. Why? Because these men are all specialists in their line, and you rely upon their judgment and skill.

WHEN IT COMES TO BUYING A SEPARATOR WHY NOT profit by the experience of the creameryman which qualifies him to advise you correctly? He knows which separator will give you the best service and be the most economical for you to buy. That's why 98 per cent of the world's creameries and milk dealers use the De Laval exclusively.



THERE CAN BE NO BETTER RECOMMENDATION for the De Laval than the fact that the men who make the separation of milk a business use the De Laval to the practical exclusion of all other makes of cream separators.

Your local De Laval agent will be glad to let you try a De Laval for yourself on your own place. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



Three Hundred Million Bushel Crop in 1915

Farmers pay for their land with one year's crop and prosperity was never so great.

Regarding Western Canada as a grain producer, a prominent business man says: "Canada's position today is sounder than ever. There is more wheat, more oats, more grain for feed, 20% more cattle than last year and more hogs. The war market in Europe needs our surplus. As for the wheat crop, it is marvelous and a monument of strength for business confidence to build upon, exceeding the most optimistic predictions."

Wheat averaged in 1915 over 25 bushels per acre
Oats averaged in 1915 over 45 bushels per acre
Barley averaged in 1915 over 40 bushels per acre

Prices are high, markets convenient, excellent land low in price either improved or otherwise, ranging from \$12 to \$30 per acre. Free homestead lands are plentiful and not far from railway lines and convenient to good schools and churches. The climate is healthful. There is no war tax on land, nor is there any conscription. For complete information as to best locations for settlement, reduced railroad rates and descriptive illustrated pamphlet, address

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There's money in baling hay—big money if you use the famous fast working Sandwich Hay Press (motor power). Bale your own hay—hold it for the top-notch market—make a nice, fat income baling hay for your neighbors—\$10—\$15—\$20 a day clear profit is common with our outfit.

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Solid steel construction. Sandwich Gas and Oil Engine, with magneto, mounted on same truck furnishes power. Complete outfit built in our plant, superior to assembled machines. Heavy steel chain transmission (no belt to slip). Simple self-feeder and block dropper. Turns out a continuous stream of solid, salable bales. Starts or stops instantly. Best press for alfalfa. We also make horse and belt power presses.

"TONS TELL," Our Book, Sent Free Pictures and describes these great presses. Write. SANDWICH MFG. CO., 517 Center St., Sandwich, Ill.



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No More Flame-Blackened Cooking Utensils to Scour

Isn't that good news? Just think of the hours of work you won't have to do. Write today for booklet that tells about the different styles and prices of

NEW PERFECTION OIL COOK STOVES

The flame never reaches the utensil. It never creeps up or diminishes. It gives the maximum of efficiency.

This stove is easy to fill and is always ready. Makes summer cooking easy. No smoke—no odor—no waste. Your curtains will stay clean longer.

Costs much less to burn than the coal or wood burning range. Does away with necessity of enduring excessive heat of the latter.

Get the oil cook-stove with the *Long Blue Chimney*. You can't afford to be without one this summer.

Standard Oil Company

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For best results use Perfection Oil



This Useful Outfit Given to Subscription Helpers

1 Butcher Knife - - - - - 1 Meat Cleaver
1 Meat Saw

THREE-PIECE IDEAL MEAT SET

Given as a premium to anyone sending a club of three NEW subscribers to KANSAS FARMER at the special trial rate of 50 cents to January 1, 1917.

USE THIS ORDER BLANK

KANSAS FARMER, Topeka, Kansas.

Gentlemen: Inclosed please find \$1.50 to pay for the following three new trial subscribers to KANSAS FARMER for the rest of 1916.

NAME OF NEW SUBSCRIBER

TOWN

STATE

1.....

2.....

3.....

In return for my help you may send me, postpaid, the Ideal Meat Set.

Name..... Town..... State.....

BARGAINS IN WHEAT LAND

POSITIVELY NO TRADES CONSIDERED.

This land has proven its ability to make 20 per cent net each year on the value asked. It is offered for sale, as the owner is ready to retire.

FARM NO. 1.

Harper County, Kansas, containing 160 acres; sandy loam with clay mixture; 90 acres in wheat, 20 acres ready for spring crops, 50 acres pasture. All fenced and cross-fenced. Running water, two wells. Four-room house, cave, etc. Stable for eight horses, cattle sheds and other out-buildings. Cash price, \$30 an acre.

FARM NO. 2.

480 Acres, Harper County, Kansas. 160 acres broke, 100 acres in wheat, 60 acres ready for spring crop, all good hard wheat land. \$25 an acre, cash.

FARM NO. 3.

160 Acres, 110 acres broke, 60 acres in wheat, 50 acres ready for spring crop; 50 acres mow land on creek bottom; all fenced, meadow cross-fenced; running water, well, granary and stock sheds; good hard wheat lands. \$25 per acre, cash.

FARM NO. 4.

74 Acres in Sedgewick County, Kansas. All broke, all fine alfalfa land; 6 acres in alfalfa, balance in wheat, was alfalfa; fenced; good house, well, barn for four horses, and usual outbuildings. Near station; 10 miles from Wichita. \$100 an acre. Balance of quarter in alfalfa and can be had for \$115 an acre.

WRITE TO H. N. HOVEY, CARE KANSAS FARMER, TOPEKA, KANSAS.

READ KANSAS FARMER'S CLASSIFIED
ADVERTISING PAGE FOR READY BARGAINS



Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

Never believe anything about anybody unless you positively know it is true; never tell even that unless you feel that it is absolutely necessary.—HENRY VAN DYKE.

Treat the children as though they are all that you wish them to be, and if they are well managed, your fondest hopes will be realized.

Energetic Not Bad

We are not yet convinced that boys are naturally bad, as some would have us believe. We do know that boys—and girls, too—are filled with energy from the tops of their heads to the soles of their feet, and they must be kept busy. But if the expenditure of this energy is well directed, right can be made as interesting as wrong.

Common Rose Bush Enemy

In the last few days we have heard many complaints of worms working on the under side of rose leaves, leaving only the dried veins or skeleton of leaf. This is undoubtedly the work of the rose slug. The leaves are the plant's

lungs and when the plant ceases breathing it dies. The present infestation will probably blight this year's blossoms, but the life of the bush can be saved if immediate and persistent action is taken against this pest.

The following sprays will be beneficial in combating the rose slug:

1½ tablespoonsful arsenate of lead
—paste
1 gallon water
or
2 tablespoonsful arsenate of lead
—powder
1 gallon water

In each case the arsenate of lead should be made into a thin paste by the addition of a small quantity of water, before being added to the whole.

Hellebore is another effective poison for this purpose, and should be used in the following quantities:

1 ounce hellebore
1 gallon water
or
1 part hellebore
3 parts flour

This may be used dry or as a spray. If it is to be used dry, mix it with flour at the rate of one pound of powder to

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 Dress-maker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7717—Girls' Dress: Cut in sizes 6 to 12 years. Claiming the right to be called fascinating, this dress shows buttons in groups, trimming a box plait that extends down the center front to where a belt marks the joining of a two-piece skirt. No. 7718—Ladies' Shirtwaist: Cut in sizes 36 to 44 inches bust measure. Linen, crepe de chine or taffetas can be used to make this waist, with the collar and cuffs of contrasting material. The sleeves may be long or short. Narrow banding or braid is a neat trimming and is used in a way to give novelty to the front of the blouse. No. 7123—Girls' Dress: Cut in sizes 4, 6, 8 and 10 years. This pretty frock closes in front and has a small, narrow panel below the yoke line, extending to the hem. The sacque cut is used, without division at the waist. With the dress, bloomers are provided. No. 7263—Ladies' Dress: Cut in sizes 34 to 44 inches bust measure. The plainness of the blouse of this dress is relieved by a puritan collar in either of two sizes, leaving the neck just a trifle exposed. The sleeves may be long or short. The three-gored skirt may have either raised or regulation waistline. No. 7728—Ladies' Skirt: Cut in sizes 24 to 32 inches waist measure. If plainness is the single excellence in a garment, then this three-gored skirt has excellence. The fashionable pockets are of a size to suggest side yoke and are as decorative as they are useful. No. 7716—Ladies' Apron: Cut in sizes 36, 40 and 44 inches bust measure. This model is correctly styled with the generous use of bias banding on a V neck, sleeve edges and pocket laps—it effectively marks the closing at the left side of the front.

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KANSAS CITY, U. S. A.



Located in the center of the shopping district, convenient to car lines, stores, and all points of interest.

The hotel of quality, comfort and refinement.

European Plan, \$1.00 to \$2.50 per Day.

Cafe in Connection.

ROBINSON-MARS HOTEL CO., PROPS.

Eleventh and McGee Streets

FARM LANDS FOR SALE

550 ACRE FARM FOR SALE BY OWNER

Level fine and rich; one-half in cultivation; five tenant houses, two barns; an ideal building site and lots of fine red gum for building purposes. This land is located in Owen County within six miles of Union City, a beautiful thriving city of 8,000 people; lots of churches and very fine schools. The owner of this property can live in Union City and go to his farm at 8 a. m. every day in the year and back to town at 1 p. m. or 7 p. m. This land runs up to the little village of Turrell, where you can ship anything and get your mail four times daily. Churches and schools in less than one mile of property. Part of this property overflows sometimes, but we have organized a drainage district, and the ditch will go through the middle of this property, and then it is cheap at \$100 per acre. This is the best investment in West Tennessee, as this land will grow anything. I will take \$35 an acre, one-half cash, balance to suit purchaser at 6 per cent interest.

NAT Y. MURPHY

ROUTE 6 UNION CITY, TENNESSEE

A Modern Topeka Home

TO SELL AT A BARGAIN

Inside location, on a good street, near school. Seven-room house, all modern conveniences. Good lawn. This proposition will interest anyone wanting a choice location and a good home. Priced to sell. No trades. Address

BOX 5, Care KANSAS FARMER

Beautiful Farm Home

Close to Ottawa, Kan. Well improved, rich soil, fine shade, splendid soft water. You will like this 120 acres. Write for description, price, and postcard view of improvement.

Mansfield Land Co., Ottawa, Kan.

Come to Fowler, Meade Co., Kansas

When great opportunity awaits you; where you can buy the finest of alfalfa lands set to alfalfa with flowing artesian wells; fine orchards and homes at from \$50 to \$75 per acre; finest of wheat land, improved, at \$25 to \$50 per acre. Friends, Catholic, Christian and Baptist churches with large congregations. Write

THE MADDICAN LAND CO., Fowler, Kan.

NESS COUNTY, KANSAS

On main line Missouri Pacific. Send for list of wheat, corn and stock farms, any you want, map of Kansas and other literature. If you don't want to buy any land, you know of anyone who does? If you intend to use the names of parties who have bought land here. If we close a deal with any of them, will pay you well for your trouble. Buxton Rutherford Land Co., Union, Kansas.

RANCH FOR SALE.

120 Acres, two streams, two sets improved; 175 acres under irrigation. Improved and cross-fenced, outside range. \$100 per acre. No trade considered. This is a bargain.

C. WILLIS, DOUGLASS, WYOMING

TRACTS LAND, varying from 1 to 20

acres, adjoining and near McAlester. Was sold at January at government auction. Fine for gardening, fruit and poultry. Part for sale by purchasers at low price. McAlester city of 15,000. Write us about them. SOUTHERN REALTY CO., McAlester, Okla.

FINE SECTION UNIMPROVED

Out eight miles from Leoti, county seat of Wichita County, Kansas. Fine wheat land and can all be plowed. Price for quick sale, \$10 per acre. CARTER REALTY & ABSTRACT CO., Leoti, Kansas.

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

three pounds of flour, and let the mixture stand over night in a closed vessel. It may then be dusted on the plants in any convenient manner. There is no danger of burning the foliage. If to be used as a spray, steep one ounce of the powder in one gallon of water.

The use of hellebore is perhaps a little safer because it loses its poisonous properties after three or four days' exposure to the air.

Too much precaution cannot be exercised in the use of any poison, and none of the solution should be allowed to stand within reach of children or animals.

Heed the Broader Vision

With every soul there are days when the flood of life runs high. There are days when one has high courage; when he feels strength to do any task; when his day dreams lead him to look afar, and his vision is keen enough to reach to the highest peaks. Trust those days. They are the right ones on which to set

out to seek fortune. Get clear in your mind on such a day the whole vision; see then the way to accomplishment of your desires; set out resolutely and at once on the way. That high flood-tide in your life cannot last. Next day, as you go about your work, the way may seem long and hard; you may half repent that you have set yourself to travel it, yet be sure that the vision that came to you when your courage ran high and your sight was keen was the truest one—the one best worth pursuing.

The vision is the thing. We do not go beyond it, maybe do not reach it, yet it is worth the struggle. You have all sorts of schemes for your life, your farm and your children; the noblest of them are possible and best worth while. One soul takes counsel of its fears; it gets not far; another takes departure on the life journey on the day when the flood-tide of life runs high; and it achieves.—JOSEPH E. WING.

Sunshine and air are worth more than the colors in the carpet.

Can Asparagus and Rhubarb

These Will be Both Appetizing and Toning to the System When Snow Flies—Otis E. Hall, K. S. A. C.

NO housewife who attempts to do any home canning can afford to let the rhubarb season pass by without getting her share of this garden plant into glass jars. Of all the vegetables that grow in the garden, rhubarb is the easiest to can, and when used moderately it is one of the most healthful. It is not only a very desirable food, but a fairly good tonic. It is also very appetizing and lends itself to many kinds of dishes. When mixed with gooseberries, strawberries, oranges, or figs, marmalades can be made "fit for a king." For pies and sauces it is a most excellent substitute for berries and fruit. Another advantage which the rhubarb offers is that when sugar is high, as at the present time, it can be canned without a syrup and then sweetened when used.

Glass jars should always be used in canning rhubarb, as the acid which is present in this plant works on the tin and makes even the best of tin cans somewhat unsafe as containers.

Canned Rhubarb: Cut good fresh stalks, not too young nor too old, clean, cut into pieces that will pack best in jar, leaving as little waste space as possible. The skin need not be removed. Blanch in boiling water one to two minutes, then plunge into cold water; pack into glass jars and fill jar to overflow with syrup or boiling water. Partially seal, and sterilize in hot-water bath outfit about fifteen minutes and then remove jar and seal lid good and tight. If using steam-pressure canning outfit, sterilize five to ten minutes under two to five pounds of steam. Don't let steam run higher than five pounds.

ASPARAGUS

Asparagus, unlike rhubarb, is somewhat difficult to can. The reason the asparagus is classed as one of the difficult vegetables to can is because of the lack of the acid which is found in the tomato or that which is so abundant in rhubarb and which helps to protect these from the growth of bacteria which so frequently cause asparagus, greens, corn, etc., to spoil. But when canned properly, asparagus is almost as good as when taken fresh from the garden in early spring.

Only freshly pulled asparagus should be canned and it is simply a waste of both time and jars to can those stalks which have become hard and fibrous. In fact, anything which is not good before canning cannot be made good by canning, and any housewife who has used much asparagus late in the season knows that all her care in cooking and an abundance of good rich seasoning fail to make the old or tough stalks of asparagus good. The same will be true if the tough stalks are canned. Cut fresh tender stalks, clean carefully, remove all fibrous and hard portions, blanch in boiling water three minutes, plunge into cold water, take out at once and cut into pieces which will best fit the jar, leaving as little waste space as possible. Add one teaspoonful of salt to the quart. Put rubber in position, closely pack into jar reasonably full, and add boiling water to fill up all remaining space. If using screw-top jar, place lid in position and turn only about as tight as you can easily with thumb and little finger. Sterilize in hot-water bath outfit two hours, not counting time till water is boiling around the jars, and

then keep water up to shoulders of jars at least. It is better to keep it completely over tops of jars. When two hours are up, remove one jar at a time and tighten lids good and tight. Invert jars on clean paper to test for leaks.

If steam-pressure outfit is used for the sterilization, sterilize sixty minutes under ten pounds of steam or seventy-five minutes under five pounds steam.

In the above recipes the term "blanching" is used. By blanching is meant the process of scalding. That is to plunge products into rapidly boiling water and keep them in vessel over the fire for the length of time indicated in recipe for blanching. The length of time is determined by the age or ripeness of the products. After blanching, dip immediately into cold water and leave there just long enough to cool, then remove and pack into jars at once.

By the term "process" or "sterilize" is meant the cooking of the products in the jars. If the recipe calls for a two-hour process in hot-water bath, it means that products are to be cooked two hours after the water in the hot-water bath outfit is boiling. If recipe calls for a forty-minute process at five pounds steam, do not begin to count time till your thermometer registers five pounds—228 degrees Fahrenheit.

PLACING THE CAN LIDS

First make sure all lids are in good condition, perfectly clean—no rust, no pieces of rubber from rings used the previous year. Then examine the shoulders of jars where lid is to rest. A small piece of rubber or a few grains of sand may cause trouble. When using jars that require the ordinary rubber rings, be sure a good quality of rubber is used and that they are placed in proper position before putting on lids. Don't try to use a lid which "does not want to fit," and always see that it starts on straight. Never tighten it till after the sterilization period is over. If screw-top cans are being used, just turn the lids slightly, about as much as you can easily with thumb and little finger. When sterilization period is over, with a cloth in each hand remove jars as soon as it is safe to open canning outfit and turn all lids good and tight.

If using jars which have wire clamps, place only the top bail in position and if it is too tight, use string or some other means to hold lid on during sterilization period, for when the products in jar get hot and steam is created, some of the steam must have a way to escape or the jar will break. The clamp-top jars will adjust themselves. Follow the directions that come with such jars or lids and never invert jars of this type while hot, for it may break the seal.

SYRUPS

Almost any fruit may be canned with or without a syrup, but unless sugar is unreasonably high at canning time, it is best and cheapest to can with the syrup. The syrup used in canning may be of varied thickness or density, depending, of course, on individual taste or desire or on the particular fruit being canned. A thin syrup is made with one cup of sugar to two cups of water. A medium thick syrup is made with one cup of sugar to one cup of water. A thick syrup is made with two cups of sugar to one cup of water. Whatever proportions are used for the syrup, bring it to a boil and then boil two to three minutes.

GOOD KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are farmer-kings today. Their land has made them independent.

Your chance now is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man with little money.

Wheat, oats, barley, speltz, kafir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs and dairy cattle increase your profits.

Write for our illustrated folder and particulars of easy-purchase contract by which you get 160 acres for \$200 to \$300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6%—price \$10 to \$15 an acre. Address

E. T. CARLIDGE,

Santa Fe Land Improvement Co.,
1870 Santa Fe Bldg., Topeka, Kansas

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 50 cents by express prepaid for \$1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

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A New Crochet Book
Edgings and Insertions

A special selection of pretty patterns. Large illustrations with complete instructions. Over 50 new designs applied to Handkerchiefs, Towels, Yokes, Curtains, etc.

Every page useful. Price, postpaid, 10c. Pattern Dept.

KANSAS FARMER
Topeka, Kan.

SIX SILVER POPPY TEASPOONS FREE.



We have just made a large purchase of Silver Plated Teaspoons at the advanced price. They are extra weight, full standard length, very deep bowl and the handles are beautifully embossed and engraved in the popular Poppy design, which is the very latest in spoons. Every housewife will be pleased with them and will be proud to place them on her table. Notwithstanding the advance in price, we will give a set of these remarkably beautiful Poppy spoons absolutely free, postage paid, to all who send just \$1.00 to pay for a year's subscription to KANSAS FARMER. Send your subscription order quick and secure for yourself a set of these handsome and serviceable spoons. This offer is good to either new or old subscribers. If you are paid in advance, time will be extended one year. Address KANSAS FARMER, Topeka, Kan.

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RELIABLE POULTRY BREEDERS

LEGHORNS.

PURE BUFF EGGS, \$3.50 hundred. Jesse Crites, Florence, Kan.

PURE-BRED SINGLE COMB BROWN Leghorn eggs, \$3 per hundred. Mrs. F. E. Tonn, Haven, Kan.

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

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

PRIZE WINNING SINGLE COMB WHITE Leghorns, one-half price. Eggs, 3c; chicks, 7c. Guaranteed stock, \$1 each from good layers, Ferris strain, that pay \$7 per year per hen. Clara Colwell, Smith Center, Kan.

DUCKS AND GEES.

ENGLISH PENCILED RUNNER DUCKS—Eggs, twelve, \$1; hundred, \$5. Frank Hall, Toronto, Kan.

PURE WHITE RUNNER DUCKS—STOCK and eggs for sale. Satisfaction guaranteed. Mrs. H. E. Halle, McCune, Kan.

ORPINGTONS.

BUFF ORPINGTON EGGS—MAY REDUCTION, 75c for fifteen, from pen scoring 90. A. M. Jordan, Manhattan, Kan.

SINGLE COMB BUFF ORPINGTONS—Eggs from large vigorous farm range birds, \$1 per setting, \$4 hundred. Martha Brown, Parkerville, Kan.

BUFF ORPINGTONS—STRICTLY FANCY matings, splendid winter layers. Eggs, \$1.50 per fifteen, prepaid. J. F. Cox, Route 28, Topeka, Kan.

BUFF ORPINGTONS, S. C. WHITE LEGHORNS, Barred Rocks, \$3.50 hundred, \$5c setting. Bourbon Red Turkeys, \$2.50 setting, prepaid. Chickens on separate farm. Ideal Poultry Farm, Concordia, Kan.

RHODE ISLAND REDS

SIX PURE-BRED R. C. RED ROOSTERS, hatched last year, for immediate sale, cheap. Mrs. Howard Martindale, Madison, Kan.

SINGLE COMB RED EGGS—HUNDRED, \$3.50; thirty, \$1.50. Mrs. Rosa Janzen, Geneseo, Kan.

RHODE ISLAND REDS—FIFTEEN EGGS \$3; hens or pullets, \$3 each; cockerels, \$2 to \$1.50; cocks, \$1. All good ones. Nicholas Bach, Hays, Kan.

ROSE COMB RHODE ISLAND REDS—Won second at Illinois State Fair and first at two county shows. Four grand matings for 1916. Eggs, \$1.50 to \$4 per setting. Write for mating list. A. W. Hibbets, Damar, Kan.

EGGS AT SACRIFICE PRICES AFTER May 22nd from our six grand pens; Rose Comb Reds mated to roosters costing \$15.00 to \$35.00; 15 eggs, \$1.50; 30, \$2.50; 50, \$4.00. Pure-bred range flock \$3.50 per 100. Also good hens and roosters cheap. Catalog. W. R. Huston, Americus, Kan.

BABY CHICKS.

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

ROSE COMB RED HEN HATCHED chicks, 10c. Mrs. Alex. Leitch, Parkerville, Kan.

PURE-BRED ROSE COMB RED BABY chicks, 10c each. Mrs. C. E. Hill, Toronto, Kansas.

REDS, BARRED ROCKS, BUFF ORPINGTONS from free range flocks. \$15 per hundred. E. Castle, 1920 W. Maple, Wichita, Kan.

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM prize winning stock, \$1.50, thirty; \$4.50 hundred. Mrs. Will Beigtel, Holton, Kan.

KANSAS FARMER, Topeka, Kansas. GREAT BEND, KANSAS, May 10, 1916.

Gentlemen.—Enclosed find change of copy for my ad, and in justice to KANSAS FARMER must say that I have had numerous inquiries for Shorthorns, both male and female, and am still getting them. I am sold out of both sexes but have some nice youngsters coming on and doing as well as it is possible for them to do. Have sold a number of both males and females. Twelve head to Claud Lovett of Eureka, Kan.; a red Orange Blossom yearling bull to D. W. Grady, Alden, Kan.; a Scotch bull to Mr. Lyman, Shields, Kan.; Scotch-topped cow and yearling bull to W. Welch, Macksville, Kan.; a Scotch-topped bull to Eugene Lewis, Greensburg, Kan.; Scotch bull to J. Williams, Haven, Kan.; two cows to Charles Mitsch, South Haven, Kan.; two bulls to L. Schmidt, Lorraine, Kan., and a mighty good Queen of Beauty bull to Newland Bros., St. John, Kan. (Signed)

H. H. HOLMES.

PLYMOUTH ROCKS.

EXTRA FINE FARM RAISED WHITE Rocks. Eggs, \$4. Baby chicks, 11c. Mrs. Florence Hoornbeck, Winfield, Kan.

BARRED ROCKS—72 PREMIUMS STOCK sale. Eggs half price. Italian bees. Mattie A. Gillespie, Clay Center, Kan.

UTILITY BARRED ROCKS AT BERMUDA Ranch. Eggs, fifteen, \$1; hundred, \$4. Frank Hall, Toronto, Kan.

BUFF ROCK EGGS, FRISCO WORLD'S Fair championship stock, \$1.50 and \$3 per fifteen. C. R. Baker, Box F, Abilene, Kan.

BARRED ROCK EGGS FROM PEN, cockerel mating, \$1.50 per fifteen; range flock, \$1 per fifteen, \$5 per hundred. Mrs. H. E. Bacheider, Fredonia, Kan.

EGGS FROM BLUE RIBBON BARRED and White Rocks, \$1 to \$3 for fifteen. Write for mating list. Fine cockerels and pullets for sale. H. F. Hicks, Cambridge, Kan.

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. Circular. C. C. Lindamood, Walton, Harvey County, Kansas.

BRED TO LAY BARRED ROCKS—EGGS from selected farm flock, \$1.00. Special matings headed by ten-pound exhibition cockerels, \$3.00. C. D. Swaim, Geuda Springs, Kan.

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 prepay express or postage on any part of the Union. Thomas Owen, Route 7, Topeka, Kan.

TURKEYS.

WHITE HOLLAND TURKEY EGGS, \$2.50 per twelve. W. F. Teague, Collyer, Kan.

MAMMOTH WHITE HOLLAND EGGS, sired by 37-pound tom, \$3 eleven. Jessie Crites, Florence, Kan.

EGGS—FAMOUS NARRAGANSETT TURKEYS. Sunlight Poultry Farm, Mt. Moriah, Mo.

EGGS—MAMMOTH BRONZE TURKEY, prize winning stock, \$2.25 per eleven. White Guinea, \$1.75 per fifteen. W. L. Bell, Funk, Neb.

COCHINS.

PARTRIDGE COCHINS—ALL FULL-blooded stock, prize winners. Fifteen eggs, \$2. Hens or pullets, \$3 each; cockerels, \$4 each. Nicholas Bach, Hays, Kan.

LANGSHANS.

BLACK LANGSHAN, BARKER'S strain. Eggs \$1.00 15, delivered. J. Medford, Wheatland, Okla.

BRAHMAS.

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

LIGHT BRAHMAS, REDS, ROCKS, WYANDOTTES, guineas, Toulouse geese, Stock and eggs. Emma Ahlstedt, Roxbury, 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.

BANTAMS.

GOLDEN SEBRIGHT BANTAM EGGS, \$1.25 per fifteen. Ruth Bacheider, Fredonia, Kan.

FARM AND HERD.

In addition to the recent export shipment of Shorthorns to Argentina under the direction of Secretary Harding of the American Shorthorn Breeders' Association, an order has been placed with Frank Scofield, Hillsboro, Texas, by Brazilian parties for twenty-five head of tick-immune bulls for shipment by June 10. The price is \$500 per head. This is the largest individual foreign order ever placed for bulls from south of the quarantine line. Mr. Scofield is drawing upon the various southern herds to complete the order. In addition Mr. Scofield has sold a yearling bull to Casa Alemana, governor of the Atlantic Coast of Nicaragua, and two yearling bulls to Henry F. Springer, Bluefield, Nicaragua; a yearling bull and heifer to Senor Manuel Estrada, president of Guatemala. Another Argentina shipment includes twenty Shorthorn bulls of varying ages selected by W. A. Forsythe & Sons, Greenwood, Mo., for J. N. Foley. This shipment is now en route and is due to arrive at the destination in August. This is a very important consignment, including bulls of high individual merit and representing the progeny of the most noted sires of recent times. The selections were made with exacting care and the character of the shipment can scarcely fail to strengthen our business relations with the Argentina breeders. It is apparent that our southern neighbors are looking to this country for Shorthorn breeding stock. There is an unlimited field and we have an advantage now over breeders of the British Isles due to the European war conditions.

Catalogs are out for the Shorthorn dispersion sale to be held June 15 by S. S. Spangler at Mt. Vernon Farm, Milan, Mo. Fifty head of choice Shorthorns have been catalogued for this sale and the entire offering was sired by a grand champion or a son of a grand champion. There will be twenty-two head of yearling heifers, fourteen two-year-old heifers (the two-year-olds are bred), and ten cows with calves at foot or close to calving by Royal Cumberland 5th. There will also be nine choice bulls sired by Royal Cumberland 5th. The Shorthorn families represented in the sale will be Princess Royals, Augustas, Marsh Violets, Jealousy's Bessie and other noted milk-producing families. The entire offering will be the useful and profitable kind.

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

MEN AND WOMEN WITH SELLING ability earn \$3 to \$10 a day. Staple goods and straight business proposition. C. W. Carmen, Department D, Merchants Bank Bldg., Lawrence, Kan.

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WE WILL PAY YOU \$120.00 TO DIS-tribute "Successful Farming" in your locality. Money making book for farmers. Write at once for our new institute plan. Sixty days' work or less. No money required. International Institute, 423 Winston Bldg., Philadelphia.

\$1,000 PER MAN PER COUNTY, STRANGE invention, startles world—agents amazed. Ten experienced men divide \$40,000. Korstad, a farmer, did \$2,200 in 14 days. Schlicher, a minister, \$195 in first 12 hours. \$1,200 cold cash made, paid, banked by Stoneman in 30 days; \$15,000 to date. A hot or cold running water bath equipment for any home at only \$6.50. Self-heating. No plumbing or waterworks required. Investigate. Exclusive sale. Credit given. Send no money. Write letter or postal today. Allen Mfg. Co., 226 Allen Bldg., Toledo, Ohio.

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REAL ESTATE.

WANTED—FARMS. HAVE 3,357 BUYERS. Describe your unsold property. 679 Farmers' Exchange, Denver, Colo.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

EIGHTY-ACRE FARM, ONE MILE MANHATTAN; 2 miles college; modern seven-room cottage. A. M. Jordan, Manhattan, Kan.

GRAHAM COUNTY—160-ACRE FARM, half mile to town and good school; 40 acres alfalfa land, balance corn and wheat land. Easy terms. A. G. Morris, Hill City, Kan.

FARM WANTED—TO HEAR FROM owner of farm or unimproved property to give possession October 1. P. F. Box 387, Olney, Ill.

160 ACRES, 7 MILES MARYSVILLE. Trading point, school, churches near by. Eight room house, large hay and cattle barn, granary, other buildings; stock scales; good water. Howard Vall, Marysville, 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.

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HOLSTEIN CALVES, 15-16THS PURE, \$20 each, express prepaid. Write us for Holsteins. "Edgewater," Whitewater, Wis.

FOR SALE—FIVE REGISTERED SHORTHORN bulls, fourteen months old; also females. J. J. Thorne, Kinsley, Kan.

GUERNSEY HEIFERS OF DESIRABLE breeding and promising development. Registered. Soon to freshen. J. W. Marley, Oswego, Kan.

HOLSTEIN COWS AND HEIFERS—TWO carloads. Fancy grades. What do you want? Paul E. Johnson, South St. Paul, Minn.

HIGH-GRADE HOLSTEIN COWS AND heifers. Pure-bred bull calves closely related to world's champion cow. Entire herd for sale. Dr. A. F. Pynn, Hartland, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

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HOGS.

BIG-TYPE POLAND CHINAS. U. A. Gore, Seward, Kan.

CHESTER WHITE BOARS, SEPTEMBER farrow. Registered free. Prices, \$20. Henry Kampling, Elsmore, Kan.

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RED BERMUDA AND YELLOW JERSEY sweet potato plants, \$1.25 per thousand by express, 25c per hundred, postpaid. T. F. Pine, Route 2, Lawrence, Kan.

NANCY HALL, DOOLY YAM AND Pumpkin Yam potato slips, any amount, from assorted seed, \$1.75 per thousand f. o. b. McLoud. Satisfaction guaranteed. Orders and correspondence solicited. L. M. Baker, McLoud, Okla.

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ABSOLUTELY PURE RECLEANED Sudan seed, well matured and very fine for planting or sowing. Less than fifty pounds, 10c; more than fifty pounds, 8c per pound. Cash with order. J. W. Bowiby, Chattanooga, Okla.

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SITUATION WANTED.

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LUMBER.

LUMBER! BUY FROM US. HIGH GRADE. Bottom prices. Quick shipment. Keystone Lumber Co., Tacoma, Wash.

THE STRAY LIST.

TAKEN UP—BY L. D. BIMUS OF Scott Township, Scott County, Kansas, on the 21st day of May, 1916, one gray pony mare branded on right hip; one bay pony mare with white streak in face; one sorrel pony mare branded on right shoulder with letter T. Appraised at \$25 each. John T. Whitson, County Clerk, Scott City, Kansas.



Sour Milk For Young Chicks

MILK is Nature's first food for all young, and the chick is no exception to this rule, except that he seems to prefer his milk sour. It has been commonly believed that the lactic acid in sour milk aided digestion and so helped the chick to withstand disease. In actual practice experiments show that where like quantities of sweet and sour milk are consumed, the results are practically the same. The preference of the chick is the deciding factor, as we find he will consume 10 to 25 per cent more sour milk and make corresponding gains.

For best results, milk should be the first food taken. It is well worth while to dip the beak of each chick individually and see that he takes a good drink of milk while he is being transferred from the incubator to the brooder. This will give the chick a start and help develop a keen appetite for the milk.

Milk should be fed as soon as it thickens and before the curd begins to separate. The chicks like it best in this condition, and consequently consume more. A convenient way to feed is in shallow pans holding about a pint with a piece of inch mesh wire stretched across the top to prevent the chicks from getting wet.

In actual practice milk is worth vastly more than its analysis would indicate. It not only carries a large amount of nourishment in itself, but it renders other food more digestible. If skim milk cannot be obtained, it is worth while to pay whole milk prices for the first two weeks of a chick's life. In this case the cream should be removed, as the skim milk gives much better results. Care should be taken to keep all feeding dishes clean and feed only fresh sour milk.

Allowance should be made for the milk and protein feeds such as beef scrap reduced, else the chicks may be forced off their feet. This is particularly true during the earlier part of the season, while the chicks are kept more closely confined and not given opportunity to exercise.

Some of the advantages of sour milk feeding are as follows:

1. Chicks start quicker and grow very much faster.
2. Become more disease resistance by means of their own increased vigor and vitality.
3. Make larger gains per pound of feed consumed.
4. Reach normal maturity younger and make better paying birds.—Connecticut Agricultural College.

Making Kerosene Emulsion

A poultryman wants to know how to make kerosene emulsion. It is made as follows. Take two gallons of kerosene oil, one-half pound whale oil soap, or one quart home-made soft soap, and one gallon of water. Dissolve the soap by boiling in water, then remove from the fire and immediately add the kerosene. Beat this mixture rapidly and violently until the emulsion is as smooth as beaten cream. Bear in mind, the vessel used in making the emulsion, must be sufficiently large to hold a considerable increase in measure, as the bulk is nearly or quite doubled in emulsifying.

One part of the emulsion as prepared to seven parts of water is used for application to poultry buildings, drop-boards and nest-boxes. Add a couple of ounces of carbolic acid to the diluted emulsion just before applying. This is a splendid disinfectant and insecticide to use about the poultry houses.

Blue Ointment for Lice

Blue ointment, a preparation which may be procured at any drug store, is a very effective agent in completely ridding chickens of lice. To cheapen the preparation, as good results may be had by adding one-half part vaseline. Apply a small amount, such as a thimbleful, of the grease just below the vent of each bird. Do not attempt to grease sitting hens with this preparation. The blue ointment contains mercury and suet. The lice eat the suet and are poisoned with the mercury. This method of treatment is more effective than dusting, inasmuch as it remains intact longer and not only kills the lice that are alive, but also catches those that hatch out later.

Now that most of the hatching is done, the principal thing to do is to see that the chicks are kept thriving.

It never pays to stint the young chicks, give them all the feed they will eat, and rush them to maturity as early as possible.

To make a good, and at the same time a cheap, disinfectant, dissolve in five gallons of water about three pounds of copperas, to which add one pint of crude carbolic acid. If you haven't got a sprayer, use a common watering pot and sprinkle the house and yards occasionally with this mixture and contagious diseases in the flock will not often appear.

When the young cockerels weigh from a pound and a half to two pounds, is the best time to sell them. You will get a better price for them at that weight than you will later. Of course, if you want some of them for breeders next season, you will save the most promising of them. But if you are raising them for broilers, sell them before they weigh two pounds.

Some one asks if bran, when placed in hoppers for young chicks to feed at will, is not harmful, causing distended crops. We fed lots of bran last season to chicks without any evil results. If they are fed grain regularly, they will not eat enough of the bran to hurt themselves. On the contrary, it will prove beneficial to them, for the bowels are regulated by its use, and it is a good food for growth and development.

Don't get the notion that there won't be many lice and mites this year, just because the season has been cool and not many have shown up so far. They will come during hot weather, you may be sure, and every one you kill now is worth a hundred thousand later in the season. Keep spraying the poultry house with a good lice killer, and so keep ahead of the pests.

Not enough importance is placed on the value of good airslaked lime for use in the poultry house and on the runs. Properly used, the lime is of great sanitary value. A free use of airslaked lime on chicken runs where gaps prevail is exceedingly beneficial. Its use no doubt also destroys other germs and bacilli. The wise poultryman will always have a good supply of lime on hand and use it both inside and out of his poultry houses.

A flock of lively chicks in an orchard will pick up thousands of insects and worms and the eggs that hatch such insects. The eating of these will supply the chickens with animal food, and do them lots of good, and at the same time it prevents the insects from damaging the trees. To entice them into the orchard, scatter grain along the path that you want them to take to get there. After they once get a taste of the bugs and worms they will want to go again.

There is no gain in grinding or cracking corn or kafir for chickens. As long as the grain is not too large for them to swallow, its digestibility is better when whole than when cracked. If the chickens are provided with plenty of grit, they will do all the grinding of the grain that is necessary for good digestion. Don't forget the grit however, for without that they cannot digest hard grains, where they might soft food. Plenty of water, of course, is necessary for soaking the grain.

The broody hens should be taken away from the laying house and put in a coop by themselves, for they are a nuisance in the hen house. They bother the other hens that are laying, and contaminate the eggs by sitting on them before they can be gathered. If the broody hens are placed in a clean, airy coop, they will soon quit their setting propensities and go to laying again, whereas if you leave them in the hen houses they will keep on setting for a long while.

Unselfish

Brown (on fishing trip)—Boys, the boat is sinking! Is there anyone here who knows how to pray?

Jones (eagerly)—I do!

Brown—All right! You pray and the rest of us will put on life belts! We're one shy.



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Poland Chinas.

Oct. 10—Sigel Brown, Reeds, Mo.
Oct. 16—W. B. Brown, Perry, Kan.
Oct. 13—Dr. J. H. Lomax, St. Joseph, Mo.; sale at farm near Leona, Kan.
Oct. 17—John D. Henry, Leocompton, Kan.
Oct. 19—H. B. Walter, Effingham, Kan.
Oct. 24—Leonard & Russell, St. Joseph, Mo.
Oct. 25—U. S. Byrne, Saxton, Mo.
Oct. 26—Walter W. Head, St. Joseph, Mo.
Oct. 20—James Arkell, Junction City, Kan.
Nov. 1—Fred B. Caldwell, Howard, Kan.
Nov. 4—L. R. Wiley, Sr., Elmdale, Kan.

Durocs.

Nov. 2—Lant Bros., Dennis, Kan.

D. J. White of Clements, Kan., who owns one of the good herds of Angus cattle in this state, reports his herd doing well. He has a fine lot of calves this year. Mr. White also reports a heavy demand for high class Angus breeding stock at satisfactory prices.

N. L. Duchesne of Great Bend, Kan., has one of the largest and most profitable herds of Jersey cattle in Kansas, seventy head on the farm, forty cows in milk and thirty heifers. This number of cows supplies the milk for a large part of Great Bend. Mr. Duchesne has found the dairy business very profitable. A feature of the herd at this time is the number of young heifers that are fine prospects for producers.

The Deming Ranch at Oswego, Kan., is making great success with the large-type Poland China. H. O. Sheldon, the herdsman, is a practical hog man. He formerly owned one of the good herds of big-type hogs at Wichita, Kan., but for the past two years has had charge of the hog department on the Deming ranch. This well equipped farm contains 2,500 acres of rich bottom land and 1,000 acres of valuable pasture land. They have on the farm about 700 head of hogs, most of them registered, and by careful selection of breeding stock and management they have proved a great source of profit.

E. S. Meyers of Chanute, Kan., owner of Teneholm Shorthorn herd, writes that his herd is doing well. He also reports that the demand for high-class Shorthorn breeding stock has been good this year and that prices have been very satisfactory. He reports recent sales as follows: Seven head to Dr. E. M. McCoy, Canton, Miss.; a bull to Ben Gereve, Carlton, Kan.; one to R. H. Crumpacker, Hattville, Kan.; two to T. Berkerdite, Wellsville, Kan.; one to Theo. Jagels, Hepler, Kan.; and one to W. J. Curtis, Glen Elder, Kan.

D. C. Van Nice of Richland, Kan., is making a success with his fine herd of double standard Polled Durham cattle. Mr. Van Nice has in his herd some of the very best Scotch blood and always registers in both Shorthorn and Polled Durham associations. He has kept his herd up to the very best standard of cattle, both from a beef and dairy type. This class of hornless cattle has become very popular as an all purpose cattle among farmers in this section of the country and the demand has drawn very heavy on Mr. Van Nice's herd for breeding cattle. The champion Roan Hero was used in his herd for a number of years and he has left a fine lot of young stock in the herd that is very promising.

Ex-Governor Stubbs recently added some valuable herd material to his Holstein herd at Mulvane, Kan. In addition to a number of valuable cows, he purchased the great bull, Sir Mercedes Plebe 110166. The dam of this bull has a record as a two-year-old of 29.8 pounds butter in seven days; as a three-year-old, a year record of 20.825 pounds milk and 980 pounds butter; as a four-year-old, 28 pounds butter in seven days. Her record for nine months this year as a four-year-old, milk, 23,829 pounds, and butter 1,065 pounds. At the present rate she will break the world's record for milk production. Another recent purchase was the bull, Canary Paul Fobes Homestead. His dam has the following record: As a two-year-old, 20 pounds butter in seven days; as a three-year-old, 25 pounds; four-year-old, 34.9 pounds; five-year-old, 32.20 pounds; seven-year-old, 33.91 pounds; year record, 21,048 pounds milk, 932 pounds butter.

The great value of dipping sheep for scab was been fully demonstrated by the Department of Agriculture, which shows that after two dippings the worst cases of the epidemic are completely cured. "Two dippings from ten to fourteen days apart," says a bulletin issued by the department, "are necessary in order to insure the complete destruction of all the mites which cause the disease. The first dipping should kill all those that are hatched but may not destroy the eggs that have been laid in the wool. These hatch in about ten days, and the mites which result will succumb to the second dipping. Lime and sulphur, or nicotine and sulphur, are the only solutions recognized by the department for this dipping."

J. Ed Bailey of Irwin, Iowa, is one of the successful breeders of pure-bred Morgan horses that has preserved the ideal type of that great breed. The Morgans in Mr. Bailey's herd are exclusively of the old Morgan type that made the breed famous. Daniel Edwin, one of the stallions in use in his herd, is by Green Mountain 6496 by Green Mountain Morgan 4155, dam Lady Eclipse by Fancy Boy 4724, dam of Lady Eclipse, Fan, by Old Morrow by Bullrush by Justin Morgan. Daniel Edwin is one of the most intensely inbred Morgans living.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm.

HOLSTEIN FRESIAN FARM, TOWANDA, KANSAS

Pure-bred and high grade Holsteins, all ages. Largest pure-bred herd in the Southwest, headed by Oak De Kol Bessie Ormsby 156789, a show bull with royal breeding.

Pure-bred bulls, serviceable age, from A. R. O. dams and sires. A grand lot of pure-bred heifers, some with official records. Choice, extra high grade cows and heifers, well marked, heavy springers, in calf to pure-bred bulls, constantly on hand. High grade heifer calves 6 to 10 weeks old, \$25. Bargains. Send draft for number wanted. All prices f. o. b. cars here. Inspect our herd before purchasing. Write, wire or phone us.

GIROD & ROBISON.

TORREY'S HOLSTEINS

High grade cows and heifers and registered bulls. The best breeding. Call and see them.

O. E. Torrey - Towanda, Kansas

Regier's Holsteins

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

G. REGIER & SONS, WHITEWATER, KAN.

BUTTER BRED HOLSTEINS

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - SCRANTON, KANSAS

REGISTERED HOLSTEINS

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

M. E. MOORE & CO. - CAMERON, MO.

CORYDALE FARM HERD

Jewel Paul Butter Boy No. 94345

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.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

HOLSTEINS

If you want to buy Holstein calves, heifers or cows, at reasonable prices, write to the Whitewater Stock Farm, Whitewater, Wis. Alb. M. Hanson, Prop.

RAISING Registered Holsteins. Trying hard to keep herd healthy. Living close to Nature. Cows calving regularly.

TREDICO FARM

Route 2 - KINGMAN, 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 19.3 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

Albechar Holstein Farm

Offers young bulls, bred cows and heifers for sale. Write for breeding, description and prices. Our herd absolutely free from tuberculosis. Satisfaction guaranteed.

ROBINSON & SHULTZ, Independence, Kan.

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.

W. E. BENTLEY, MANHATTAN, KANSAS

CHOICE HOLSTEIN BULLS

Five registered bulls, out of A. R. O. cows. From 1 month to 2 years. Best breeding. Choice individuals. Price reasonable.

BEN SCHNEIDER, NORTONVILLE, KAN.

IN MISSOURI

Price Segis Walker Pietertje 123955 heads herd. Dam 30.13 lbs. butter in 7 days, milk testing 5.07 per cent. A. R. O. of dam, granddam and ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, \$150 to \$350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin tested.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEIN BULLS

For Sale—A number of very fine bull calves, sired by Wauseona King Korndyke and out of cows that produce 80 pounds of milk per day. Price reasonable.

T. M. EWING, INDEPENDENCE, KANSAS

REGISTERED HOLSTEIN BULL CALVES.

Five individuals and breeding.

PLEASANT VIEW FARM, Altoona, Kansas

HOLSTEIN BULLS, "REGISTERED"

Two ready for service. Smith & Hughes, Breeders, Route 2, Topeka, Kansas.

BRAEBURN HOLSTEINS A.R.O. Bull

H. B. Cowles, 608 Kansas Ave., Topeka, Kan.

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

HOLSTEIN CATTLE.

F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRESIAN FARM, TOWANDA, KANSAS

Pure-bred and high grade Holsteins, all ages. Largest pure-bred herd in the Southwest, headed by Oak De Kol Bessie Ormsby 156789, a show bull with royal breeding.

Pure-bred bulls, serviceable age, from A. R. O. dams and sires. A grand lot of pure-bred heifers, some with official records. Choice, extra high grade cows and heifers, well marked, heavy springers, in calf to pure-bred bulls, constantly on hand. High grade heifer calves 6 to 10 weeks old, \$25. Bargains. Send draft for number wanted. All prices f. o. b. cars here. Inspect our herd before purchasing. Write, wire or phone us.

GIROD & ROBISON.

TORREY'S HOLSTEINS

High grade cows and heifers and registered bulls. The best breeding. Call and see them.

O. E. Torrey - Towanda, Kansas

HEREFORD CATTLE.

Hereford Bulls

We can furnish carload of coming three-year-old Hereford bulls. Have both polled and horned. Good ones cheap. Address

J. C. HOPPER, Ness City, Kansas

Herefords and Percherons

Two choice Hereford bulls, 2 and 3 years old, well marked, both will make ton bulls. The 3-year-old weighs 1,950. Also some choice yearling Percheron stud colts.

M. E. GIDEON - EMMETT, KANSAS

WILLIAMS & SONS HEREFORDS

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

PAUL E. WILLIAMS, MARION, KANSAS

SOUTHARD'S MONARCH HEREFORDS

For Sale—Choice cows and heifers bred to Monarch No. 449994 and Repeater 66th. A few extra good herd bull prospects. Annual sale October 7, 1916. Send for catalog.

J. O. SOUTHARD - COMISKEY, KAN.

RED POLLED CATTLE.

RED POLLED BULLS

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

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

RED POLLED CATTLE

FOR SALE—1915 bull calves by Ross's Grand Champion 17998, a 2,400-pound bull; also a few good cows and heifers.

AULD BROTHERS, FRANKFORT, KAN.

POLLED DURHAM CATTLE.

POLLED DURHAM BULL

For Sale—One roan bull calf, 11 months old. Price, \$250. Good herd header prospect.

D. C. VAN NICE - RICHLAND, KANSAS

GALLOWAY CATTLE.

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.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

DUROC JERSEYS.

Duroc Bred Sows

For Sale—Ten Duroc sows bred for June and July litters. Price, \$30 to \$50. Also ten fall boars, all registered, price \$20 to \$30. First order gets choice. Don't wait. These are real bargains.

J. R. SMITH, Newton, Kansas

BOARS! BOARS! BRED GILTS!

Eighteen big husky boars, thirty bred gilts, a few tried sows. Crimson Wonder, Illustration II, Colonel, Good Enuff, Defender breeding. Either by or bred to sons of the greatest champions of the breed. Priced for quick sale. Immune.

G. M. SHEPHERD - LYONS, KANSAS

MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champion herd. Low cash prices. Big catalog free. Jno. Dunlap, Williamsport, O.

BERKSHIRE HOGS.

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.

E. D. KING - BURLINGTON, KANSAS

ANGUS CATTLE

ABERDEEN ANGUS

We Offer For Sale Bulls and Heifers, Any Number, Single or Carload Lots. These cattle have size and quality and are bred in the purple. See them at Lawrence, forty miles from Kansas City, on Santa Fe and Union Pacific railways.

SUTTON & PORTEOUS

Phone 8454. Route 6, Lawrence, Kan.

FARM AND HERD.

While in New York recently J. C. Robison, of Towanda, Kan., purchased a son of the famous Kline Holstein bull, to place at the head of his Holstein herd. This bull was purchased at about \$1,000. His sire is the highest priced bull of the breed and the highest bull to have three of his get sell for only \$500 and over. Two of his sons sold for \$10,000 each and one for \$15,000. Mr. Robison expects to keep from 150 to 250 registered and high grade Holsteins in his herd, and this young bull, backed by a long line of records, will be a valuable addition to the herd.

KANSAS FAIRS IN 1916

Following is a list of fairs to be held in Kansas in 1916, their dates—where they have been decided on—locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary J. C. Moller:

Kansas State Fair Association, Phil Eastman, Secretary, Topeka; September 11-16.

Kansas State Fair, A. L. Sponsley, Secretary, Hutchinson; September 16-23.

Allen County Agricultural Society, Dr. F. S. Beattie, Secretary, Iola; September 5-8.

Allen County—Moran Agricultural Fair Association, E. N. McCormack, Secretary, Moran; September 1-4.

Barton County Fair Association, Porter Young, Secretary, Great Bend; October 3-6.

Brown County—The Hiawatha Fair Association, J. D. Weltmer, Secretary, Hiawatha; September 5-8.

Butler County—Douglas Agricultural Society, J. A. Clay, Secretary, Douglas; September 27-30.

Clay County Fair Association, W. F. Miller, Secretary, Clay Center; October 4-6.

Clay County—Wakefield Agricultural Association, Eugene Elkins, Secretary, Wakefield; October 6-7.

Cloud County Fair Association, W. L. McCarty, Secretary, Concordia; August 29-September 1.

Coffey County Agricultural Fair Association, S. D. Weaver, Secretary, Burlington; September 1-4.

Cowley County—Eastern Cowley County Fair Association, W. A. Bowden, Secretary, Burden; dates not set.

Cowley County Agricultural & Live Stock Association, Frank W. Sidle, Secretary, Winfield; July 11-14.

Decatur County Fair Association, J. R. Correll, Secretary, Oberlin; dates not set.

Dickinson County Fair Association, C. R. Baer, Secretary, Abilene; September 19-22.

Douglas County Fair & Agricultural Society, C. W. Murphy, Secretary, Lawrence; September 19-22.

Elk County Agricultural Fair Association, Fred R. Lanter, Secretary, Grenola; August 24-31.

Ellsworth County Agricultural & Fair Association, G. C. Gebhardt, Secretary, Ellsworth; September 19-22.

Franklin County Agricultural Society, J. R. Finney, Secretary, Ottawa; September 6-8.

Franklin County—Lane Agricultural Fair Association, Floyd B. Martin, Secretary, Lane; September 1 and 2.

Gray County Agricultural Association, E. T. Peterson, Secretary, Cimarron; September 1-4.

Greenwood County Fair Association, William Buys, Secretary, Eureka; August 29-September 1.

Harper County—The Anthony Fair Association, L. G. Jennings, Secretary, Anthony; August 5-11.

Johnson County—Spring Hill Grange Fair Association, W. F. Wilkerson, Secretary, Spring Hill; September 5-8.

Lathrop County Fair Association, Clarence Montgomery, Secretary, Oswego; September 26-29.

Lincoln County Agricultural & Fair Association, J. D. Ryan, Secretary, Lincoln; September 13-16.

Lincoln County—Sylvan Grove Fair & Agricultural Association, R. W. Wohler, Secretary, Sylvan Grove; September 20-22.

Lincoln County Fair Association, John C. Madden, Secretary, Mound City; September 26-29.

Logan County—Inter-County Fair Association, L. L. Moore, Secretary, Oakley; September 26-29.

McPherson County Stock Show & Fair Association, Blue Rapids; dates not set.

McPherson County Agricultural Fair Association, James T. Griffing, Secretary, McPherson; August 22-25.

Montgomery County Fair Association, Frank Fahn, Secretary, Meade; September 5-8.

Montgomery County Fair Association, I. N. Tice, Secretary, Beloit; October 3-7.

Montgomery County Fair Association, Elbert W. Smith, Secretary, Coffeyville; September 26-29.

Morris County Fair Association, H. A. Cline, Secretary, Council Grove; July 25-27. (Date meet only.)

Neosho Fair Association, M. B. Williams, Secretary, Neosho; dates not set.

Neosho County Agricultural Society, Geo. K. Ryan, Secretary, Chanute; October 3-6.

Ness County Agricultural Association, James A. Cason, Secretary, Ness City; about September 1.

Norton County Agricultural Association, Fred Strohwig, Secretary, Norton; August 29-September 1.

Osage County Fair Association, J. E. Johnson, Secretary, Minneapolis; September 5-8.

Osage County Agricultural Association, Harry H. Wolcott, Secretary, Larned; September 5-8.

Phillips County—Four-County Fair Association, Abraham Troup, Secretary, Logan; September 12-15.

Portawatomie County—Onaga Stock Show and Carnival, F. S. Tinsler, Secretary, Onaga; August 30-September 1.

Pratt County Fair Association, J. M. Lane, Secretary, Pratt; August 8-11.

Reynolds County Agricultural Association, Dr. C. R. Barnard, Secretary, Belleville; August 22-25.

Rice County Agricultural Society, Edw. Barnett, Secretary, Riley; dates not set.

Rock County Fair Association, F. M. Smith, Secretary, Stockton; September 5-8.

Rush County Agricultural & Fair Association, R. H. Lyman, Secretary, Rush Center; September 5-7.

Rush County Fair Association, J. B. Funk, Secretary, Russell; October 3-6.

Savage County Agricultural, Horticultural & Mechanical Association, F. D. Blundon, Secretary, Salina; September 25-30.

Schuyler County Agricultural & Racing Association, Wade Warner, Secretary, Goodland; August 23-26.

Seelye County Fair Association, T. C. Buehler, Secretary, Smith Center; September 5-8.

Seelye County Fair Association, R. B. McKee, Secretary, St. John; dates not set.

Shawnee County Fair Association, S. J. Stray, Secretary, Wakeeney; September 13-15.

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

Good Hog-Feeding Methods

The subject of feeding is a big one. The profit in our operations is often lost by our poor methods in feeding. I actually believe that fully one-third of the crops fed to our animals are wasted by improper methods in feeding. We must feed according to the object we have in view, as it requires different methods in developing breeding animals than it does with market animals. With a breeding animal our aim is to get growth and not fat. With a market animal we want them fat at the end of the feeding period. One thing of great importance in either case is to provide pasture for our hogs in summer and roughage for them in winter. Alfalfa, clover, rape, soy beans or cowpeas provide good pasture, but I believe alfalfa the best, yet you will find that hogs like a variety of pasture and do better where they have it. Good pasture is one of the big items in producing pork at a profit, which is not by any means all in the extra pork either, for our land is made far better by the legumes used as pasture and the fertilizer produced by the pigs, so that the profit produced is really a double one. I do not believe any man can produce pork on an extensive scale at a profit without pasture.

We must have other feeds along with our pasture, the cheapest of which usually is corn if we are feeding for the market. If feeding for breeders, we usually use some other feeds, too, such as oats, shorts and tankage or oil meal. To make a success of pure-bred hogs we must be good feeders as well as good breeders. The young pig requires a large amount of protein, and I aim to feed him a balanced ration having a nutritive ratio of about one to four up to fifty pounds weight, one to five or six up to 100 pounds weight, and one to six or seven up to 200 pounds weight, and a wider ratio afterward.—H. B. WALTER.

Pigs on Pasture Need Grain

Pigs on alfalfa pasture will return more profit per pig if fed a grain ration equal to 3 per cent of their weight, according to data of the North Platte Experimental Substation. The pig is a pork-producing machine and like other machinery is most profitable when run at full capacity. A pig's stomach is so small that it will not digest enough alfalfa alone to make a profitable growth. Pigs cannot produce the best gain when on pasture alone or when on pasture supplemented by only a small amount of grain. Tests made at the North Platte Substation show clearly that two and one-half to three pounds of corn daily per hundred pounds of live weight of the pigs produced not only the greatest gain but the greatest profit. The higher the price of corn, the smaller the profit in favor of the heavier ration. However, on a market quoting corn at 70 cents and hogs at 7½ cents, the 3 per cent ration is still the most profitable.

Saddle Gall Hard to Cure

A. S. T., a Leavenworth County breeder, writes that he has a mare with a bad saddle gall, caused by pulling from the saddle horn. It has been over a year since she received this injury. He has been able to heal it several times, but it breaks out anew in different places along her back in the form of running sores. The mare is practically useless to him, and he asks if any treatment can be given that will cure these sores permanently.

Dr. R. R. Dykstra, of the Kansas Agricultural College, writes as follows regarding the treatment necessary to cure this sort of injury:

"This ailment varies greatly in its severity, depending upon the extent of the injury produced. When the injury is a superficial one, involving the skin only, its cure is quite easy, but when the injury has extended deeply into the muscles or has even grown so far as to affect the ligament found just beneath the skin, and over the back bone, it is a very serious condition, and can only be cured by completely cutting out all of the diseased tissues, providing good drainage for the resulting wound, and washing it daily with a reliable antiseptic solution, so that the wound will be kept in a clean condition. On account of the flies, the warm season is a very unfavorable time to operate upon such wounds. If all the surgical steps are properly carried out, and if the after treatment is carefully followed up, a cure may be expected in from six to eight weeks. Cures cannot be expected in cases of this kind simply by the local or superficial application of medicines."

Clean milk is obtained only by a clean dairyman.

Royal Cumberland 5th, Closing Out SHORTHORN SALE 55 Head - At Mt. Vernon Farm - 55 Head

MILAN, MISSOURI, THURSDAY, JUNE 15TH, 1916

NOTE THIS.—Fifty head are either sired by a grand champion or by a son of a grand champion.

Twenty-two Yearling Heifers.

Fourteen Two-Year-Old Heifers, already bred.

Ten Cows with calves at foot or close to calving by Royal Cumberland 5th.

Nine Bulls sired by Royal Cumberland 5th.

BEAR IN MIND—This sale of Shorthorns are from a business herd and not pampered for show purposes, but showyard blood lines and conformation predominates. You buy the best without paying fancy prices. These are good Shorthorns, farm raised, grown Nature's way, and will make good. The most popular families are represented, as follows: Princess Royal's (direct descendants from the famous Princess Alice); Augusta's; Marsh Violet's; Jealousy's Bessie's, and several other noted families that are milk producers as well as beef.

Write for catalog now. October 24 is the date claimed for our final closing out sale.

COLS. REPPERT, GROSS, BALDRIDGE AND DUNLAP, AUCTIONEERS.
S. S. SPANGLER, - - - MILAN, MISSOURI

HORSES AND MULES.

HORSES AND MULES.

The Champion Breeder---Missouri (Chief 8365)

Sire of the World's Grand Champion Jack, Kansas Chief 8743
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



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.

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

POLAND CHINAS

POLAND CHINAS.

100 - BRED SOWS AND GILTS - 100

ALL IMMUNE, BIG-TYPE POLAND CHINAS

FOR SALE—Sows and gilts bred for July and September litters. A few Receiver gilts bred to The Wonder by Long Wonder. A few gilts sired by First Metal and bred to Receiver Wonder. These are big stretchy gilts and will please anyone. Also a few October and November gilts and a few choice October boars. Can ship pairs or trios, not related. Prices reasonable. Come and see our herd. Over 700 registered hogs on the farm.

THE DEMING RANCH, OSWEGO, KANSAS

Two Miles from Town.

H. O. Sheldon, Herdsman.

SHORTHORN CATTLE.

VAIL HERD SHORTHORNS

For Sale—Four Scotch-topped bulls, eight months old, all reds. They are extra good. Priced at \$100. First check gets choice.

W. H. VAIL - - - HUME, MISSOURI

SHORTHORN BULLS

For sale, two bulls, 10 and 11 months old; solid reds, sired by Brompton's Son. Price, \$125. First check gets choice.

SULLIVAN BROS. - - - MORAN, KANSAS

HILL'S SHORTHORNS

One red Shorthorn bull 11 months old, sired by Bettie's Albion 399451, pure Scotch, well built, weight between 600 and 700 pounds. Ready for service. Priced to sell.

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

RIVERSIDE SHORTHORNS

Headed by Prince Valentine 4th 342179. Families represented, Orange Blossoms, Butterflies, Queen of Beauty and Violets.

H. H. HOLMES, Route 1, Great Bend, Kan.

SHORTHORN BULLS

Four young bulls, nine to eleven months old.

C. E. CASHATT, OSKALOOSA, KAN.

Askew's Shorthorns

Registered Shorthorns, bulls and heifers, reds and roans. Bred and raised on Clover Lawn Farm. Main line Missouri Pacific.

C. W. ASKEW & SONS, UTICA, KANSAS

LOWMONT SHORTHORNS.

Brawith Heir 351808 heads herd. Inspection invited. E. E. Heacock & Son, Hartford, Kan.

Cards—Free

If you will send us the names of ten persons who are not now subscribers to KANSAS FARMER, we will send you a set of Twentieth Century Travel Cards free for your trouble. Address KANSAS FARMER, Travel Dept., Topeka, Kansas.

HENRY'S BIG-TYPE POLANDS

Fall boars, also gilts bred or open, sired by Mammoth Orange. Spring pigs by Mammoth Orange and Big Bob Wonder.

JOHN D. HENRY, Route 1, Lecompton, Kan.

POLAND CHINAS

For Sale—A few large type bred gilts; all vaccinated by the double process. Price reasonable for quick sale.

A. J. SWINGLE - - - Leonardville, Kansas.

OLD ORIGINAL SPOTTED POLANDS.

Booking orders for spring pigs.

A. S. ALEXANDER, R. 2, Burlington, Kansas

LANGFORD'S SPOTTED POLANDS.

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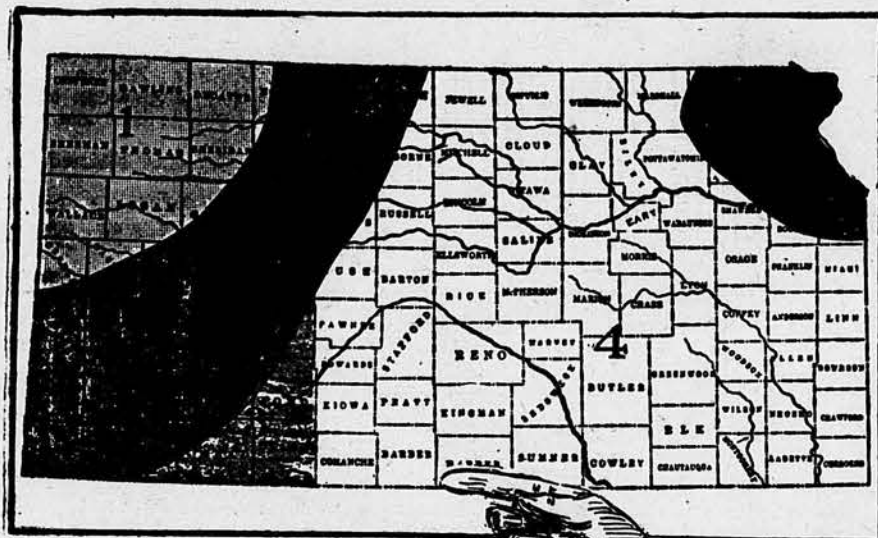
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