

# KANSAS FARMER

FOR THE IMPROVEMENT

OF THE FARM AND HOME

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**N**O MAN can fight on the winning side. He fights to learn which is the winning side.

In all his combat with life's asperities, his one greatest asset is friendship. Property may leave him, strength may fail or reputation vanish, yet one sincere friendship nerves him to fight, and fighting, to win.

In prosperity or poverty, health or illness, activity or sloth, the consciousness of unselfish friendship helps him to compromise where he cannot defeat, and in that word he finds "promise."

In his playmate of childhood, his chum of youth and his servant of age, he is given the one unselfish friend who never falters, never fails, and whose example leads to a larger manhood—his dog. —I. D. G.



*Man's Most Unselfish Friend*

# Maxwell WINS Glidden Tour

Maxwell team of three cars finishes with a perfect score, and a Maxwell entered by Gov. Hoke Smith of Georgia wins the Anderson trophy — there were no more prizes to win!

## A Complete Maxwell Triumph

**B**Y finishing their 1454 mile journey at Jacksonville without a single penalty of any description, the three Maxwell cars took the Glidden Trophy in competition with 64 cars, some of which cost as much as \$5,000.

By winning the Anderson Trophy Governor Smith's car completed the Maxwell triumph in the most gruelling contest in the history of the Glidden Tour.

The conditions of road and weather overcome by the Maxwell team were such as the average motorist rarely or never meets.

Mud and sand—swollen streams to ford—cloudbursts to obscure driving vision—on hill and level the Maxwells ran smoothly and evenly to their goal and finished as the only team in the contest unpenalized.

Running first, second and third into each noon and night control, they arrived at Jacksonville exactly on schedule time.

The Maxwell victory, great as it is, means more than the glory of winning the coveted Glidden and Anderson Trophies. It must demonstrate to motorists and intending purchasers of cars the dependability of the Maxwell, a reliability known to the 47,000 Maxwell owners who were not surprised when the Glidden Maxwells maintained their lead day after day over all other contestants.

This 1911 victory repeats the Maxwell triumph in the Glidden Tour of 1910 when the Maxwell also achieved the best team score.

It is perhaps unnecessary to say here that the Glidden Maxwells were regular 1912 stock cars—

with all the fine points of design, construction, power and style which make them the undisputed leaders of Motordom—values that cannot be equaled by any other automobile manufacturer.

Here are the 1912 Maxwell Models. It will be well to select yours now; it may be difficult to get one later.

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Division of **UNITED STATES MOTOR COMPANY**

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# KANSAS FARMER

## EDITORIAL

### DECREASE IN SOIL VALUES.

The United States Department of Agriculture estimates that in our short national history there have been more than 4,000,000 acres of farm land that have been destroyed either by bad cultural methods or by erosion so that it is utterly worthless for agricultural purposes. Also that something more than 50 per cent of the lands now in cultivation show a marked deterioration from the same causes.

In most cases this deterioration is caused by our greedy methods of taking everything from the soil and returning nothing to it. Perhaps the wheat belt furnishes the best illustration of this, though it is equally true over large sections of the corn belt as well. As corn growing requires deeper culture, the deterioration may not be noticed so early as in the case of wheat, where but a few inches of surface soil is utilized, but the effects, when they do come, will be even more disastrous, because the soil is depleted to a greater depth.

When land becomes "wheat sick" it is easily possible to grow other annual crops on the same land, provided deeper rooting crops are selected. These occupy a stratum which has not been occupied by the wheat. With corn land the conditions are different, though the same methods of rejuvenation will apply if alfalfa can be grown. Alfalfa not only roots much deeper than corn, and draws its sustenance from a lower stratum, but it enriches the land as no other plant outside the clover family can do.

Some one has said that "the animal product of the soil in the United States amounts to ten billion dollars. It can be doubled without any extra cost or labor, and possibly four times that amount could be produced as easily. While much praise is due to what is now being done, and will be done, by the agricultural colleges and by the Department of Agriculture, the job is too big for them. When we set out to educate the children in the public schools, we do not establish one or two large ones in each state and expect them to go there. The soil tiller is as numerous, as much in need of instruction, and as unable to leave home in search of it as the child. The education must be taken to him."

Contrasted with this annual decrease in the intrinsic value of the soil is the increase in market price of farm lands. These two facts alone are sufficient to answer the problem which is so often propounded in the cry of "back to the soil." They are potent influences in keeping people away from the farms, but they do more than this. They impress the fact as it was never before impressed that a better agriculture is necessary.

Present cultural methods are simply using up our capital. We are consuming and selling our farms by the bushel and wagon load and are not providing for the future. Worse than this. We are not getting present returns from our investments of cash and labor as we should. The man who made money and even grew rich on new land worth \$5 per acre when he bought it cannot meet expenses on the same land today because it is twenty times more valuable, while its productive powers have been impaired by bad methods. If he were to continue to make money as he once did he would have to raise and sell twenty times as much as he then did, and even then he would fall short, because his soil is old and poor.

All the money expended for agricultural colleges, agricultural departments, experiment stations, and every other means of discovering new facts or new methods with known facts and of disseminating such knowledge among the farmers, constitutes a big investment, but it is one of the best that Uncle Sam has ever made.

One feature of farm life which has at least the element of interest and of possible profit is to be found in trapping fur-bearing animals. Now is the time to secure these furs at their best. The traps do not cost much and the fun of setting and "running" them is considerable. All the fur-bearing animals now remaining in this country are destructive of either crops or poultry, or both, and the farm boy trapper not only relieves the farm of these pests, but he has considerable fun and makes a little cash on the side.

Watch your alfalfa seed carefully and see that it contains no dodder.

With which is combined FARMER'S ADVOCATE, established 1877.  
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CONTRIBUTIONS—KANSAS FARMER is always glad to have correspondence on all farm, live stock or household subjects. Your name should be signed to all communications and they should always be addressed to

KANSAS FARMER COMPANY, TOPEKA, KANSAS.

### A KANSAS WINNER.

A Kansas boy won first honors in the judging of dairy cattle during the National Dairy Show last week. This shows something and hints more at what a young man can do if he has the right spirit, even though he is "up against it." This prize-winning student is a senior in the Kansas Agricultural College who has had to work his way through college by waiting on the tables of a students' boarding club. His grit and perseverance have not only landed him a winner in the students' judging contest, in which teams from ten different agricultural colleges were contestants, but has given him that which is far more valuable—an education. With the training he now has there will be no difficulty in his securing remunerative employment when he steps from the rostrum with his diploma in hand next June. Indeed the difficulty will most probably be for him to decide between numbers of good offers.

The world is waiting for such young men, not because he won the prize, but because of those qualities which enabled him to win it.

A daily paper reports that a recent shipment of barley was made by boat from California to St. Louis, and cites the saving made in freight charges as pointing to the advantages to be gained by the Panama Canal. This ship load of barley was taken across the isthmus by rail and loaded into other vessels owned by the same company for its trip to New Orleans, whence it was transferred to its destination in steel barges. In spite of having been thrice reloaded, the saving over what the railroad charges would have been were \$4,200. It is estimated that, had the canal been available, the saving would have been about \$6,000. The paper states that this kind of saving will be made on all kinds of freight provided the railroads are not allowed to control the steamship lines.

A gentleman who visited the Domestic Science Department of the State Agricultural College remarked, some weeks afterward, that his visit there had cost him about \$400. He said that he had learned a lot about home conveniences which he had never installed in his own house, because he did not know about them. As soon as he did know he proceeded to take advantage of this knowledge to the extent of \$400 worth, and he added, "it was the best investment I ever made."

Uncle Sam has been trying to raise alfalfa in the Philippines, but has thus far made a failure of it. If this could be done it would save on the forage bill immensely, but the experimenters find that, while alfalfa will grow so well as to make three cuttings during the rainy season, it dies out during the dry months.

Note the large number of farmers' institutes that have been provided for by the Extension Department of the Kansas State Agricultural College. If your community has not yet secured an institute, write at once to Superintendent J. H. Miller, at Manhattan.

### WHY MEAT IS HIGH PRICED.

While the statistics issued by the census bureau are published much too late to be considered as news, some of the facts given are important in a news sense.

For instance, it is shown that the cattle population of continental America has decreased 6,493,619 head in the decade covered by the report. Hogs have decreased 4,867,409, and sheep 9,694,645 head, making a total decrease of 21,055,673 head of meat-producing animals.

During this period the population of the country has been increasing at the rate of a million or more a year, most of whom are consumers of meat in some form and quantity. It is not argued that this can be assigned as the only reason why meat prices are high, nor is it claimed that the figures given are absolutely accurate, but it may be asserted that the condition represented by these figures is one of the contributing causes for the ever-increasing price of meat foods.

That there is room in American agriculture for a deep tilling machine does not seem open to question. Practically all of our lands have been occupied and our crops of the past have all come from the few inches of soil nearest the top. There is now only one direction in which we can expand our farming operations, and that is downward. There is no known crop that is not the better for deep plowing, and there are some for which the plowing is never done deep enough. As an instance, the growing of sugar beets may be mentioned. In Germany the sugar beet has been bred for eighty years to grow about sixteen inches long, and the plowing has been done accordingly. The German average yield for the past twenty years has never fallen below eighteen tons per acre, with about 18 per cent of sugar. In the Arkansas valley our average yield is about ten tons per acre, with about 12 per cent of sugar. Apparently the German beet growers have no advantage over us except in the one item of deep plowing.

This week we publish an article on the hog cholera situation, which is signed "A Breeder." This is not because the writer is afraid to sign his name, or because KANSAS FARMER has departed from its long-established rule to pay no attention to communications not properly signed. The writer of the article in question is a reputable breeder who did sign his name to his letter. Several important inquiries and letters have lately come to this office which could not be answered because they were not signed. A word to the wise.

In France an attempt has been made to introduce a new food, if not to reduce the cost of living. It has been found that sugar beets, when properly handled, will make a very nourishing, very seet and very palatable flour for pastry. One hundred pounds of flour are obtained from 337 pounds of beets, and this flour contains about 70 per cent of sugar and about 82 per cent of nutriment.

### DRY FARMING ENDOWMENT.

Among the resolutions adopted at the recent Dry Farming Congress was one which urged that not less than \$1,000,000 be secured through appropriations by the different countries represented, as an endowment fund for the support of the Dry Farming Congress.

While this congress has done and is doing a very valuable work, it is not apparent why such an enormous fund is needed or why it should be asked. Its only duty is to disseminate information in regard to dry farming methods, and for this purpose no such fund is needed. It does not and should not enter the field of original investigation, as this is already covered by the experiment stations; and besides, there is another and stronger reason.

The utilization of dry lands is not an economic necessity which is pressing at this time, because we have not and are not utilizing the lands we already have under private ownership in the rain belt.

Over enthusiasm on the part of the few causes the many to surround themselves with uncongenial conditions and attempt to make a living in new and untried ways when there is, as yet, plenty of room for them in the better improved regions.

It would be vastly more beneficial and more humane to create a fund with which to compel the proper use of great tracts of land which are now being held by capitalists in the rain belt regions, with little or no attempt at proper cultivation. Land in the arid regions costs as much as it does in the rain belt when everything is considered, though it may be paid for in a different way.

The earlier settlers in Kansas were very familiar with the buffalo wallows of the prairies and knew that most of these circular depressions were so puddled that water would stand in them until it evaporated. When an attempt was made to plow through them it was found that the bottoms were composed of very fine-grained and closely-compacted soil very like gumbo or hardpan in texture, and it was only with the greatest difficulty that the plow could be driven through. After years of experience it was learned that by filling these wallows with stable manure and allowing it to remain there for a season or more, these depressions could be easily plowed and that their soil was of the richest. The farmers simply learned this fact by rule of thumb, but they did not know why. Now they know that the soil at the bottom of these wallows and which had largely been carried there by the wind, was devoid of humus and more or less charged with alkaline or other salts caused by the evaporation of the water. The ammonia of the manure served to neutralize these salts, while its substance served to loosen up the ground and supply it with humus. The same thing takes place on any kind of ground in varying degrees. It is not simply a question of supplying plant food when manure is applied. It is one of neutralizing deleterious salts and of supplying humus as well.

A Colorado professor has found that a sandy loam soil will carry about 14 per cent of "field" water as its capacity, while a clay loam will hold near 18 per cent, the average being 16 per cent. At this rate each foot of soil depth will hold on an average of 2.45 inches of moisture, or about 25 inches in the upper 10 feet of soil. As this is from one and one-half to two times the annual rainfall over the dry farming area, it is argued that it is possible to store one or even two years' rainfall in the soil by using proper methods of tillage.

The foreign demand for American corn will undoubtedly be much stronger than usual, as there will be no great amount to export from South America. It is thought that a low grade wheat, of which the Canadian northwest has an abundant supply and which is suitable for feeding purposes, may be shipped abroad to meet the demand for feeding grains. While this may affect the situation somewhat, it is not likely to very materially affect the price of American corn.

Small pastures which may be used alternately and thus furnish a frequent change of fresh grass are very conducive to a full and prolonged milk flow.

# Transmission of Qualities by the Sire

## Scrub Sires Destroy Work of Breeders and Pure Bred Sires Improve It

By PROF. G. H. ECKLES

It has long been an axiom of the breeder that the sire is half the herd, and it is generally accepted as a fit expression of an important rule.

The skillful breeder of any kind of stock does not need to have it pointed out to him how important it is that the sire be properly selected. If he is a skillful breeder, it is largely because he realizes the importance of the sire and knows how to select him. While the skilled breeder realizes the importance of this in breeding, the average dairyman does not give the question of selection of the sire one-tenth the attention the importance of the question demands.

Thousands of men make use of a scrub or grade sire on account of mistaken economy in cost rather than pay a few dollars more for an animal that is almost certain to transmit desirable qualities. It is not surprising that we have so many worthless cows. They come by their worthlessness in the majority of the cases from sires worse than worthless. Some of these scrub bulls are registered in the herd books.

I am a believer in selecting a breed that is bred for the purpose for which it is to be used. If the farmer intends to milk cows and make that an important part of his business, he is not working to the best advantage unless he selects a breed that has been developed with that object in view. In purchasing the sire, a good general rule to follow is to get one whose female ancestry is of the type that it is desired to raise. If the animal in question is pure bred the chances are reasonably good that these qualities will be transmitted to a large extent, at least. The head of the herd should be a better bred animal than the cows, if it is possible to get one.

The higher developed the herd the more important becomes the selection of the sire, and at the same time the more difficult. We have, then, to take into account the surprising variation in the way different bulls transmit dairy qualities. This is shown in a striking manner by the records of the Jersey herd belonging to the University of Missouri. This herd was started in 1884 by the purchase of four cows, and all the females in the herd since are descended from these four. Complete milk and butter records have been kept since 1892, and no females added to the herd. This gives an opportunity to study the influence of the sire used. The figures given below are the average for a series of years and in most cases for the entire lifetime of the animals included. A comparison is made in each case of the production of the daughters with their dams.

The first animal used in this herd was Missouri Rioter. He left four daughters in the herd, that have a total of twenty-six milking periods. The results are given below:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 5,380 | 4,381     |
| Average per cent fat...  | 4.35  | 4.93      |
| Average yield of fat...  | 234   | 216       |

The average production of the daughters of this animal was 1,009 pounds of milk per year below the production of their dams, and 16 pounds of fat per year. In every case the daughters were inferior to their mothers. If we had the same results in a herd of thirty animals, it would mean a production of over 30,000 pounds of milk a year and 540 pounds of fat less than the dams on account of the sire.

The next was Hugarotus. This animal left eleven daughters, having fifty milking periods:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 4,969 | 4,576     |
| Average per cent fat...  | 4.66  | 5.49      |
| Average yield of fat...  | 231   | 245       |

The eleven daughters average 393 pounds of milk a year below their dams, but on account of the milk being richer gained slightly in the fat produced. The herd was not making any gain as long as this animal was at the head.

The next was Lorne of Meridale. This animal had twelve daughters, who totaled sixty-seven milking periods, as given below:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 4,559 | 5,969     |
| Average per cent fat...  | 4.85  | 4.81      |
| Average yield of fat...  | 221   | 287       |

The daughters show the remarkable increase of 1,410 pounds of milk and 66 pounds of fat per year each over the dams, and in only two cases out of eleven did a daughter fall below her dam, and one of these only slightly. If



DAIRY QUALITIES CAN BE TRANSMITTED TO THE HERD MORE RAPIDLY BY THE USE OF A SIRE BRED ALONG HIGH PRODUCING LINES.

thirty daughters of this bull had been in milk six years their total milk production would have exceeded that of their dams by 250,000 pounds, worth \$3,750 at \$1.50 per hundred weight.

The next herd bull was Missouri Rioter 3d. While he had only three daughters, these have fifteen lactation periods, as given below:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 4,775 | 8,005     |
| Average per cent fat...  | 4.97  | 4.80      |
| Average yield of fat...  | 238   | 384       |

The daughters produced an average of 3,230 pounds of milk and 146 pounds of fat per year more than their dams. While the number of daughters is small, they were uniform in looks and in milking qualities, and we have every reason to believe that had there been more of them they would all have been much the same. Had the value of this bull been known he could have made a fortune and a reputation for any breeder. He was raised on the college farm and his value was not recognized until too late, as has been the case with many breeding animals. He was sold, and no record even kept as to what became of him.

The next bull at the head of this herd was Minette's Pedro. There has been twenty daughters of this animal in the herd, with the following records:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 5,321 | 5,376     |
| Average per cent fat...  | 5.04  | 5.04      |
| Average yield of fat...  | 268   | 271       |

On the whole the daughters are practically on a par with their mothers, and the herd was practically at a standstill and barely held its own.

The last animal with daughters old enough to admit of a comparison is Brown Bessie's Registrar. This animal has but five daughters in our herd, with records as shown below:

|                          | Dams  | Daughters |
|--------------------------|-------|-----------|
| Average yield of milk... | 6,029 | 4,295     |
| Average per cent fat...  | 4.86  | 5.05      |
| Average yield of fat...  | 293   | 217       |

While these figures are too limited to mean much, it is certain that his daughters were decidedly inferior, as only one out of the five was as good as her mother.

A Missouri farmer gives me the following interesting figures showing the effect in milk production of a dairy sire as compared with one not of dairy breeding. He owned a western bred grade cow. Her first heifer was sired by a grade beef bred sire, her second by a pure-bred Jersey. The mother averaged 3,085 pounds of milk and 117 pounds of fat per year. The daughter by the grade beef sire averaged 3,700 pounds of milk and 133 pounds of fat. The daughter by the Jersey averaged 6,000 pounds of milk and 240 pounds of fat. Counting fat at 25 cents per pound, the income of the dam was \$34.19 per year, that of the daughter by the grade beef-bred sire \$38.85, and that by the dairy-bred \$70.00.

In a herd of thirty cows, if such results be secured on the average, the income per year for the daughters, if by

dairy sire, would be \$960 per year more than the income from a like number by the grade beef sire. What would be the difference in value of these two bulls for the dairy farmer with twenty or thirty cows?

One of the chief difficulties in selecting the sire is that practically nothing can be predicted from the looks of the animal, if he has the inherent characteristics of transmitting good dairy qualities or not. Who will undertake to judge by the appearance of a bull if he is one that will transmit dairy qualities as did Missouri Rioter 3d or whether he is as worthless as Hugarotus? The man who will discover some means of so judging will confer a benefit on breeders that can scarcely be estimated.

There are two principles that are especially concerned with breeding, and should be kept in mind. The first is that "like produces like," and the second is the law of "natural variations."

The cow in the condition that nature made her undoubtedly produced only milk enough to feed the calf for a few months until it could subsist on other feeds. This milking characteristic was transmitted quite regularly. It was a case where like generally produced like, but some cows even then were undoubtedly better milkers, due to the law of natural variation. The principle of selection did not come in to retain this variation, and no improvement in this characteristic was made.

After cattle were domesticated the same conditions existed, but finally man began taking advantage of the natural variations and began saving breeding stock from those having the characteristics such as greater milk production, which he found to be valuable.

The animal which is different from the others of its kind by natural variation will reproduce this characteristic in a certain proportion of its descendants. If this same natural variation is in the ancestry of both parents, the chance of transmission is much greater, but under any circumstances only a part of the progeny will have the new characteristic.

The dairy cow of today is largely an artificial product, or perhaps it would be better to say she is an abnormality, since her mammary glands have been abnormally developed by taking advantage of the law of natural variation. The rule of "like produces like" is only true to a limited extent, and the farther we get away from the original type in breeding the smaller the proportion of cases where it holds good. This accounts for the fact often observed that the offspring of a phenomenal cow is often disappointing. However, it will be found that on the average there will be more good animals among the offspring of such a cow than among those from a cow of moderate, or low dairy capacity. We must always expect to find inferior animals appearing frequently in all herds. No breeder can prevent it; but no good breeder fails to reject the inferior ones promptly when

discovered. The higher developed we get our cows, the more difficulty we must expect in keeping them all up to standard.

In selecting a bull for a mixed herd or one of a low dairy capacity, any well-bred bull of a dairy breed with good producing individuals behind him is certain to benefit the herd. Even for the grade herd, the exceptional bull that will transmit qualities higher than the average of his breed is worth more than two or three inferior ones.

There are two courses open to the man selecting a herd bull: One is to buy a young bull on the strength of the records of his ancestors and trust to luck to a certain extent that he will be one that will transmit the desirable characteristics of his ancestors to a high degree. As a rule, such a bull will do fairly well at least in transmitting these characteristics. For the owner of grade cattle or herds of low dairy capacity, this method of selection does very well.

In selecting a young bull the pedigree, including the record of the ancestors, is of as much or more importance than the individuality of the animal. The things to be looked for in the pedigree are, first of all, records of production by the dam of the animal, if you are breeding for milk production. If you are breeding for show animals, get a descendant of show animals.

There are some who refuse to have a bull from the phenomenal record making cows for fear the vitality of the calf will be weakened. I belong to the large majority who want the dam to have the highest record possible, other things being equal. I do not expect more than that a few of her close descendants will inherit this high quality, but the chances are better for them to average up well than they would be from a cow of lower productive capacity.

There is a general belief among breeders that the characteristics of the dam of the sire are transmitted stronger to his daughters than are the characteristics of any other single animal among the ancestors. How much there is in this belief I am not prepared to say.

Next in importance to the dam's record comes the records of the sire's daughters. If the bull has sired many high-testing daughters it is a good evidence, but not certain, that his son will also transmit these characteristics. Third in importance comes the grand dams, and so on through the pedigree. The pedigree of Lorne of Meridale is a good example of a pedigree strong in records and having every indication a pedigree can show that these characteristics will be transmitted, as proved to be the case. The pedigree of Hugarotus shows only three tested cows, of which only one is as close as the third generation. The judgment that would be passed upon these two bulls from a study of their pedigrees would be the same as was the results in actual trial. It must not be expected, however, that the pedigree will always be as accurate an index of the value of the animal as it is in this case.

It should be kept in mind that it is much more important to have a good animal for parent than a noted animal back in the third or fourth generation. I frequently hear men speak of having a Golden Lad, a Stoke Pogis, or a DeKol bull, and when you examine the pedigree the animal mentioned is found in the third or fourth generation, which means they consider the most important fact about the bull to be the 64 or 128 per cent of the blood of the noted bull he may carry. The close ancestors are the ones that count.

Care should be taken to discriminate between official records and private records of milk and butter production, especially where the latter are churn tests that test the ability of the butter-maker as much as the butter production of the cow. An official record means what it says, and so do many private records, but there is always an element of uncertainty about the latter that detracts from their value.

Much more attention should be given to yearly records than to those covering seven days. Of course there are other things to be taken into account in buying a young bull, but I believe the records of the ancestors are of first consideration. In buying a bull of any age, of course, we require an animal of good conformation, strong vitality and constitution and good breed characteristics. In buying a young bull I want one from a cow medium to large for the breed. She must have been a regular breeder

(Continued on page 5)

# Pure Breeding Of Greatest Value

## Scrub Sires Destroy Work of Breeder Pure-Bred Sires Improve It

By PROF. G. C. WHEELER, K. S. A. C.

The Pure-Bred Sire Club for Kansas, concerning which editorial mention was made in KANSAS FARMER of September 16, is already assuming lusty proportions. The idea was presented to many of the leading live stock men in attendance at the State Fair, meeting with their hearty approval. The writer and others from the Extension Department have carried the idea to many of the county fairs of the state, and wherever presented it has been most favorably received.

In order for the movement to accomplish the purpose for which it was intended every man now using pure-bred sires or breeding pure-bred stock should get behind the club and use his influence to convince his neighbor who does not use pure-bred sires of his folly.

The greatest need at the present time for the improvement of our farm stock in Kansas is the use of more pure-bred sires by the producers of market stock. The pure-bred breeders could, perhaps, do more to encourage the bringing about of this result than they are now doing. It would seem that at the present time the production of high-class sires for the grading up of our common stock should be the principal business of the pure-bred breeders of the state. There is far too much effort given by many to the setting up of a multitude of small pure-bred breeders with a few females before they have any conception of what it requires to become a successful breeder of pure-bred stock. The small breeders, who have been urged to begin in this way, expect at once to step into the position of prominence occupied by the men of whom their purchases have been made and begin to reap profit from their operations as creative breeders. Through inexperience the results oftentimes are financial failure, and the man who has failed is bitter against pure-bred stock and, as a result, the whole business of pure-bred stock is given a setback in that community.

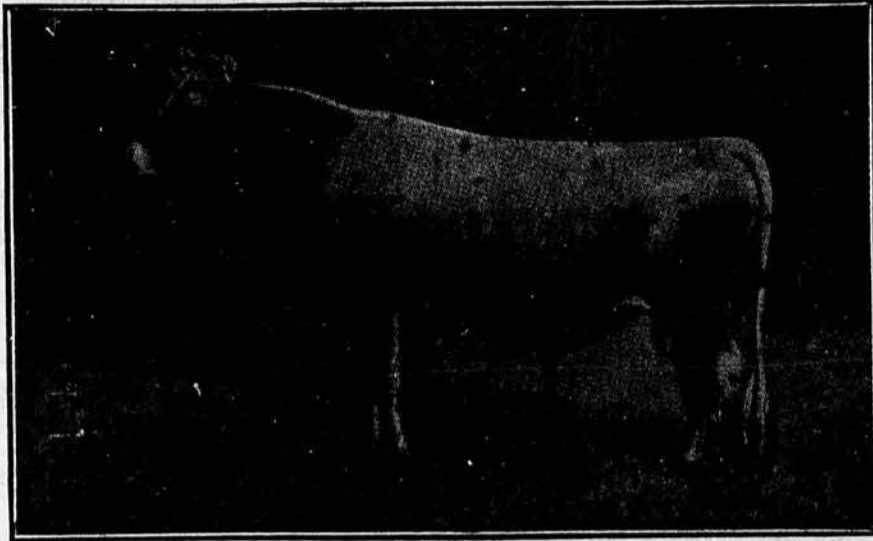
It would be utterly impracticable to attempt to place pure-bred stock upon every farm at once. It is too expensive and there is not enough pure-bred stock in the country to go around. For market purposes the high grades are as useful as pedigreed animals. While it should be the ambition of every live stock farmer to eventually become the owner of nothing but pure-bred animals, he would be foolish not to take advantage of the cheap and efficient system of grading up by the use of pure-bred sires, thus securing at a nominal cost practically all the excellences of the improved breed so far as market purposes are concerned. While it is true that we have need of many more first-class breeders of pure-bred stock, the average farmer would be far more sure of reaping financial success by sticking to the system of grading up. The results of the up-grading system are so surely and so cheaply accomplished that even the man who expects eventually to become a breeder of pedigreed stock had far better make his beginning by this method and gradually work up to the pure-bred business.

The rapidity with which the use of the pure-bred sire eliminates inferior blood is brought out most clearly in a table which follows, taken from Davenport's "Principles of Breeding":

Disappearance of Unimproved Blood by the Continuous Use of Pure-bred Sires.

| Sires. | Dams.           |                 | Offspring.      |                     |
|--------|-----------------|-----------------|-----------------|---------------------|
|        | Pct. of Purity. | Pct. of Purity. | Pct. of Purity. | Pct. of Unimproved. |
| 1      | 100             | 50              | 50 (1-2)        | 50 (1-2)            |
| 2      | 100             | 50              | 75 (3-4)        | 25 (1-4)            |
| 3      | 100             | 75              | 87.5 (7-8)      | 12.5 (1-8)          |
| 4      | 100             | 87.5            | 93.75 (15-16)   | 6.25 (1-16)         |
| 5      | 100             | 93.75           | 96.87 (31-32)   | 3.12 (1-32)         |
| 6      | 100             | 96.87           | 98.44 (63-64)   | 1.5 (1-64)          |

This kind of breeding has for its purpose the improvement of the herd or home stock of the farm as a whole until it approaches in excellence the pure breeds or strains which have been developed by years of painstaking work by the creative breeder. Its purpose is simply to multiply excellence, taking advantage of the expensive work of the great droves of steers coming to our individuals which he has produced to elevate and improve the quality of the whole herd. It is a recognized fact that they possess to the pure-bred sires used in the breeding herds. The great ranches of the west have been far more progressive in the introduction of high-class sires for this purpose than the small creative breeder by using as sires the in-central markets owe what excellence farmers of the corn belt. It is a familiar fact to the buyer of feeding cattle that the steers shipped in from these large ranches are far more uniform and of much higher quality than the steers



BY USE OF PURE-BRED SIRES THE HERD CAN BE RENDERED PRACTICALLY PURE-BRED IN SIX GENERATIONS.

picked up among the smaller farmers. The wonderful results coming from a few crosses of pure-bred animals of high individuality is often the very cause of the final failure of this system of improvement. The beginner can hardly resist the temptation to save from the herd some promising grade pig, calf, or colt for breeding purposes, because of his fine individuality inherited from his pure-bred sire. This is no excuse for his use as a sire. He is but a living example of the great power of the pure-bred animal for improvement. No matter how good he may be as an individual, he is most certain to be lacking in that prepotency as a breeder which is so essential to the general improvement and upbuilding of the herd or flock. It should never be forgotten that, although the half or three-quarter blood animal may look as good as his sire, and per-

haps actually be as good for market purposes, he is worthless for breeding purposes if any further improvement is expected. With the use of grade sires as herd headers, all improvement ceases except what little may be secured by the slow method of selection. The grade is used often because he is so much cheaper than the pure-bred sire. He is really dearer at any price, for the results in one crop of offspring will often far more than make up the difference in cost. The use of the grade sire saved from the herd or flock is almost sure to bring about more or less in-breeding, which, in itself, is a very undesirable practice. Loss of size and vigor and inferior powers of reproduction are almost sure to follow. It is also true that no amount of care in the use of improved systems of breeding will overcome the results of

## Transmission of Qualities By The Sire

Continued From Page Four

and a cow of strong constitution and vitality. She must have a well-developed, symmetrical udder and teats, and a large official year's milk and butter record.

While most dairymen favor the selection of a young bull as a herd bull, there is always the uncertainty about how he will transmit the dairy characteristics. There is a more certain, but more difficult, way to get a bull that will transmit the desired characteristics. This is to get an old tested bull, one who has sired daughters of merit and showed himself to be the exceptional animal wanted by every breeder.

The most skilled breeders are always on the lookout for such an animal, but many are never discovered and many others only after it is too late. Whenever possible it is always advisable to retain an old bull until the results of his breeding can be ascertained. Then if not satisfactory, the sooner he is disposed of the better; but there is always a chance of finding a bull like Missouri Rioter 3d, previously mentioned.

The wonderful prepotency of Stoke Pogis 3d was not recognized until he had been sold for beef. Hengerveld De-Kol, the great Holstein bull that recently died, on the other hand, was retained until it was discovered that he was one of the great bulls of the breed, and as a result was sold for \$1,500 at nine years of age for breeding purposes.

One of the great unnecessary losses among the dairymen is the sacrifice of the bulls when they are mature and at their best. The average dairyman buys a young bull, uses him two or three years and offers him for sale without waiting to learn the quality of his daughters. His neighbor, instead of buying the old bull, buys a young one, and

the older one that may be worth a fortune to the community is sold for beef while the neighbor is experimenting with the young one.

For the past five years we have followed the plan of never selling a herd bull once used. We loan or lease him out in some grade herd until we can ascertain the results of his breeding. If he transmits the qualities we want we can then get him back at any time. We do not propose to lose another bull like Missouri Rioter 3d.

There is one danger connected with the aged bull that should be understood and guarded against. This is the introduction of contagious abortion. If I had a herd free from this disease, I would exert the greatest precaution about introducing an aged bull. If I was not entirely satisfied on this point, I would select the young calf which is safe from abortion, even if coming from a herd where the disease exists.

One of the commercial bureaus which does such things sends out the information that this year's corn crop will amount to 2,657,718,000 bushels for the United States and that the average yield was 25 bushels per acre. The average yields in several states are given: Ohio, 38 bushels per acre; Illinois, 32; Iowa, 33; Missouri, 26; Nebraska, 22; Kansas, 15; Oklahoma, 9. Of course the season accounts, in part, for the low standing of Kansas, but not wholly. Kansas is always below the general average for the United States, and this is due to the fact that the acreage in the western portion of the state is always counted, though the crop is not always sure in that section. There is plenty of room for improvement, however.

poor feeding and improper care and management. Liberal feeding and proper care and management must go hand in hand with good breeding. The facts should never be lost sight of in the work of building up the farm stock.

Where an individual introduces a beef or dairy sire of high character into a community, his usefulness is often greatly restricted because of the limited number of females in the herd and the fact that long before he has become too old for service he must be disposed of to avoid in-breeding. There is too little encouragement given to the man who has ambition enough to bring a high-class sire into the small herd he may possess. It should be seized upon as a splendid opportunity by his neighbors. They should be glad of the chance to pay a breeding fee of \$2 or \$3 in order to secure the use of such a sire and so be able to discard the scrub or grade and begin some real live stock improvement. Even the renter, with little or no capital and with a small amount of live stock, can take advantage of such an opportunity as this. The payment of a reasonable fee is even cheaper than actually owning a high-class sire. Many more high-class sires would be introduced by the owners of small herds if such encouragement and co-operation could be assured. Such sires are sometimes passed by for the scrub because of the saving of \$2 or \$3 in the service fee. Such a community must be educated to appreciate the value of a really high-class sire as an improver of farm stock. Where the fullest use is made of such an animal in a community, the results will soon be apparent. More pure-bred sires will be introduced, and if these new introductions are of the same breed and type, the locality will soon have a reputation as a center for the production of that particular kind of stock. The exchange of sires will be facilitated and a ready market secured for surplus stock.

The first point to be settled in the improvement of any kind of live stock is to decide what type or breeds are best suited to the conditions under which they are to be produced. If it is found that the production of baby beef is the most desirable line to follow in the cattle business and the Hereford suits the conditions as a breed, the first step should be to purchase as good a bull of this breed as the pocketbook will permit. It might be well to look the cows over carefully and possibly discard a few which are of manifestly undesirable type for the purpose. After this sire has been used until his heifers are of breeding age, another bull of the same breed and type must be selected. Under no considerations should change be made from one breed or type to another unless for the very best of reasons. After a few top crosses have been made along this line, coupled with a little judicious culling of undesirable females, it will be found that a splendid bunch of breeding animals has been developed suitable to the purpose desired. This is but an illustration of the methods of improvement, and it will be equally successful with all the domestic animals, from poultry to horses. The universal adoption of such a system of breeding by the farmers of Kansas would add millions to the valuation of our farm animals and their products. The progressive men in every community who may read these suggestions should use their personal efforts to bring about the use of more pure-bred sires among the rank and file of our stock growers and hasten in every way possible the banishment of the grade and scrub from the farms of the state, and the Pure-bred Sire Club should become a most effective movement to assist in this most worthy object. If every member of the club would do as much for it as the man who has the honor of being listed as Number 1, it would not be long before a very large proportion of the producers of live stock in the state would become members. When G. S. Duncan, of Belleville, Kan., first saw the account of the inauguration of the Pure-bred Sire Club for Kansas, he at once sent his name in as a member. He was not satisfied with this, but immediately proceeded to convince one of his neighbors that he should likewise become a member, and at the same time sending in a request for more cards. A number of others in that neighborhood have signed the pledge card of the club as a result of Mr. Duncan's efforts. It is to be hoped that this most commendable action of the first member of the club will be followed by all of those who have come in later.

# You'll Save Money, Trouble and Later Disappointment, if You Always Buy Stoves at Home



Smokeburn-Garland Heater for Coal, Coke or Wood

If you expected to break up housekeeping and go to boarding in a few years, it might pay you to send away from home for a stove. But as you are going to need stoves the rest of your life, why not buy good stoves—stoves that last many years? Is it not poor business judgment to buy stoves that last but a third as long as they ought to, just to save a dollar or so at the start?

### Home Dealers Give Better Values

In return for the slightly higher price you may pay for stoves bought at home, you get this:

- 1—A stove that far outwears any ordinary stove.
- 2—A stove that burns less fuel.
- 3—A stove on which the freight is paid.
- 4—A stove which is guaranteed to give permanent satisfaction.
- 5—You have no waiting to do. No squabbles to adjust with the Railroad Company. No draying. No loading. No unloading. No uncrating. No fussing with stovepipes. No blacking to fool with.
- 6—You get more liberal credit accommodations.

### Disadvantages of Sending Away

Stoves bought away from home, though sold on 30 days' free trial, are hard to return; troublesome to crate and to haul to the station. You pay a higher freight rate than your local dealer. You take chances and risks that you need never take if you buy at home.

## The World-Famous Garland Line

The kind of stoves that have proven best by forty years' test are sold only through dealers. These are the world-famous Garland Stoves and Ranges, now used in more than FOUR MILLION homes and sold by leading dealers everywhere.

No matter what style of stove you want, or how much you have in mind to pay for your stove, be sure to call at your dealer's and see the great Garland line. We will send you the name of the Garland Dealer in your town.

You will know Garland Stoves by the trademark here shown, which appears on every Garland.

### 8 Stove Books FREE

We now print and give away eight different Stove Books for the benefit of Stove Buyers. If you will send us your name and address and tell us what style of stove or range you want, we will send you the proper books.

Please state which of these stove subjects interests you just now: Steel Ranges, Cast Ranges, Cook Stoves, Base Burners, Heaters, Gas Ranges, Furnaces. "The Only Safe Way to Buy Stoves and Ranges" Today is none to soon to begin thinking about home comfort in cold weather. Write at once for the books. All free. Address



The Michigan Stove Company, Largest Makers of Stoves, Ranges, Gas Ranges and Furnaces in the World, Detroit Chicago

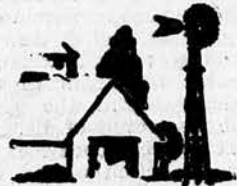
# WINCHESTER .22 CALIBER Repeating Rifles

With shooters of experience it is not a question of which make of .22 Caliber repeater to buy, but which Winchester .22. There are three Winchesters of this caliber to choose from: the .22 Automatic, which is reloaded by recoil, the Models 1890 and 1906. The two latter have the popular sliding forearm action. They are all carefully made, handsomely finished, accurate shooting, smooth working guns. Whichever one you select will give you entire satisfaction. Don't buy anything but a Winchester.

MORE THAN A MILLION WINCHESTERS ARE IN USE.

# SHERWIN-WILLIAMS PAINTS & VARNISHES

## FOR THE FARM



Use Sherwin-Williams Roof and Bridge Paint for painting bridges, structural iron work, metal and tin roofs, barns, rough lumber, etc. It is durable, covers well and works freely under the brush. Sold by dealers everywhere. Ask for color cards.

Address all inquiries to The Sherwin-Williams Co., 730 Canal Road, N. W., Cleveland, Ohio

# THE FARM



In Japan it is found very difficult to secure labor in the factories, as the Japs prefer to work on the farms. This sounds peculiar to one who knows conditions in America, but then the Japs cannot claim so ancient a civilization as we do.

An Ohio farmer has been figuring on the cost of keeping dogs, and concludes that the actual outlay necessary in keeping a fair-sized dog is fully equal to that of keeping a hog. While a dog may be as valuable as a hog on the farm, a large number of dogs will prove expensive.

If seed corn is thoroughly dry there is but little danger of the germ being destroyed by freezing. Corn for seed is easily dried out at storing time, but, unless it is stored in a well-ventilated room, it is likely to accumulate moisture and be in danger of freezing. Good seed saves time, money and crop, and a little care given it will pay dividends next fall.

Speaking of ensilage for beef production, may it not be possible that the silo will prove to be the one thing that was lacking to make the change from ranch and range production to farm production of beef at once easy and profitable. All reports from those who have tried it show the value of ensilage in beef-making, and those who have once used this method continue to use it.

An Indiana farmer claims to have made ensilage successfully from shocked corn. This was done by the abundant use of water. In proof of his success he claims to have sold a bunch of steers which averaged 2 1/2 pounds in daily gain during a five months' feeding period. They were fed on this shocked corn ensilage and cottonseed meal. Shocked corn which is not too far ripened may make good ensilage, but it is far safer to cut it into the silo directly from the field.

The late summer and fall rains have put the wheat in fine condition, and it will go into the winter with an abundant supply of moisture in the soil. This alone is generally thought to be an insurance of a good wheat crop, but when this condition is coupled with the fact that the past growing season was a dry one, there are many who believe that a bumper wheat crop is in sight for next season. At any rate it would seem to be proved by past experience that such a season as we have just had is nearly always followed by big crops.

The officials of the Department of Agriculture are busily searching for native supplies of such mineral substances as may be used to supply the elements necessary for a complete fertilizer. Potash is now imported from Germany, nitrates from Chili and phosphorus has heretofore been found only in limited quantities in restricted districts. Partial success is already reported, and it is hoped and expected by these officers that their success will be such that not only will the supply be ample, but the cost will be reduced.

The Union Stock Yards of Chicago has built up a very profitable business in shipping out manure to the farmers. Owing to adverse railroad rates towards the north and west, all this manure goes east and south from that city. This manure from the horse, cattle and hog pens is kept separate and shipped in car load lots, while that from the sheep pens is dried and shipped in bags. Western roads are attempting to supply manure from the river markets by making reduced railroad rates from Kansas City, St. Joseph and Omaha, and they promise to make this rate permanent if the farmers will respond properly.

The big soil cracks that are reported from Meade and other Southwestern Kansas counties have never been accounted for so far as we know, and yet there must be a reason. In view of the fact that they have all occurred in alfalfa fields, is it not possible that the alfalfa roots may have had something to do with these cracks? Alfalfa is a very deep-rooted plant and a voracious feeder. In a dry season, such as we have just had, might it be possible that

the alfalfa had absorbed so much water that it caused the excessively large cracks? At any rate it seems remarkable that these cracks should always occur in alfalfa fields.

### Measuring Hay.

"Please give me rule for measuring hay in the stack."—F. A. HILL, Durham, Kan.

Count loose hay at about 5 pounds per cubic foot. Stacked hay or that in a mow, when settled, about 8 pounds per cubic foot. Baled hay, 12 to 14 pounds per cubic foot.

### Johnson Grass.

Many years ago a neighbor sowed what is called "Johnson grass" for hay. I understand. And now our farm is becoming infested with this "most terrible" weed; and I use that expression advisedly. For of all the weeds in this part of the country, this one has no comparison as a "spreader" and a "stayer." When we consider the high cost of labor and the increasing value of land it looks to me that it might well be made an offense to sow this seed on good Kansas soil.

Can you tell me how to fight this weed? Is there any such thing as getting entirely rid of the weed? If there is any way known to man of getting rid of Johnson grass, will you please inform me of that way?

All the information you can give me on this subject will be appreciated.—ABRAM BRECHBILL, JR., Detroit, Kan.

I am mailing circular letter giving information regarding the destruction of Johnson grass. Johnson grass may be destroyed in your part of the state by winter or very late fall plowing. Plow deep and leave the soil rough and loose. Or follow the plow with a spring-tooth harrow or narrow-toothed cultivator and drag the roots to the surface, where they are more readily destroyed by freezing and drying.

A season of careful cultivation after such winter plowing should completely eradicate the weed in a cultivated field.

The grass is also destroyed by close pasturing. Care should be taken to prevent the grass from seeding and thus spreading to other fields.—A. M. TEN EYCK.

### Deep Tilling Machines.

Have you tried the Spalding Deep Tilling Machine? If so, what do you think of it for our kind of farming?

Our land "runs together" and "crusts" badly, especially when we have beating rains; this is accompanied by washing wherever there is sufficient slope. This machine looks good to me.

Is there any seeder that can be depended on to sow Bromus Inermis? We have had considerable difficulty on account of the character of the seed.—M. A. SMITH, Superintendent Granite Creek Stock Farm, Cawker City, Kan.

We have one of the Spalding Deep Tilling machines and plowed twenty-four acres with it last spring, stirring the soil twelve to sixteen inches deep. Have not produced a crop yet on the deep tilled land. There is little doubt, however, but that such deep tillage the year the land is summer fallowed will be beneficial in storing more moisture and in giving a deeper, more fertile seed bed.

The machine is rather expensive and slow to operate. We find that it requires six good horses or mules to run it, and two acres is a good day's plowing. The machine is especially useful in heavy soil with hard compact subsoil. Light, sandy soil does not require deep loosening.

I take it that your land is more in need of vegetable matter or humus than of deep tillage. Try manuring and green manuring. Save the straw and spread it on the wheat or plow it under when the land is summer fallowed.

I am mailing Circulars 2, 3 and 5 on manure fertilizers and rotation of crops as related to maintain soil fertility.

The wheelbarrow seeder, manufactured by O. E. Thompson & Sons, Ypsilanti, Mich., is provided with a special box for seeding Bromus Inermis. I am mailing a circular giving further information regarding the seeding of Bromus Inermis.—A. M. TEN EYCK.

**Irrigation by Pumping.**

It is likely that no such activity is seen anywhere in the United States as is now to be found in the Garden City, Kan., district since the general adoption of the plan of irrigation by pumping.

The experience in the Garden City, Kan., district now is not unlike that in an oil or gas district in regard to "bringing in" a well.

Development of the pumping for irrigation industry in the Garden City district has progressed amazingly in the last six months and work will continue during the period of the fall and winter and to a great extent when spring shall come.

Two large contracting outfits and manufacturers of special well casings and well equipment, are now at work within a radius of 50 miles from Garden City in the Arkansas Valley, close to the Colorado line, and a new well is brought in every few days. These wells vary from 1,000 to 2,500 gallons per minute, depending on the motive power used. The water appears to be inexhaustible. To show what a volume of water this is, a well producing 1,000 gallons per minute will run 60,000 gallons per hour, or practically 1 1/2 million gallons per 24-hour period. The average town of 5,000 population will not consume so much water as that for all of its municipal purposes.

This apparently inexhaustible supply of water lies from 10 to 100 feet below the surface throughout the Arkansas Valley in Kansas, and wells are sunk from 40 to 200 feet without the depth or the lift being prohibitive. The water lies in sand or water-bearing gravel, and its quality for irrigation purposes, of course, exceeds very greatly the muddy water, with various deposits, coming from the river through the ditches.

A well may cost from \$2,500 to \$5,000, complete, depending on the depth and on the flow or the expensiveness of the motive power finally used. Oil distillate, gasoline and electricity are used. A well flowing 1,000 gallons per minute will come pretty close to taking care of a quarter section of land. This makes it the cheapest water right on earth.

This wholesale bringing in of wells for irrigation is rapidly transferring the Garden City district into an intensive farming area, where the principal products are beets, alfalfa, fruit, melons and garden truck. The Garden City district abounds in all these, and special attention has been given recently to celery and sweet potatoes.

**Fall Plowing and Garden Irrigation.**

Every farmers institute in the eastern half of Kansas is urged to meet on November 11, 1911, to discuss the very important subject of "Fall Plowing for Oats and Corn." Hundreds of the best farmers in Eastern Kansas have practiced this for years, and the Extension Department of the Agricultural College thinks it ought to be the universal practice. The subject is, therefore, suggested for the November meeting. In Western Kansas the subject may be changed to "Irrigation for the Garden and Orchard," as that is a practice that ought to become more general.

**FALL PLOWING OUTLINE.**

1. Best condition of ground for fall plowing.
2. Should ground be harrowed at once or left rough?
3. How deep should fall plowing be done?
4. How early in the spring should fall-plowed ground be disked?
5. Why should it be disked as soon as frost is out of the ground?
6. What advantages are claimed for fall plowing?
7. Experiences in fall plowing for oats.
8. Experiences in fall plowing for corn.
9. Advantages of fall plowing for garden.
10. Names to be given to the secretary of all who will plow at least five acres for oats and the same acreage for corn, names to be sent to Extension Department, Kansas State Agricultural College.

**GARDEN IRRIGATION OUTLINE.**

1. Approximate cost of piping to water one acre.
2. How much ground can be irrigated from one well with a windmill?
3. How much if a gasoline engine is used?
4. Will winter flooding before plowing be enough for a garden.
5. Will fall flooding, then plowing, then February flooding be enough?
6. Will the method in No. 5 carry a garden to July?
7. Experience in windmill irrigation for a young orchard.

8. Experience in windmill irrigation for a garden.

9. Experiences in turning waste water from a stock tank to a garden or orchard, or to a row of shade trees.

10. Experience in winter irrigation and summer mulching.

11. Names to be given to the secretary of those who will agree to use windmill irrigation on at least one-half acre of garden, and report methods and results to the Extension Department, Kansas State Agricultural College.

**Farming With Dynamite.**

"In KANSAS FARMER, about a year and a half ago, I first saw an article telling about the possibilities of dynamite in farming operations, and this started me to thinking," said Hon. W. A. S. Bird, of Topeka. "I made a lot of inquiries and watched KANSAS FARMER for more information until I finally concluded that there were great possibilities here, and I determined to try it."

"Having a personal acquaintance with United States Senator Dupont, who is at the head of the great powder company, I took the matter up with him and secured his promise to have a demonstration made on my farm this fall."

Having specially invited the members of the Shawnee Alfalfa Club, of which he is a very active member, and having publicly invited everybody interested, the day for the demonstration at Walnut Glen Farm was fixed for Saturday, October 28, at which time a large number of farmers were present, in spite of the rain.

Owing to an accident the demonstration was not made as planned, but enough work was done to convince everyone that a great deal of hard and heavy work about the farm can be performed by aid of this powerful agent, and that such work is done better, quicker and more cheaply than by ordinary means.

Not having any "hard pan" land on his farm, Mr. Bird confined his operations to the digging of a large drainage ditch and the blasting of stumps and rocks. In the ditch, which was to be deepened, auger holes were bored about 2 1/2 feet deep, the dynamite placed in the bottom of each, and the holes filled with water. These charges, of which there were twenty-six in a row, were then fired simultaneously, and the ditch was dug. The dirt was thrown out and scattered so that it was not necessary to level the unsightly ridges left when a ditch is dug.

This was in a dry ditch. When it is necessary to dynamite a wet ditch or to deepen a stream it is wise to dam the water, where possible, and then place the dynamite in the proper holes under water. In this way the freed water will wash away all surplus earth which happens to fall back into the stream bed.

Water is the best known tamping material for dynamite, as its weight and elasticity seems to confine the explosive so as to get the maximum in results. Where a long and wide ditch is to be dug, three or more rows of holes may be charged and exploded at once. In this way it is an easy matter to dig a ditch a rod wide and a hundred or more yards long and do it instantaneously and at half the cost of the ordinary method.

Several large stumps and trees were destroyed at Walnut Glen Farm, and thus a large amount of hard and expensive work was done in an instant. In blasting out boulders a hole is first made under the stone with a crowbar and sufficient dynamite inserted for the purpose. A stick of it is enough to shatter such a stone weighing half a ton.

The same general plan was used in blasting out stumps and trees, though the dynamite may be inserted in holes bored in the roots as well as in holes dug under them. Dynamite used for breaking up hard pan or an impervious clay subsoil should never be placed below the stratum which it is desired to break. If this is done the force of the explosion expends itself downward into the sand or gravel and no good is accomplished. If the charge is placed about a foot above the lower side of the clay stratum the force will shatter the clay and produce a cistern into which the surface water will quickly drain. These cisterns will last and do full duty as drainage reservoirs for at least six years.

"Dynamiting the soil would seem to have many advantages over tile drainage," said Mr. Bird, "and I am planning to use it for this purpose, if needed, as well as for blasting holes for tree planting, destroying stumps and boulders and digging ditches. It is cheap, quick and safe, and I am glad that KANSAS FARMER called my attention to this method of up-to-date farming."



**Keep Your Soil at Top Notch Producing Power**

THE utmost care and attention given to plowing, harrowing, seeding, cultivating, and harvesting cannot make up for lack of fertilizer, which is necessary to keep the soil at the top-notch of its producing power. In fact, fertilizing is of first importance.

Of all fertilizers, manure is best, because it replaces just the elements the crops have extracted, and is most economical.

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**I H C Service Bureau**

The Bureau is a clearing house for agricultural data. It aims to learn the best ways of doing things on the farm, and then distribute the information. Your individual experience may help others. Send your problems to the I H C Service Bureau.



**Johnson Grass.**

In Kansas, Johnson grass is not hardy, at least not in this part of the state. It usually winter-kills, or it may be readily destroyed by turning the roots up with the plow in winter. In my judgment winter plowing will destroy it in Southern Kansas. Of course, if it seeds quite extensively, as it will this year, a great deal of it will start next year from seed. Thus, in order to eradicate the grass it will be necessary to prevent it from seeding.

Where this grass thrives well it is one of the most difficult to eradicate, since it spreads both from the root and from the seed. In fact, it is generally claimed by those who have had the most acquaintance with it that Johnson grass cannot be entirely eradicated where it has once obtained a foothold. This means, of course, in a soil and climate where it is adapted for growing. Professor Shaw in his book on "Grasses" in discussing this point says that he does not accept this opinion, but believes that "if the plants are not allowed to grow above the ground for a single season, the grass will die." This means, of course, that it will be necessary to use the cultivator and hoe very frequently, the purpose being to allow no green growth above the surface of the ground during the year.

Close and constant pasturing will largely kill out Johnson grass, but usually when such fields are plowed again the grass takes possession of the land. If the field spot is fenced in and swine are pastured and fed on the land they may entirely eradicate the grass by digging up and feeding on its roots. You accomplish the entire destruction of the grass in this way; however, it may require several years, and this method is only practicable for a limited area.

If the grass cannot be eradicated where it has obtained a foothold, it is best to adopt measures that will prevent it from spreading from one field

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to another. Quoting from Professor Shaw's book: "The chief agencies in spreading it are the following: 1—Carrying portions of the root to new centers of distribution by means of the plow, harrow, cultivator or other implements of tillage. 2—Sowing the seeds along with those of grain among which Johnson grass may have matured. 3—Seed scattering from plants that may have grown up and matured in crops of grain or in corn or cotton after they have been laid by. 4—In the droppings of cattle that may have eaten the seed. The last named is one of the most common mediums by which the seed is carried.

The preventative measures are: 1—Exercise such care in tilling land where the grass already exists in certain places as will prevent carrying roots to new centers. 2—Exercise even greater care in the chaff of seed grain in cleaning same. 3—Prevent seed from maturing in fields where other crops are grown. 4—Do not allow stock to feed on hay or pasture which contains mature Johnson grass.—A. M. TEN Eyck, Superintendent Fort Hays Branch Experiment Station, Hays, Kan.

## It's Easy To Save Hogs

You can keep worms, cholera and other diseases away from your hogs so easily and at practically no expense. All you have to do is to mix a little of Lewis' Lye with the slop—a teaspoonful to every five gallons, a quarter of a can to a barrel—and that will keep them in splendid shape. But you must do it *now*—don't wait until some disease hits them. And be sure to get

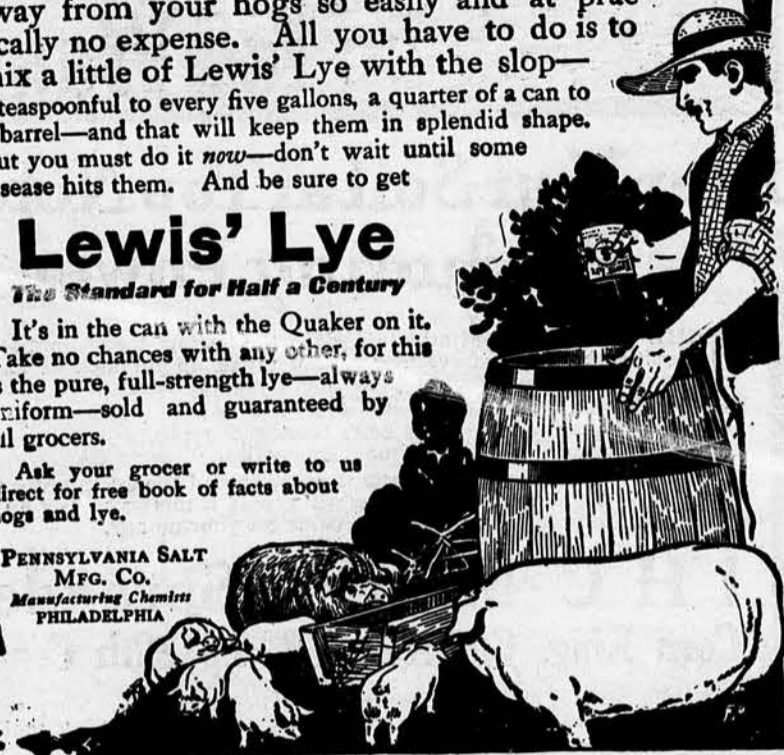
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# LIVE STOCK



Keep the swill barrel and the sleeping quarters clean and keep the hogs free from lice and worms and don't worry about cholera. It may come, but it is very much less likely.

Sheep rearing has been one of man's most profitable and important occupations since very early times, but it is not known whether the present breeds of sheep had their origin in the wild species now known or whether they came from species now extinct. It is only in comparatively recent years that very general attempts have been made to improve the known breeds of sheep, and in making such improvement the farmers of America have devoted their principal attention to the fleece, while those of Canada and Great Britain pay more attention to carcass.

Excepting the Rocky Mountain sheep, or "big horn," all of the breeds of sheep now known in North America were imported from Europe, and, with the exception of the Merino, which came from Spain, they all came from England, where they originated. American breeds of sheep are classified as fine-wooled, medium, and coarse-wooled. To the fine-wooled breeds belong the American Merino, the Delaine Merino, and the Rambouillet. The medium-wooled breeds include the Shropshire, Southdown, Tunis, Dorset, Cheviot, Suffolk Down, Hampshire Down and Oxford Down. The coarse-wooled breeds are the Leicester, Lincoln and Cotswold.

Ever notice how men will stop raising hogs when the price gets low? They say the market is so bad that there is nothing to the hog business, and so they quit. Ever notice how men will jump into the hog business when prices are high? They say that others are making money and they will. Finally, did you ever notice that the man who makes real money in the hog business is the man who stays in it year in and year out. Selling on a low market and buying on a high one don't pay in any business.

The interest in sheep growing seems to be general throughout the country. These animals are easily kept and very useful in consuming much of what would otherwise be waste material on the farm. They are great enrichers of the soil and they afford sources of revenue in mutton, produce and wool. Recognizing the great field of usefulness for the sheep on the farm, the National Mid-Winter Sheep Show has been organized at Omaha, Neb. This show will be held on December 13 to 16, and, as large premiums and a complete classification are offered, a large show is expected.

#### Thumps.

This is an ailment so common to young pigs that a knowledge of its prevention or cure should be understood by all swine breeders. The jerking of the flanks is often so severe at times that it moves the entire body to and fro. Usually there is a derangement of the digestive organs and nerves, commonly believed to be caused by over-feeding and lack of exercise. It is best to give each animal a half ounce of castor oil once as a purge and one grain of digitalis three times a day as a sedative. If the pigs refuse to move force them to take exercise. Mix lime water in the slop at the rate of one ounce per quart. Feed roots also if you have them.

#### Hog Paralysis.

Please send me advice in regard to my young hogs, weighing 125 to 150 pounds. They are apparently in good health except that they have no use of their hind legs. I have six in that condition and one or two which are weak in all four legs. They eat all they can get.—William Hofmaster.

These pigs have paralysis. It is usually caused by a ration deficient in mineral matter and want of regular exercise. Slop with a mixture containing soaked or cooked wheat. Give each sick hog a dessert spoonful of turpentine and 5 tablespoonsful of castor oil, on an empty stomach. Let them drink it with a little milk. Take nux vomica tincture 4 ounces, Fowler's solution 8

ounces; mix and give a teaspoonful in feed 3 times a day. Gradually increase the dose after a few days, as much as they can stand, probably up to 2 teaspoonful, according to the size and age of the hog. Take croton oil, 1 ounce, sweet oil 1 ounce, aqua ammonia 1 ounce and turpentine 9 ounces; mix and apply over and along the small of the back and repeat once a day for 3 days, then apply crude oil.

#### Line Breeding.

Line breeding is the most rapid method of improving live stock, as it excludes everything outside of a chosen line of breeding and gives the ancestry the largest possible opportunity. It rapidly reduces variability to a minimum, while such variations as do occur will be in line with the prominent characteristics of the family. Most of the famous herds and many of the most famous animals of today are the result of line breeding, and nowhere is its good effects shown more rapidly than in swine breeding. It has much to commend it, though there are some disadvantages, if not real dangers. The chief danger lies in the strong temptation for the breeder to select his breeding animals by pedigree, rather than by individual excellence and pedigree. When this is done it is likely to happen that inferior animals will creep into the herd, and then a continuation of line breeding will destroy a herd as rapidly as it would have improved it under other circumstances. This is what happened to the "hot bloods" among hogs, and the reason is not far to seek. As the purpose of line breeding is to perpetuate the good qualities of a given family of live stock and improve upon them, the same laws will perpetuate the inferior qualities, and if these latter are dominant the destruction of the quality of the herd rapidly follows.

#### Moon Blindness—Alfalfa Ration.

What is "moon-eyed" in a horse, and what causes it? Do you consider it hereditary?

In a recent number of KANSAS FARMER there was an article by Mr. Weiss of Wichita, in which he says that the best ration for a horse, as given by Crane, is 56 pounds corn, 32 pounds alfalfa, 7 pounds bran and 5 pounds oil meal, making 100 pounds of mixture. Now, where one is feeding alfalfa it does not seem necessary to put alfalfa meal in this ration. What would you advise as a substitute? Oats is almost out of question here.—W. H. BUCKMASTER, Coffeyville, Kan.

Any white-eyed horse is said to be "moon-eyed," but moon blindness, or periodic ophthalmia, is probably meant. Moon blindness is a periodic inflammation of the deeper tissues of the eye of the horse. Its cause is not known, though it is thought to be caused by a germ or, possibly, a parasite. Mayo states that it was formerly thought that the changes of the moon caused the disease, but this is wholly a mistake. Mares afflicted with moon blindness should not be bred, as this disease tends to prove hereditary.

While the ration given is an excellent one for horses, it is not necessary to include the alfalfa in the grain mixture, though much more convenient. If the grains are mixed and fed with alfalfa hay, the same results will be approximated. Oats seems to be the ideal grain ration for horses, and there is no other grain that will exactly take its place. In practice, many successful horsemen fed a ration consisting of corn and alfalfa, and seem satisfied with results. It is true that corn and alfalfa will more nearly afford a balanced ration than any other two of the ordinary crops.

A fine ration where oats are not available may be made up as follows: Corn, 17.7 pounds; wheat bran, 2.4 pounds; oil meal, 0.4 pounds, with alfalfa or clover hay. This is, however, especially valuable for flesh building or fitting for market.

Warmth in the chicken house is fully as essential as feed for laying hens. They won't lay eggs unless they have a generous supply of both.



**Two Methods With Serum.**

Hogs may be protected against hog cholera by two different methods: (1) by the serum-alone method, and (2) by the serum-simultaneous method. The serum-alone method is used mostly on sick herds, and has only a limited protective power. It produces immediate but only a temporary immunity. However, if the animal is exposed to the disease during the treatment, the period of immunity is prolonged, and in some cases for life. In the serum-alone method we use from 20 to 30 c.c. of serum, obtained from a previously hyper-immunized hog. The injections are made with a hypodermic syringe under the skin and into the muscle tissue, preferably on the inside of the thigh and high up towards the body. Before injecting the serum the syringe and also the vessel containing the serum is sterilized, and the thigh is washed with a 2½ per cent solution of carbolic acid, or with one of the coal tar dips, says Dr. A. T. Peters, of Illinois.

As stated, the serum-alone method is used in herds where the disease already exists, and is used preferably on seemingly healthy hogs. The earlier in the outbreak that it is used, the greater the number of animals that may be saved. Pigs that are very sick will probably not be benefited to any great extent. There is no danger in the use of the serum-alone method, and we highly recommend it where hog cholera exists, and where immunity is desired for only a short time.

The serum-simultaneous method consists in injecting the pig with hog cholera serum, and with hog cholera virus (diseased blood). The injections are made simultaneously, or, in other words, at the same time before the pig is released. The injections are made with two different hypodermic syringes, one containing the serum, and the other containing the diseased blood. Before the injections are made the skin should be thoroughly washed with a 2½ per cent solution of carbolic acid. The serum is injected into one thigh, while the diseased blood is injected into the other thigh. A hog weighing from 30 to 50 pounds receives 20 c.c. of serum and 2 c.c. of diseased blood. This method is used only in herds where the disease does not exist. Pigs treated by this method should be immune for eight months to a year, or perhaps for a much longer time. As a rule, the method is not dangerous, but it is attended with more danger than the serum-alone method. However, the serum-alone method produces a shorter period of immunity and the pigs treated with the serum-simultaneous method are more immune against the disease. Therefore it is better to use the serum-simultaneous method, if the disease does not already exist in the herd.

**The Mule-foot Hog.**

"In the October 21 issue of KANSAS FARMER you state that the mule-foot hog is a purely American breed, created in America. Are you not mistaken in that? In a pamphlet put out by the National Mule-foot Hog Record Association they state that it is a hog without a history. Rumors claim Denmark, Holland, South Africa, Mexico, South America and Sandwich Islands as the several countries of its birth, as they are found in those countries.

"John H. Dunlap, of Ohio, who is now conducting experiments for the United States Department of Agriculture, says the government has never been able to find out when or where the solid-hoofed hog originated. He also states that there are large herds in Sweden, Holland, Scotland, Norway and Turkey, and that they have been found in different parts of the world for centuries, and that they have been known to naturalize in different countries for about 2,000 years.

"Now, I generally find KANSAS FARMER to be very accurate in its statements, and I send this for what it is worth."—J. B. DOBBS, Amherst, S. D.

The statement made in KANSAS FARMER was that "the purely American breeds of hogs are the O. I. C., Chester White, Poland China, Duroc Jersey, Hampshire, Cheshire, Victoria and Mule-foot." This statement was made with the following personal experience in mind:

In 1876 the writer shot a wild hog in the Indian Territory while on an overland journey in a "prairie schooner." He was very much astonished to find that this shoat had solid hoofs. Inquiry among the Indians and whites developed no more information than that these hogs were wild in that region and had always been there.

Many years afterwards, in 1890, I

think, mention was made of this variety of hog to some professors who were then in the Kansas Agricultural College, but they had no knowledge of it. The professor of zoology stated that such a hog was unknown to science. That winter I shot another mule-foot and brought his feet home with me and placed them in the college museum, but was still unable to learn of the existence of this hog in any other part of the world.

They were wild in the Indian country, though there was an old Indian who was said to be breeding them. The next place in which they were heard of was in Ohio, where a certain breeder had made a great success in developing them and had learned of their good qualities and their ready response to good treatment.

Perhaps the mule-foot is not exclusively an American hog, but, so far as we are able to learn, it is as much American as anything else.—Ed.

**A Breeder's Experience With Cholera.**

I saw an article in KANSAS FARMER of October 12, by G. F. Babb, on hog cholera, and while I agree with him in the main, I will have to take exception to at least one point—the prevalence of cholera. I have lived in this county 21 years, and I am certain that we have lost more hogs with cholera in 1911 than in all the rest of the time together. Another point is, vaccination by competent veterinarians. I helped to vaccinate one herd of 100 head, another of 32 head and another of 18 head, and during all the work I never saw the veterinarian sterilize his needle once. What was the effect? One valuable boar died with a case of acute blood poisoning, and, to my certain knowledge, there was 27 abscesses formed on the 143 head saved. Now, is that competent veterinary skill? I know of one breeder who does his own vaccinating. He treated about 60 head in June and again in August, using two needles and dropping each one into boiling aseptic water each time used. What was the consequence? He never had an abscess form. Now, which is the best—your skilled graduate veterinarian, with his filth and carelessness, or your careful breeder,

whose money is at stake in his herd? I am not a graduate veterinarian, but have, myself, used a hypodermic syringe for about 40 years, and have the first time to produce blood poison or an abscess by its use. I am afraid most of the bad effect from vaccinating pigs is caused by not properly sterilizing the instruments. Another thing is, that it takes about 14 days for a case of cholera to develop after inoculation, and if only one hog gets the cholera in a herd, by the time it develops so you can tell what you have, and have treated them, from 40 per cent to 90 per cent have already contracted the disease and died. Then the farmer loses confidence in the treatment, claiming he had but one sick hog when vaccinated, and the well ones were not benefited by the treatment, when, as a matter of fact, his herd was practically all sick and he did not know it. I know, personally, of one herd where cholera broke out in one bunch of 53 head. The first hog was dead on Wednesday morning, post-mortem was held about 8 o'clock a. m., got serum by Thursday morning and began treatment at 7 a. m., was through by 11 a. m., and lost 43 out of the 53 head. Had that been the only effects of the treatment I would have thought it a failure. But the adjoining bunch of 34 head was treated and all saved but two head. A third bunch of 15 head, with only a 72-foot lane between them and the sick ones, was treated in a like manner without the loss of a single hog. So you see, taking all together, the treatment demonstrated its value. Now, from this statement you can see that I believe the serum treatment alone is of but little value, for the reason you cannot control the contagion. If treatment is administered too soon the immunity is not permanent; if too late, you lose your hogs. I believe the simultaneous method the only practicable solution of preventing hog cholera, as you put both infection and immunity in with the needle, and you know you have what you want. I am very sorry our legislators passed a law to make it unlawful for a breeder to use the simultaneous treatment and such that it is impossible to get virus

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blood or antitoxin from our Agricultural College and thus placing it wholly in the hands of our live stock commissioner, so that only a few can use the simultaneous method, while anyone with a little experience and reasonable care can safely use the serum-alone method.

Our Agricultural College is preparing to manufacture an antitoxin to use in connection with the serum to immunize hogs from cholera, but how is the farmer going to use it? We can't afford to get Dr. Babb who, you state, is the only practicing veterinarian in Kansas who has been able to get a permit to use virus blood, to go all over the big state of Kansas and treat them, because the expense would be prohibitory. I don't want to unjustly censure or criticize anyone, but these are all facts. I believe the agricultural papers ought to take up the matter and thresh it out, so that the taxpayers of Kansas could use the best, and, in my opinion, the only preventative for hog cholera, which is the serum-simultaneous method.—A Breeder.

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# DAIRY



A quick-tempered man is handicapped in any business, but there is perhaps none where he loses money so fast as in the dairy. If you are quick-tempered, just make believe you are not, and fool the cows. They will pay you for doing it.

The Kansas State Fair at Topeka had the largest exhibition of dairy cattle ever made in the state, and other state fairs report the same noticeable increase, while the big dairy shows never had so many or such high-class cattle. All this shows that the people of this country are awakening to the value of real farming instead of ruining their land.

A beef steer produces his own weight but once, and then ceases to exist. A dairy cow will produce from six to eight times her own weight in marketable product each year and keep it up for years. And then she produces a calf each year, and adds to the fertility of the soil as side lines. This is why she is regarded as the better money-making machine.

We of the corn belt states were formerly interested, in a vague sort of way, in the milk and butter records which were so frequently published from the dairy districts of the eastern states. Now we make such records ourselves all over the corn belt, and they mean something.

Rose of Glenside has helped to maintain the reputation of the milking Shorthorns by producing 18,075 pounds of milk in one year and making an average of 9,417 pounds a year for seven years. There are many Shorthorn cows in this country with records of 10,000 pounds of milk in a year. The ancestors of the modern Shorthorns were the dairy animals in their home country.

Because an individual cow is a good producer, it is not safe to buy her calf for a good producer unless she have a line of producing ancestors on both sides behind her. Not every cow descended from good producing ancestors is herself a good producer, but she is much more likely to be than if selected in any other way, and this probability has a money value.

A pound of flour will make more than a pound of bread because of the added yeast, salt and moisture. In the same manner a pound of butter-fat will make more than a pound of butter, because of moisture gathered in churning and washing and the added salt. Butter without this "over-run" is impossible, and, if too much moisture and salt is not added, it is not under ban of the law for adulteration.

Perhaps nothing could show the increase of interest in milk farming better than to note the prices which milk cows bring at ordinary farm sales. When Kansas was a "cattle country" the milk cow was not held in high esteem. Now she is "It," and any of her tribe is as good as gold for ready exchange or sale.

The change in sentiment from the beef idea to the dairy idea is due, in no small degree, to the inventive genius of a few men. The cow always gave milk, and her product was valued, but not until the advent of the hand separator, which solved the transportation problem, the silo, which solved the question of succulent feeds at all seasons of the year, and the creamery, which made a uniform product possible, did the milk cow come into her own.

If you do not own and use a silo, think about it during the long winter evenings which are just ahead, and think hard. With a silo you save the entire corn crop, and what is the use of working hard all summer to make a corn crop and then wasting half of it in the weathering of the fodder in the field? With a silo you may have a delicious and succulent feed which will keep up the milk flow at all seasons of the year, and which is easy to handle. If you raise beef cattle instead of milk cows, think about the silo and think just as hard.

### Meat or Milk.

Farmers' Bulletin 74, published by the United States Department of Agriculture, contains a table which compares the two foods. A pound of round steak is shown to contain eighteen per cent of protein, twelve per cent of fat and one per cent of mineral matter. A pound, or not quite a pint, of milk contains three per cent protein, four per cent fat, five per cent carbohydrates (milk sugar), and one per cent mineral matter. According to these figures the steak contains thirty-one per cent of digestible nutrients and a quart of milk is shown to have practically twenty-eight per cent, thus leaving a difference in total nutrients between the two of little more than three-hundredths of a pound.

While it is not to be supposed that consumers will care to give up their juicy steaks for milk entirely, they should have a clearer idea of the comparative values. When milk is sold from six to eight cents per quart it seems rather foolish for consumers to kick on the price when they are paying twenty cents for steak without a murmur. Milk, too, is entirely consumed, while the bone and much of the fat in meat are wasted.

### Side Lines in Dairying.

Under the present system of creamery management, every railroad station is a market for butter fat, and many of them for whole milk as well. But the farmer who sells only butter or butter fat does not always realize just how much he is actually making above the cream check.

Farmers living several miles from town seldom sell whole milk to the trade or for shipment. But in cases where whole milk is sold and none of the food product kept at home, the manure is still a product that should be considered. Where cream or butter is sold, skim milk and manure are two side products which together can be made of as much actual value, if properly handled together indirectly in general farming operations, as the total amount of cream produced and sold.

In either case veal calves sold can not be counted as profit, as it really costs as much, if not more, to grow them as they bring on the market. Still, good profits can be made in growing heifers for dairy purposes. There is always a good demand for them at high prices, especially when they are bred and sold at first freshening.

Dairymen all over the country are looking and competing for young dairy stock of good breeding. Good grade and pure-bred heifers are in great demand all over the country where dairying is an established industry, and progressive dairymen will pay high prices for young producing heifers. There is good money in producing them, whether they are to be sold to other dairymen or kept at home. When pure-bred dairy stock is kept, many of the best male calves can be sold for breeding purposes, often from three to ten times as much as a veal calf would bring.

Unless the farmer lives near a town or city, where tip-top prices can be secured for whole milk, it is best to use a separator and sell only the cream, keeping the skim milk for home use and incidentally saving a great amount of labor, not alone of the men folks, but of the women folks as well. Skim milk on the market will bring only about 15 cents per 100 pounds, while if it is kept on the farm and fed to chickens, pigs and calves it can be made to bring a profit of more than twice this amount.

Take the price for hogs for ten years past and there is splendid profit in growing pigs, where one has a good clover pasture, with plenty of skim milk used to make them grow rapidly from their weaning time until they are ready for market. With pigs to use up the skim milk, the profit from the cows can be nearly doubled. The milk and manure are worth as much as the cream.

If you feed all the cows the same way you not only treat them unfairly, but you cheat yourself. Cows differ in both appetite and capacity, and each should be fed according to her needs.

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# THE BOX ELDER BUG

## History and Methods of Prevention of an Annoying Insect

Almost everyone is familiar with the dark, red-lined adult and the bright red young of this troublesome bug. It belongs to the true bugs and obtains its living by sucking the sap from box elder and other trees. Although, under normal climatic conditions the box elder tree does not appear to suffer serious injury, orchards standing near box elder groves have been known to experience severe damage. It is, however, only when, with the approach of winter, the creature migrates in large numbers into buildings of various sorts, seeking protection from winter cold, that it assumes its most important role as an injurious insect. With the approach of winter, it penetrates dwellings, offices and business houses in such numbers as to form an intolerable nuisance. The infested place is overrun, open receptacles of every sort catch their quota of bugs, unsightly stains on floors, carpets and furniture appear wherever they are crushed, and there is at least one record to show that the immature bugs assume the habit of bed bugs.

This insect was first observed about 1820, west of the Missouri river, just above the present site of Omaha. Since 1820 it has been reported from most of the states and from Mexico, leading some entomologists to believe that it spread from the first named locality. But it may have been present over much of the infested area at an earlier date, not being reported from a lack of competent observers. This would leave its origin a matter for speculation.

### LIFE HISTORY.

The eggs are laid in crevices in the bark or upon the leaves and twigs of box elder and, perhaps, of other trees, as well as on stones, lumber, rubbish, or even loose earth.

After hatching, the young insects feed by sucking the juices from box elder, maple, and perhaps other trees. As already stated, fruits in the vicinity of breeding grounds of large numbers of the insects may suffer severely, and where natural food plants are rare, others may be attacked.

The young insects pass through several stages. They are at first of a bright red or scarlet color and the body is oval in shape, being broadest about the middle of the abdomen. In the later stages of growth an elongated, slate-black wing pad appears, projecting backward from the thorax over each side of the front part of the abdomen. The adult has an elliptical body, with a pointed head that bears a projecting eye on each side. At moulting, its color is also bright red, but gradually changes to slate-black on the dorsal side except the eyes and ocelli, the three stripes that give to it its specific name—one on the middle line of the prothorax and one on each margin of the body from the head to the outer corner of the thickened base of the wings, and a V formed by stripes that converge forward where the thick and the thin parts of the wings unite; while on the ventral surface of the coxae, the posterior margin of the metathorax, the medium line of the abdomen to the last segment, and the outer margins of the abdomen to the last segment retain the red color. The part of the body covered by the wings also remains red. The legs are slender and the four-jointed antennae are elbowed, and have the distal joint of each slightly enlarged.

As cold weather approaches, the adults and remaining young may be seen in clusters on the sheltered sides of trees, or on the dry ground where it is warmed by the sun. Soon afterward they make their way to buildings, or to rubbish heaps in search of dry spots or crevices in which to hibernate. When spring opens the survivors make their way to the timber again and scatter among the trees to deposit eggs.

There is no record of natural enemies that do much toward holding the box elder bug in check.

Two instances in which the box elder bug had become troublesome, were brought to the attention of the department of entomology during the last 12 months. On November 10, 1910, Dr. Headlee received a letter from Miss Ida Bohannon of the Kansas Wesleyan University at Salina, requesting information about methods that would prevent their annoyance in Schuyler Hall, which is the women's dormitory and dining hall at that institution. During the latter part of January, 1911, a letter reached him from Mr. K. C. Smick, editor of the Wamego Reporter, asking what

means would prevent annoyance from bugs that made their way into the printing office. In each case the writer was sent to investigate conditions and suggest means that seemed most likely to exclude the bugs from the building. It is believed that the work at these places has developed a method which will effectually exclude the insects from buildings, and the work done and results secured will be described in some detail.

Schuyler Hall was found to be a two-story brick building, with a basement. Along the south side of each floor was a row of rooms, into each of which opened a south window, and light was admitted to the basement through south windows. Spaces were found around the windows into which the flat-bodied insects could creep, and these connected with openings between the window casing and the plaster on the inside, making it possible for the bugs to reach the interior.

An attempt was made to close the crevices on the outside with mortar, and fit screens tightly over the windows, but so many bugs were already behind the frames that the number getting inside decreased but little. An attempt to kill the bugs in the crevices around one window by fumigation failed because the fumigating material escaped through openings both inside and out. Around the windows in another room the spaces between the casing and plaster on the inside were filled with putty, and strips of cloth were pushed into cracks where the windows were loose in the frames and into the openings for the weight cords. But the putty fell out before it hardened and was replaced by cotton batting wedged in tightly. This gave one room where the crevices through which the bugs had been coming were closed. Those inside were removed by thoroughly cleaning the room. Miss Bohannon reported the appearance of a very few bugs for several days, after which they ceased to enter. She also said that in a new frame building in that vicinity the bugs entered a room that had the windows covered by a screen which did not fit tightly, but were not found in any of the other rooms.


The printing office at Wamego is a one story, stone building. A large plate glass window forms a considerable portion of the south front. Some smaller windows and a door are also on this side. Closing the crevices around the door and windows was the method used here. It was done on the inside to prevent bugs already behind the frames getting on through. Strips of quarter-round were fitted closely to the plaster by being planed to suit, then pressed against the wall and nailed to the window casing. Strips of cloth were pushed into the cracks around windows that were loose in the frames, and some used to close the openings for the weight cords. Strips of cloth tacked to the door step where the door did not fit tightly finished the work.

### SUMMARY.

The results at these places indicate that the way to prevent box elder bugs entering buildings is to make the walls tight. Both Miss Bohannon and Mr. Smick gave it as their intention to have all the crevices in the south walls of their respective buildings closed on the outside before the bugs returned. This work can be done on the outside most conveniently, and when supplemented with screens fitted tightly over the windows will shut the bugs out completely. They can then be collected when gathered in bunches and thrown into kerosene. They can be destroyed also by dashing hot water on clusters of them, or spraying them with kerosene or gasoline when collected where these substances will do no injury to surrounding objects. Unless destroyed in some way, they will remain about buildings until spring.—FRANCIS B. MILLIKEN, Assistant Entomologist, Kansas State Agricultural College.

### Weeds and Yields.

That weeds reduce yields is evident. To get some idea of how much weeds might reduce yields I selected a field that was weedy with pigeon grass. The wheat was ripe. I measured out a square yard at several places, pulled the weeds carefully so as not to disturb the wheat. The weight of the weeds without roots was as follows: Ninety-one ounces, 58 ounces, 64 ounces, 56 ounces, and 60 ounces, making an



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This is the experience of N. P. Hansen, a native of Denmark, who went to Fresno County, California an emigrant. One lives in California, life is so pleasant out there. When you have made up your mind to sell your farm in the East and go to Southern California and buy a small piece of ground, so that you may live in luxury and enjoy life while working your farm, travel on the Los Angeles Limited over the Chicago & Northwestern

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Average of 66 ounces per square yard. The first one is quite a little above the average. If that is left out the average will be 60 ounces to the square yard, or 3 1/2 pounds. This would make 14,520 pounds to the acre. A sample of weeds was dried and gave 21 per cent dry weight, or 3,049 pounds of dry matter—1 1/2 tons, or enough to reduce the yield of wheat 25 bushels, provided wheat could have made as good use of the moisture and plant food. One thing is certain, and that is that the growing of these weeds used up 2,100 tons of water, the equivalent of 18 inches of rainfall, and that is rain that was actually in the soil where the wheat could have secured it. There is no place for the weed. It is an expensive thing to have on the farm.—W. C. PALMER.

### Politics in Schools.

State Superintendent Fairchild says that Kansas should secure expert supervision of public schools by divorcing the office of county superintendent from politics. Superintendent Fairchild is right, as he most generally is. Too often this office is secured as a piece of political pie solely by reason of political pull. How often have excellent schoolmen failed of securing this office because they were not good party men, and for this reason only? How often have such men failed of re-election solely because of the unwritten law that this office shall not be held more than two terms by any one? Such things ought not so to be.

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# POULTRY



If the poultry house is not warm enough to keep the hens from shivering and huddling in a corner, it is not warm enough for them to lay eggs in.

While fowls need lots of floor space to do well, they do not require high ceilings in their poultry houses. When the ceilings are high the houses are apt to be too cold for comfort.

When fowls are penned up in their winter quarters it is very essential that they should be provided with plenty of grit, as this is a thing that cannot be found in their poultry houses unless it is specially provided for them.

Another essential that is often neglected when cold weather comes is plenty of pure water. As an egg is composed of about 90 per cent water, it is evident that eggs cannot be manufactured without this necessary ingredient.

Artificial heat is not desirable in a poultry house, for when the hens are let out into the cold air from a warm house they are apt to catch colds, which will develop into roup. Let a house be tight and snug and not too high, and the warmth of the chickens themselves will be enough heat for comfort.

Turpentine and kerosene will kill every insect and worm it touches. If a louse survives these oils, it is safe to say that it has never touched him. By making a warm mash of bran and corn meal and adding a teaspoonful of turpentine to a mess for twenty-five fowls, it will give the gapeworm plenty of grief, if present. These substances should be constantly kept on hand and used quite freely the whole year through, and without stint in the season of vermin activity. It can be given internally in consistent doses, externally applied, or used as an insecticide on roosts, nest boxes, and anywhere where lice or mites are liable to be. These substances, in the well-regulated house, are as essential as pure air and wholesome food.

### Sick Chickens.

Eskridge, Kan.—Will you please tell me through the columns of KANSAS FARMER what is the trouble with my young chickens? Am not troubled among the old chickens yet. Some of them seem to be sick for several days, yet walk around a little, while others live but a short time. Their combs are red until they die. They just mope around, and then their legs get weak and they cannot get up. Some will be lame in one leg a while before they get so bad. They have no symptoms of cholera or limber neck. They were fed kafir corn before taking sick, but am feeding bran mash and ear corn, and give them a run on a big wheat field. Their trouble seems to be mainly in their legs. Can you give me a cure? I am losing a great many.—SUBSCRIBER.

Answer.—We can only guess at the cause of your chickens dying. It may come from damp quarters, causing rheumatism, or from lice. Lice cause great mortality among chickens, and their presence is often not suspected. Your feeding seems to be all right, and kafir corn won't hurt them.

### Feeding Experiments.

Meat scraps are relatively coarse dry material of varying proportions of flesh, bone and fat. During the summer months lots of tainted scraps are frequently found. Preference should be given to bright, clean goods, free from taint, ground neither too coarse nor too fine, possessing a high protein content (50 per cent), a moderate amount of ash (20 per cent), and not over 15 per cent of fat. The sixteen samples reported have been divided into first grade—those testing 45 per cent protein or above—and second grade—those testing below 45 per cent protein. The twelve first grade scraps averaged 51.07 protein, 15.29 fat, and 22.43 ash, and the average retail price was \$2.53 a hundred. The second grade scraps averaged 41.09 protein, 14.47 fat, and 33.54 ash; the average retail price was \$2.40 a hundred. These scraps contained more bone and less meat than the first grade. The

station cannot recommend any particular brand.

Meat and bone meals are not so freely offered as meat scraps. They are dry, finely ground, contain less meat and fat and noticeably more ash than do the scraps. To be of first grade, they should contain 40 per cent protein, 10 per cent fat, 40 per cent ash, and be free from bad odor. They are worth in the vicinity of 20 per cent less than first grade scraps. The nine sample reported have been divided into first and second grades, depending upon the protein per cent.

Bone meals, a few samples of which were collected, have been made from either kettle rendered bone, or from bone steamed under pressure. The latter contains rather less protein, and can be sold at a little lower price. Two samples collected fell decidedly below their guarantees.

### MEALS AND MASHES.

These mixtures are composed chiefly of corn, ground hulled oats or oat residues, wheat or wheat by-products, and fortified with some animal by-product or with cottonseed or linseed meal, and sometimes lightened with ground alfalfa, clover, or breakfast food waste. Charcoal is often observed (used as an anti-ferment), and occasionally grit or shells. It is not good economy to purchase goods containing the latter materials, the presence of which can be detected by the ash percentage (over 5 per cent) or often with the unaided eye. Ground barley, rye, millet seed, buckwheat, and peas are occasionally observed, all of which are in no way objectionable. One also notes in some brands peanut waste, buckwheat hulls, oat hulls and weed seeds, none of which in any quantity belong in a first-class food. These mixtures vary from 11 to 23 per cent protein, from 2.5 to 6.5 per cent fat, and from 3 to 18 per cent ash, showing that the makers had no definite ideas concerning the nutrients needed, and that in some cases they were put together as cheaply as possible. The average retail price was about \$1.75 a hundred pounds, whether they contained much or little protein and ash.

It is a fact that exact knowledge concerning the nutrition of poultry, and particularly of laying fowls, is exceedingly limited, and the present understanding of the subject is based largely upon observation and experience, rather than upon strictly scientific inquiry. Judging from the composition of the egg and from a variety of experiments, it is recognized that laying hens must have a food which contains a liberal percentage of protein to produce the egg white and yolk, considerable fat to furnish material for building the fatty part of the yolk, and a moderate amount of ash. Experience has taught that the cereals alone do not furnish protein and ash as rapidly as they are needed by fowls bred for egg production, nor to induce the quickest development of growing stock. From its observations, the Maine experiment station recommends the following mixture for layers: 200 pounds wheat bran, 100 pounds middlings, 100 pounds gluten meal, 100 pounds linseed meal, 100 pounds corn meal, and 100 pounds beef scraps. This combination contains approximately 24 per cent protein, 7 per cent fat, 6 per cent ash, 7 per cent fiber, and 46 per cent starchy matter, and would cost \$1.50 a hundred unmixed at retail. The writer has had good success with a mixture of 100 pounds corn meal, 50 pounds wheat bran, 50 pounds flour middlings, 50 pounds gluten feed, and 50 pounds beef scrap. It contains 22 per cent protein, 6 per cent fat, 5 per cent ash, 4 per cent fiber, and 51 per cent starchy matter, and cost \$1.50 a hundred unmixed at retail. The scrap may be omitted and mixed in with the grains as often as it is deemed necessary. Such mixtures may be fed either dry or made into a friable mash with skim milk or hot water together with a little salt. Either of the above combinations will certainly be productive of good results, and will cost less than the average ready ration.

After a chemical and microscopic study of the various poultry mashes on the market, the writer suggests the following don'ts:

- 1. Don't buy a feed that contains

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much in excess of 5 to 6 per cent ash.  
2. Don't buy a feed that has noticeable quantities of grain hulls, hay, or weed seeds.  
3. Don't purchase one that is guaranteed to contain less than 15 per cent of protein.  
4. Don't purchase a food that is bitter, mouldy, or sour.  
5. Don't fail to make a careful examination of both guarantees and physical condition before ordering.  
6. Don't forget that if you are a large consumer, you can prepare a first-class mixture for \$1.50 a hundred pounds.

**SCRATCHING GRAINS.**

Chick feeds are composed of finely cracked wheat, corn, hulled oats, kafir corn, and often millet seed, grit, and charcoal. They average in the vicinity of 11 per cent protein and 3 to 4 per cent fat. A reasonable quantity of grit (10 to 15 per cent) is not objectionable, but it is generally more economical to purchase it separately than to pay 2 1/2 or more cents a pound for it. These mixtures have been found to be sweet and of good quality in most instances. While from the standpoint of nutrition they must be considered expensive, yet the profit to the manufacturers is probably not excessive, because of the cost of cracking, screening, and putting up in small packages. They furnish, with the addition of a little meat scrap, a very desirable food for the first four to six weeks of the life of the chick.

Poultry grains have been found to contain corn (whole and cracked), wheat, kafir corn, barley, oats, and sunflower seeds. Other constituents frequently observed are buckwheat, millet seed, peas, popcorn, screenings, charcoal, shells, and grit. In some cases the corn was noticed to be of poor quality, and the wheat shrunken. The average price was \$1.85 a hundred pounds. The consumer should carefully observe before purchasing that the mixture is sweet and free from screenings and grit. The writer prefers to buy corn, oats, barley, and wheat separately, believing it to be more economical. Mixtures of the above grains of good quality can be had for \$1.50 a hundred. From the standpoint of economy, shells, grit and charcoal should likewise be purchased by themselves. While poultry need a variety of food, for economical reasons it is not advisable to feed too great a proportion of oats, buckwheat, and barley, because these grains contain considerable woody fiber, which poultry are not able to digest and assimilate.

Red Wheat vs. White Wheat. It is doubtful if in case both varieties are equally well developed, one is to be preferred above the other. In fact, it is well known that both climate and soil have great influence on the quality of wheat, and gradually modify varieties. Shrunken wheat is likely to have relatively more protein in proportion to the starch than plump wheat, for the reason that the starchy material has not had opportunity to become fully developed.

Alfalfa and clover meals are frequently found in the market. The former will contain 14 to 15 per cent protein, and the latter about 12 to 13 per cent. Ground alfalfa tops will test 18 to 20 per cent protein, and ground clover tops 15 to 16 per cent. The tops are much to be preferred for poultry. Poultrymen should grow their own clover, cutting and curing it when in the bud.—Bulletin 112.

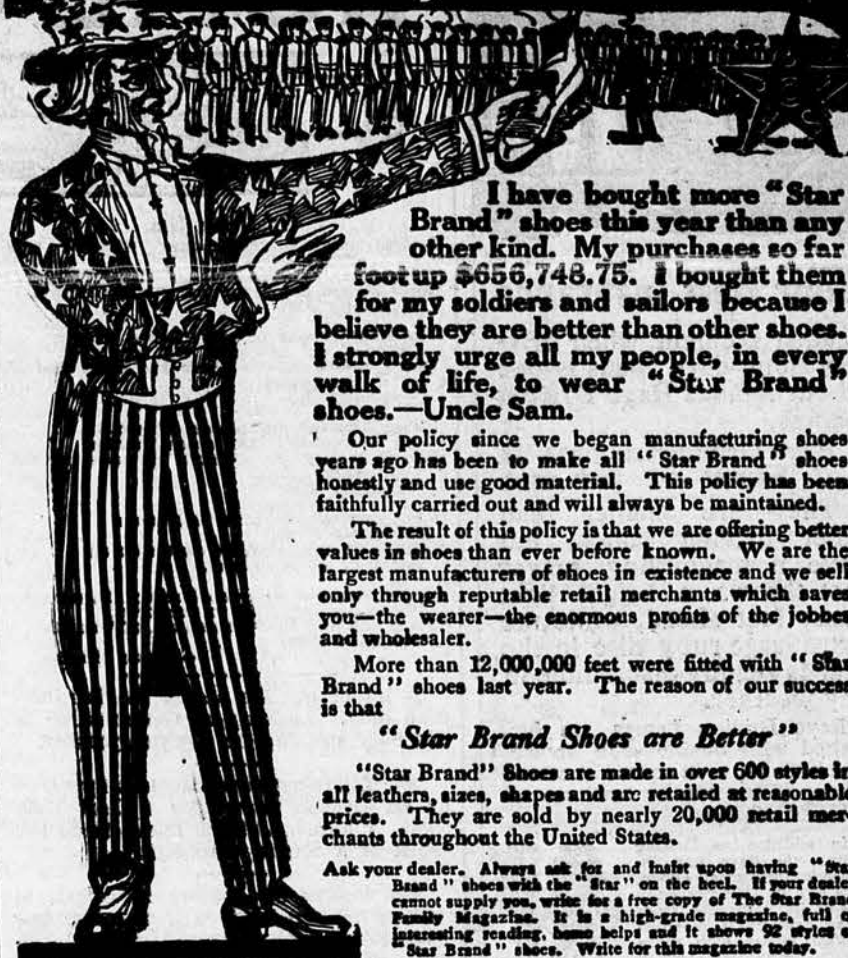
Milk is one of the most sensitive of substances in the way of absorbing odors and flavors. If allowed to stand near onions or other strong-smelling vegetables their odor will be absorbed. This is also true of stable odors. Get the milk into the cooler as soon as possible.

**Sweet Clover.**

A Dakota farmer writes for information in regard to sweet clover as a farm crop. This clover, *Melilotus*, is variously known as sweet clover, bee clover, Kokhara clover, etc. It is of rank, free growing habit and is generally regarded as a weed. Noting the fact that it makes good hay and pasture at a certain period of its growth; that it will grow on any kind of soil, even a railroad grade, and that it is the only known plant that will develop the same bacteria that is found on the roots of alfalfa, the Shawnee Alfalfa Club has begun an investigation of this plant.

Several members testified as to its value for both hay and pasture, and one was found who had used it on his farm for about 40 years. Another had seeded a considerable area, and was pleased with results thus far. Sweet clover appears to be utterly

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# HOME CIRCLE



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I was mighty good-lookin' when I was young,  
Peert, an' black-eyed, an' slim,  
With fellers a-courtin' me Sunday nights,  
'Spacially Jim.

The likeldest one of 'em all was he,  
Chipper, an' han'som', an' trim;  
But I tossed up my head an' made fun o'  
the crowd,  
'Spacially Jim.

I said I hadn't no 'pinion o' men,  
An' I wouldn't take stock in him!  
But they kep' on a-comin' in spite o' my  
talk,  
'Spacially Jim.

I got so tired o' havin' 'em 'roun'  
(Spacially Jim!)  
I made up my mind I'd settle down  
An' take up with him.

So we was married one Sunday, in church,  
'Twas crowded full to the brim;  
'Twas the only way to get rid o' 'em all,  
'Spacially Jim.

—Bessie Morgan.

A lot of our ills are in the imagination only. Looking at the sunshine is the only medicine for the imagination.

The following advertisement appeared in an English newspaper a short time ago: Wanted, a strong horse, to do the work of a country minister."

The woman who endeavors to make a success in home life will plan for the saving of as many steps as possible. The old saying, "Make the head save the feet," is a good one to remember.

"Those who live in the fields are as deserving of education as those who dwell beside the asphalt." That is to say: A country school is entitled to as good a schoolhouse as a city school, to as much school, to as good teachers, to as careful supervision and to as good a library and other accessories.—Alfred Bayliss.

In nearly every home there is some one who loves to cultivate flowers in winter, and there are always one or more windows that can be used for that purpose. Bulbs like soil that is light in texture, but they demand good soil. A rich, sandy soil mixed with a small quantity of leaf mold is good. In planting bulbs in pots, set just below the surface of the soil so that the bulb will be entirely covered. Be careful not to pack them in too tight. Water freely and set them away in a cool, dark place for about four weeks, watering them occasionally. This is so that they may develop good roots. After this they should be brought to the light and placed in a bright, sunny window. Keep the soil moist and soon beautiful blossoms will reward your labors. The pots can be brought to the light at different times, and in this way your blossoms can be stretched over a longer period. Many are familiar with the Chinese lilies grown in water, and but few persons know of any other kinds of bulbs that may be grown in this way. The paper-white narcissus and the Dutch hyacinths can be grown as easily. Also daffodils and crocuses may be successfully grown in this way for late winter blooming indoors. When grown in water the bulbs should be held firmly in position with small stones or pebbles, with a little clean sand in the bottom of the bowl to furnish root support. Better results will be obtained if a little plant food is added to the water as soon as the buds begin to develop.

### Use of Anesthetics.

A Chinese manuscript lately discovered proves that anesthetics were used in China seventeen hundred years ago. A certain concoction was given by the doctors before performing an operation, which rendered the patient unconscious. The anesthetic was a simple preparation of hemp.—Good Stories.

### Light Diet.

An old ducky, sent to a hospital, upon his arrival was placed in a ward, and one of the nurses put a thermometer in his mouth to take his temperature.

When the house doctor made his rounds, he said:

"Well, my man, how do you feel?"  
"I feels right tol-ble, sah."  
"Have you had anything to eat yet?"  
"Yessuh, I had a little."  
"What did you have?"  
"A lady done gimme a piece of glass to suck, sah."—Harper's Monthly.

### No. 8880. Ladies' Corset Cover.

A well-shaped corset cover of simple construction is here illustrated. Tiny shield-shaped sleeves trimmed with lace are an attractive feature, but they may be omitted. The pattern provides for either tucks or gathers in the front, and a tape inserted in a casing at the waistline adjusts the fullness about the waist. The materials used for these garments are linen, batiste, lawn, dimity and China silk. The pattern is cut in six



sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. It requires 1 1/2 yards of 36-inch material for the medium size. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.

### No. 9024. A Neat and Practical Frock. Girl's One-Piece Dress, with Body and Sleeve in One, and with Sailor Collar.

A very comfortable and pleasing dress is here shown, suitable for any of the materials now in vogue. The plaits over the front and back give breadth to the figure. The sleeve is neatly finished with a band cuff. The sailor collar is jaunty. The pattern is cut in four sizes: 4, 6, 8 and 10 years. It requires 2 1/2 yards of 44-inch material for the eight-year size. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.



ished with a band cuff. The sailor collar is jaunty. The pattern is cut in four sizes: 4, 6, 8 and 10 years. It requires 2 1/2 yards of 44-inch material for the eight-year size. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.



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## The Boy's Spending Money

By Wm. A. McKEEVER, K. S. A. C.

It is often the case, especially among farmers, that the growing boy never sees any money of his own excepting on rare occasions like the Fourth of July and Christmas, and then he regards his shining quarter as an object of curiosity and scarcely knows how to spend it. Often, in a case like this, it is found that the father is looking upon his son as a kind of investment to be made as profitable as possible. "This boy's time belongs to me. I am at considerable expense for his board and clothes and winter schooling, and I have a right to require him to do all he can in return. I had very little spending money during my boyhood." This is, in substance, the sentiment expressed by one prosperous farmer. The boy was being exploited for the sake of the farm, and not the farm for the sake of the boy, as the case should have been.

Another false position is that often taken by the teacher who tries to inculcate the sentiment that money-making is not an important affair of what she conceives to be the better life. Accordingly she neglects at opportune times the discussion of practical business affairs before the school. The boy may go through the school ranking high in his text-book work and yet have little or no instruction in these practical matters of equal importance. It is certainly somebody's business to impart this knowledge, and unless it is done this same "smart boy" may be woefully lacking in what we may call money sense. It seems reasonable that teachers be held responsible for a part of this important work.

This inquiry has shown that almost any parent that is willing and thoughtful and reasonably attentive to the matter may assist the boy to find ways whereby to earn a small income. But the effort must be persistent. It is not enough to tell the boy what he ought to do. It is at first necessary, to find reasonable tasks for him and then hold him to his duty till he acquires something of a habit and a fondness for work. And then it is not so much a question of amount earned as it is one of imbuing the lad with the spirit of industry and frugality. As little as ten cents a week actually earned may be a sufficient beginning for a seven-year-old. Select some little task that will be useful to him as a personal habit or that is helpful to some one else, and see that he performs it regularly and punctually. Many parents questioned have found it practical to pay the child for a while for performing some simple personal duty, such as combing his hair at stated times, putting his things in order, without prompting, at bed time, and attending school regularly and punctually. As soon as one desirable habit is acquired, shift the reward to another. Then there are always available such practical tasks as running errands, carrying in kindling, and doing other light chores. In cases

where the mother does her own house work there are many practical reasons why the boy should be taught to assist in this matter. Heavier duties are to be assigned with the advancement of age; but "let the beginning of this important instruction date from the time the lad is old enough to count money," says a father. If the ordinary father will show the same interest in training his son in these practical subjects that he does in training his carriage horse to drive or in preparing his live stock or merchandise stock for the market, then the boy will grow surprisingly in grace and morals and thrift.

"I never gave one of my boys a cent," said a father who was successful in this home training. "From childhood, under my guidance, they always earned all they got and thus learned to know the value of it." "My fifteen-year-old boy is a spendthrift," said another. "It simply is not in him to save, although I have been trying for three years to teach him this lesson." Inquiry into this case brought out the fact that up to his twelfth year this boy had been thoroughly indulged in all the habits of the spendthrift. The father was merely reaping a harvest from seed sown by his own carelessness.

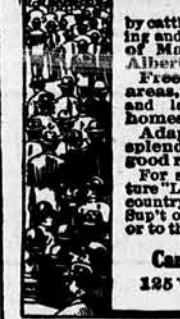
As the boy grows toward maturity he must be aided in finding work suitable to his age. An easy, quick method of earning money is likely to demoralize him, rendering him dissatisfied with a reasonable reward for what he does.

It is, of course, easy to find work for the country boy, but many farmers fail to give their sons an opportunity to receive a money reward for a part of what they do. The ordinary growing boy should not be required to be wholly self-supporting, even on the farm. The best rule reported to us is in substance this: Start the boy by giving him a small plot of ground to tend, either in the field or the garden; or, give him in exchange for some service a domestic animal, such as a pig or a calf. In any such case direct him carefully and allow him only a reasonable share of the profits. A certain farmer, a somewhat typical case of error, gave his twelve-year-old son a runty calf. The latter cared for the unpromising animal with much interest and enjoyed many happy moments thinking how he would finally spend the money thus earned. In three years the runty calf grew into a fat steer and brought \$60 on the market, but the misguided father kept this money and put the boy off with another calf. Some years later he wondered why his son should persist in leaving the farm for an untried field of activity. How much better to have given the boy the \$60 so faithfully earned and to have guided him judiciously in the use of it. It is a serious blow to a boy's moral character to have his own father's honesty thus brought into question.

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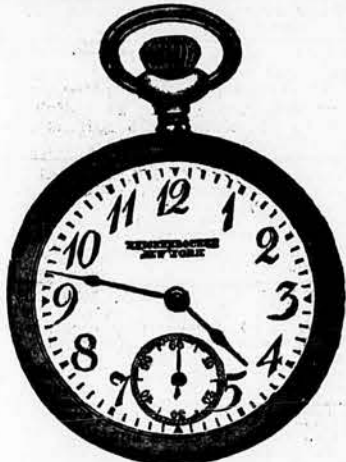
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## Storing Winter Vegetables

Storing vegetables in the cellar for winter use is unwholesome for the family and not good for the vegetables.

Building an out-door cellar or cave is much more satisfactory and one of the best caves we have ever seen was made of cement concrete and fitted with proper ventilating appliances.

An experienced farmer suggests another way of keeping vegetables which, he says, has proved very successful after many years of trial. This way is to procure a number of sugar barrels without heads, sink them in some convenient place near the house and leave the rim about three inches above the surface of the soil. Pack the earth firmly around the barrel, to prevent surface water from running down the sides and getting into the vegetables from below. Then fill the barrels about two-thirds full of beets, turnips, carrots, or rutabagas, and cover with a piece of old carpet, to keep out the air. Cover the barrel with an ordinary cover with a rim that comes down about an inch. On this place a stone or some other weight that will prevent the wind from lifting the cover.

In these barrels the vegetables can be kept until the following April, just as fresh as when taken from the ground. The warm moisture that is constantly coming up from below keeps back the cold from above. The temperature in the barrels is at all times just above the

freezing point, which is the best possible for the vegetables. Should the thermometer indicate more than 15 degrees of frost, it would be best to throw several bundles of cornstalks or some other material for a slight protection over the barrels.

In taking up roots of all sorts, great care should be exercised not to break or injure them in any way; as mutilation not only opens the road for decay, but injures, if not destroys, the best edible qualities. This is a more important factor than is generally supposed, for injured vegetables are of little value in winter.

Parsnips and salsify roots should be left in the ground. They keep much fresher, and the freezing soil takes some of the acrid properties from the roots, thus rendering them more delicate in flavor.

Cauliflower and brussels sprouts that begin to head late in the season, if put in barrels this way, roots down, will perfect their heads during winter, and can be had as good in February as in October.

Cabbage should be pulled up by the roots and be buried heads down, in trenches about one foot to eighteen inches deep. Pack them closely together in the trench, three heads in width, making the center row of heads a little higher than the side rows, cover

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with straw, then with soil to the depth of a foot, and after the ground is lightly frozen, cover with cornstalks or straw, to prevent alternate freezing and thawing. This will, at the same time, prevent the ground from freezing, so they can be taken out when required.







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I AM OFFERING a few young bulls, some of Oxford's Masterpiece, a son of Oxford Lad; Oxford's Brigadier, a son of Gamboge Knight; Merry Maiden's Golden Lad, a son of Merry Maiden's third son; and Eurybia's Exile. I have but a few of these calves that are ready for service. Will sell them reasonably while they last. Write for prices and particulars. W. N. Banks, Independence, Kan.

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Houx's Polands and Shorthorns. 50 big type Poland Chinas. March and April pigs, sired by two extra heavy boned boars. Priced at farmers' prices. Ready to ship, order now, and get choice. Description guaranteed. Also a few choice Roan Shorthorn bulls to offer. Sired by King Challenger 312040, a son of White Hall King, 222724. Prices reasonable. Come or write. W. F. HOUX, JR., Hale, Mo.

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40 BULLS, 6 to 20 months old; straight Scotch and Scotch topped—mostly red. Can spare a few females, same breeding. C. W. Taylor, Enterprise, Kan. R. R. Station, Pearl, on Rock Island.

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31 LBS.—BUTTER—31 LBS. The four nearest dams of our two herd bulls average 31 lbs. butter, 614 lbs. milk in seven days' official record. No other farm in the west owns two bulls of such high record ancestry. We are offering some very choice cows and heifers bred to these great bulls. Also bull calves sired by them, many of them out of high record cows. Write us, let us tell you more about this great herd. WOODLAWN FARM, Sterling, Ill.

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20 choice individuals, sired by Bell Expand. Same number of gilts. Will also sell Bell Expand cheap. 12 choice Shorthorn bulls and a few cows and heifers, bred. S. B. AMCOATS, Clay Center, Kan.

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**POLAND CHINAS**

**DEAN'S MASTODON POLAND CHINAS.**  
A number of 300-lb. fall boars now ready. They are the big, mellow kind, with 7 1/2 inch bone. To move quick, will sell at from \$30 to \$35. Also an extra lot of spring gilts and boars, will weigh 200 lbs. A number of herd headers. Can sell you young pigs if you want to save express. Offering sired by Mastodon Price and Columbia Wonder. CLARENCE DEAN, Weston, Mo. Phone, Dearborn, Mo. R. R. Station, New Market, Mo.

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**Home of the Old Original  
Big-Boned Spotted Polands**

The largest registered herd of Spotted Poland Chinas on earth. Have sold 120 spring pigs Sept. 1. 200 good ones that will be sold in the next 90 days. Write at once if you like the kind of our forefathers. H. L. FAULKNER, Box K, JAMESPORT, MO.

**Big Boned  
Poland Chinas**

Forty big, stretchy boars and gilts for sale sired by the most noted boars, Big Hadley, John Ex., King Hadley and John Long 2d, and out of strictly big type sows. Write at once: 200 head in herd. CHAS. Z. BAKER, Butler, Mo.

**WEDD & SON  
Big Poland-Chinas**

Choice spring boars and gilts for sale. Sired by Wedd's Expansion and Kansas Wonder, out of our best tried sows of best big type breeding. GEO. WEDD & SON, Spring Hill, Kan.

**KING DARKNESS**  
No. 149999 heads my herd of richly bred Poland Chinas; a few choice pigs sired by him for sale; also a few sows and gilts bred for fall litters. Write at once. F. J. MILLER, St. John, Kan.

**BIG HADLEY, BIG HUTCH AND EXPANSION BLOOD**  
Predominate in my herd. Herd boars: Hutch Jr. by Big Hutch and King Hadley 2d by Big Hadley. Among sows are Granetta, litter sister to Bell Metal; Pan Princess, weight 75 lbs.; Mollie S., 75 lb., and Miss Corwin, the dam of Expansion See, the biggest boar ever owned in the West. 90 choice pigs farrowed to date. Visitors always welcome. C. W. JONES, Solomon, Kansas.

**Longview Poland Chinas**

Herd boar young Mastiff. The first and grand champion at Topeka, Kansas, State Fair, 1910. A few choice spring boars and gilts for sale, all large type. Priced reasonable and guaranteed. D. M. GREGG, Harrisonville, Mo.

**Middle Creek Poland Chinas**

For Sale—Few large type fall boars sired by Monarch Mogul out of my best sows. They are herd headers and priced to sell. Write at once. W. H. EMENS, Eimdale, Kansas.

**MOONEY CREEK POLAND CHINA HERD.**

The biggest of the big. Wonder and Mastodon strains. Herd headed by Big Osborne. Pigs raised under natural conditions and no overfed. I have bought seed stock from the best herds in Iowa and have new breeding for Kansas. Write for information about the kind I breed. Visitors always welcome. JOHN W. NOLL, Winchester, Kans.

**10 - Poland China Spring Boars - 10**

11 fall yearling gilts, 6 tried sows for sale. Good, smooth, heavy boned individuals. A. L. ALBREIGHT, Waterville, Kan.

**LAMBERT'S CORRECT TYPE POLANDS.**

Ten ribbons at Topeka State Fair. The big, smooth kind. Pigs or bred sows for sale. JOSIAS LAMBERT, Smith Center, Kan.

**CURRY'S BIG BONED POLANDS.**

Headed by M's Giant Wonder by Price Wonder, dam by Orange Chief. Sows of Expansion and Hadley breeding. Choice boars and gilts for sale. JOHN T. CUREY, Winchester, Kan.

**GRANER HAS A FEW CHOICE BRED**

sows for sale to farrow latter part in Sept. and first in Oct. Also two yearling herd boars, Colossus Boy 56709 and Col. Thomas 57053. H. C. GRANER, Lancaster, Kansas.

**EUREKA HERD POLANDS for sale;**

herd boar Hugo, sired by Mastodon 83th, dam by Lady Look, by Grand Look; low price. W. H. SALES, Simpson, Kan.

**VALLEY FALLS BIG POLANDS.**

60 choice spring pigs sired by Chief Grand Look, Blain's Gold, Dust and Gold Bell Medal; out of big-type mature sows; raised under natural conditions; write for description, breeding, etc. M. T. WILLIAMS, Valley Falls, Kan.

**WILLFOUNG'S POLAND CHINAS LEAD.**

100 spring pigs ready to ship. Either sex, sires not related. Prices reasonable and quality first class. Breed both big and medium type. J. D. WILLFOUNG, Zeandale, Riley County, Kansas.

**PLEASANT RIDGE HERD Poland Chinas,**

headed by Hustler 2d; 50 choice pigs to select from; prices right. M. T. SHIELDS, Lebanon, Kansas.

**JENSEN'S BIG POLANDS**

Herd headed by Mogul Again by Mogul. Sows daughters of Mogul, J's Wonder and Valley Chief. Sweepstakes at Kansas State Fair, 1911. True Mogul type maintained. Big fall boar, a fine show prospect, and 65 spring pigs, both sexes, for sale. Everything guaranteed. CARL JENSEN & SON, Belleville, Kan.

**Long's Mastadon  
POLAND CHINAS**

Headed by the great King Mastadon 2d. Stock For Sale at All Times. W. E. LONG, Meriden, Kansas.

**Richly Bred  
POLAND CHINA**

Boars and gilts sired by noted sires for sale cheap. Description guaranteed. E. J. Manderscheid, R. 3, St. John, Kan.

Conovers Big, High-Class Poland Sale, October 25, 1911. Twenty boars and 20 gilts, all choice selections from February and March farrows. Send for catalogue. C. E. CONOVER, Stanberry, Mo.

**VINECROFT POLAND CHINAS**

Bred for quality and size. Address, ALVIN LONG, Lyons, Kan.

**BRED GILTS \$25 to \$30 EACH.**  
20 fall gilts, big and smooth. Big type. Good time to start herd. Write quick. F. D. YOUNG, Winchester, Kans.

**WALNUT GROVE FARM POLAND CHINAS.**—For quick sale, choice of 2 tried boars, litter brothers sired by Grand Look and out of Expansion dam. JAS. ARKELL, Junction City, Kan.

**ANDERSON'S BIG TYPE POLANDS.**  
Headed by Clay Jumbo 54925, one of the best and biggest boars in Kansas; sows of equal merit; 70 good spring pigs to choose from. Write quick. J. W. ANDERSON, Leonardville, Kan.

**HOPPE'S BIG TYPE QUALITY POLANDS**  
The best of the big-type breeding; fed for best results; sale at Falls City, Neb., October 28th. W. V. HOPPE, Stella, Neb.

**MAMMOTH HADLEY POLAND CHINAS.**  
60 choice spring pigs sired by Mammoth Hadley and Grand Model, two as good sires as can be found in the west; dams of pigs carry the blood of nearly all big sires. GEO. W. SMITH, Burchard, Neb.

**YORKSHIRES**

**SPECIAL YORKSHIRE BARGAINS.**  
For a few weeks only I will sell large improved Yorkshire pigs farrowed in late May and early June at \$15 each for males; \$20 for females. Registered, transferred, crated f. o. b. cars. Sire and dam from champion herd of United States. E. R. Shoemaker, Waterloo, Iowa.

**OHIO IMPROVED CHESTERS**

**Improved Chester Whites**

Am offering a choice lot of spring pigs, bred for size, bone and quality; young herds a specialty; write your wants; have an extra-good, well-improved

**Stock & Grain Farm for Sale**  
Cheap for particulars write, R. W. GAGE, R. D. 5, Garnett, Kan.

**SUNNY SIDE O. I. C.**

One hundred choice spring and fall pigs. Can furnish pairs not related, best of breeding. Sired by Jackson Chief 2d, Ken Garnett 2d and Bode's Model. Priced right. W. H. LYNCH, Reading Kan., Box 36.

**PIPE CREEK O. I. C. HERD.**  
Herd established 30 years; all stock eligible to register; 100 choice spring pigs ready to ship; prices reasonable; all leading strains represented. MILTON PENNOCK, Delphos, Kan.

**O. I. C. SPRING BOARS, \$10 EACH. J. F. HAYNES, GRANTVILLE, KAN.**

**CHOICE O. I. C. BOARS.**  
Fancy O. I. C. pigs, \$10 pair, \$16 trio, not akin \$24. H. W. HAYNES, Meriden, Kan.

**HAMPSHIRE HOGS**

**HAMPSHIRE** thoroughbreds from prized stock, fine sows and gilts exceptionally cheap. Duroc Jersey out of the best blood possible. Brood sows and gilts, also some exceptionally good male hogs. All registered. Priced to sell. The Springdale Stock Ranch, Concordia, Kansas.

**HILLWOOD STOCK FARM**

High Class Hampshires—Herd Headed by the Celebrated boar Erlanger 1039. High class young boars for sale. Will also sell Erlanger. J. Q. EDWARDS, Platte City, Mo.

**LAWSON'S HAMPSHIRE.**  
Am closing out herd. Have some extra good herd headers and sows. Also, a fine lot of weanling pigs, from \$15 to \$20. Can furnish pair no kin. G. S. LAWSON, Ravenwood, Mo.

**HAMPSHIRE**

**AS LONG AS THEY LAST.**  
Spring boars, \$22. Fall yearlings, \$27. Gilts, same prices. Sired by sons of State Fair champions. WOODLAWN FARM, Sterling, Ill.

**SHROPSHIRE SHEEP**

**GREENDALE SHROPSHIRE.**  
Twenty-two head of Shropshire rams, 1 and 2 years old. Will be priced worth the money. For particulars address O. A. Lamb, Manager, Howard, Kan., or the owner. ED GREEN, Florence, Kansas.

**Potterman's Shropshire Flock**

Headed by Imported Ram Inglewood Juvenile 06668 R sired by Reynold—Dam Buttar's Dreamer—a number of fine yearling Rams for sale—Breeding Stock for Sale at all times. Address Joseph Potterman, Clarksdale, Mo.

**B E R K S H I R E S**

**RENO BERKSHIRES.**  
For sale, 2 boars and 4 gilts. September yearlings. Gilts sold bred or open. Price \$30. All sired by the grand champion at Kansas State Fair, 1910. 15 spring boars and 15 spring gilts, priced reasonable. Write at once. T. E. Clarke, Medora, Kan.

When writing advertisers, please mention KANSAS FARMER.

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**A U C T I O N E E R S**

**Make Big Money**

How would you like to be one of them and make from \$10 to \$100 per day? We paid \$300 for our 1911 96-page illustrated catalog. You can have one by writing us a postal today. MISSOURI AUCTION SCHOOL (largest in world,) W. B. Carpenter, President, Trenton, Mo., Kansas City, and Oklahoma City.

**LEARN TO BE AN AUCTIONEER** EARN \$15 TO \$100 PER DAY  
Thoro. Scientific mail course. Catalog free. National Auctioneering School of America, Dept. 3, Lincoln, Neb.

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Live Stock Auctioneer, Parsons, Kan. Continually selling for the best breeders of several states. Write, wire or telephone. Home phone 2702.

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MANKATO, KANSAS. Livestock Auctioneer. Big Horse and other Stock Sales a specialty. Terms reasonable. Special service to breeders.

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Oketo, Kan., will make pure bred stock or farm sales anywhere in Kansas or adjoining states; 15 years' experience; best of references furnished. Write or phone for dates.

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Auction sales of pedigreed stock made everywhere. Write me about your sale. I have an open date for you. Address, Cameron, Mo.

**LAFF BURGER, Live Stock Auctioneer,** Wellington, Kansas—15 years of success in selling pure bred live stock.

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Write, phone or wire me for dates.

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Live stock and farm sales auctioneer; block and ring work solicited. Belleville, Kan.

**T. E. GORDAN, Waterville, Kan.**

Real Estate Auctioneer. Will cry sales in any state; terms reasonable; write for plan.

**HORSES AND MULES**

**Dr. W. H. Richards**  
Importer of  
**DRAFT HORSES**

Importation arrived September 10, 1911. I have selected them personally and have the pick of Belgium and France's two- and three-year-olds. All were selected for good breeding, soundness, bone and individuality. All good colors and will make ton horses. Every horse absolutely guaranteed. Anyone looking for a first class STALLION at very REASONABLE prices should come and see them before buying. Barns four blocks from Santa Fe Depot. EMPORIA, KANSAS

**J. F. BRYANT, NETTLETON, MO.**  
Breeder of high-class jacks and Jennets; 10 high-class, registered jacks for sale, 8 of serviceable age. Also, 16 high-class Jennets. All stock traces back to Florence No. 4. On account of age, I wish to retire and will price stock 10 per cent under actual value for quick sale. J. F. BRYANT, NETTLETON, MO.

**THE STRAY LIST**

**STRAY NOTICE.—OSKALOOSA, KAN.,** Oct. 20, 1911. Taken up, by J. W. Stockwell, on farm 4 1/2 miles southeast of Nortonville and 5 miles west of Winchester, one red steer, weight about 700 pounds, 1 1/2 years old; no marks or brands. Dwight A. Bliss, County Clerk.

**ONE BLACK HORSE MULE, WITH A** few white hairs, age 12 or 13 years; has rope burn under right fetlock and collar mark on neck and shoulders; no brands; value, \$62.50. One brown horse mule, with a few white hairs, age 12 or 13 years, has ringbone on both front feet and collar marks not yet healed; no brands; value, \$62.50. N. H. Hildebrand, Cimarron, Kan.

**FIELD NOTES.**

Many of our readers have doubtless bought gold-filled watch cases "guaranteed" for a term of years, only to find that the gold on the cases wore through and showed the base metal long before the expiration of the guarantee period. The announcements of The Keystone Watch Case Company, now running in our advertising columns, tell how this condition of affairs came to exist. More important still, they show how the watch purchaser can buy gold-filled watch cases with perfect certainty of getting absolute values.

**Percheron Importing Company's Good Offering.**

The Percheron Importing Company of South St. Joseph, Mo., will have a very fine offering this year, and breeders and farmers wanting high-class horses should investigate. The horses imported this year were carefully selected by Mr. Charles Kirk, president of the company, who is conceded by all horsemen to be one of the best judges in the country. The offering this year will include a long list of prize winners that were awarded prizes in our strongest horse shows. The following is a partial list of their recent winnings: At the American Royal, at Kansas City, 1911, first on 4-year-old Percheron, first on 3-year-old Percheron, champion Percheron, first on 4-year-old Shire, first on 2-year-old Shire and champion Shire. At Missouri State Fair, Sedalia, 1911, first and second on 8-year-old Percheron, champion Percheron, first on 4-year-old Shire, first on 2-year-old Shire and champion Shire. Interstate Show, at St. Joseph, 1911, first on 4-year-old Percheron, first on 3-year-old Percheron, champion Percheron, first and second on 4-year-old Shire, first on 2-year-old Shire and champion Shire. Kansas State Fair at Topeka, Kan., first on 3-year-old Percheron, first on 4-year-old Shire, first on 4-year-old Belgian and champion. Watch for their announcement, which will appear in the near future.

**TEN WEEKS FOR TEN CENTS.**

KANSAS FARMER will be sent on trial to any address 10 weeks for 10 cents. Could you do a friend or neighbor a better turn than to take advantage of his offer? Why not pick out five of your friends and send each of them KANSAS FARMER for 10 weeks?

To any lady reader of KANSAS FARMER who sends us 50 cents and five trial subscriptions, we will send free of charge a KANSAS FARMER Cook Book. This is the best cook book ever published, none excepted. If you don't say so when you get it, we will send your money back.

To any gentleman reader sending us 50 cents for five trial subscriptions we will send free of charge a fine fountain pen. KANSAS FARMER, Topeka, Kansas. Address Subscription Department

# Dispersion Sale, 130 Head Herefords

## 28 Bulls, 102 Cows and Helpers, in Big Two Days' Sale at Emporia, Kansas, November 17 and 18, 1911

### THE 28 BULLS

range from yearlings to 4-year-olds, including my herd bulls, Beau Mystic 11th 293541, considered by many to be better than his sire, Beau Mystic 179920, Beau Mystic 50th, a choice 2-year-old by Beau Mystic out of a Keep On cow, and 26 others of Anxiety, Columbus and Keep On breeding—big, strong, rugged bulls ready for hard service—in good condition and of choice quality. Beau Mystic 11th is one of the best bulls to be sold this fall. A massive individual, a great flesh carrier, an impressive sire and of choice breeding, he should find favor with those wanting something choice in the way of a herd header. A number of the bulls are sired by Theodore, a son of Beau Donavan 3d, out of a Beau Brummel cow, making him more than a half brother in blood to Makin Bros' Beau Paragon.

### THE 102 FEMALES

include all the high-priced foundation cows and their produce. Thirty cows with calves at foot and everything of breeding age bred to either Beau Mystic 11th or Beau Mystic 50th. There will be 75 cows bred and 27 open heifers. Cows by Keep On, Wild Tom, Java, Major Beau Beal, Tranquility (by Beau Brummel), March On 6th, Dandy Rex, Christy, Lord Saxton, Beau Donald 7th, Beau Mystic, Columbus 17th, Hesiod 54th, Paladin, Beau Brummel, etc., which include a number that were World's Fair and State Fair prize winners in the Sunny Slope and other famous herds. It is an offering of choice breeding Herefords, regular producers and in good condition. High prices are not expected and it offers an opportunity for the selection of the very best at a nominal figure. It is not a cull offering, but a sale of high-class Hereford breeding cattle.

I will sell on these dates all of my teams, harness, wagons, farm machinery, milk cows, brood sows and 200 head of pure-bred stock hogs. I extend a cordial invitation to the Hereford breeding fraternity, as well as anyone interested in this grand breed of cattle, to attend this sale. Sale starts at 10 a. m., Friday, November 17. For catalogs, write to

Auctioneers—Cols. R. E. Edmonson and Geo. P. Bellows.

**G. W. NEWMAN, Emporia, Kansas**

## Percheron Sale

35 Head

35 Head

OF

Imported Percheron Stallions and Mares and American-bred, registered Percheron Mares, at Kirksville, Mo., on Tuesday, November 28, 1911, by S. J. Miller and I. A. Novinger & Sons. This will be the best offering of the season. They are second to none and equaled by few, and will include the prize winners of I. A. Novinger & Sons at Missouri State Fair this year. The mares now have colts by their sides, and all of breeding age are bred and safe in foal to Imported Stallions weighing a ton to 2,400 pounds. This will be a strictly high-class offering, and one wanting an extra good Percheron Stallion or Mare can't afford to miss this sale. Remember that this will be an opportunity to buy prize winners at the strongest horse show in the history of the Missouri State Fair and mares bred to the best Percheron Stallions in Missouri. Catalogs now ready. For catalog, write

**S. J. MILLER, or  
I. A. NOVINGER & SONS**  
KIRKSVILLE, MO.

Auctioneer—Col. R. L. Harriman.



## J. C. Robison TOWANDA, KANS.

175 STALLIONS AND MARES  
AND COLTS ALL AGES FOR SALE  
COME AND SEE ME

### FIELD NOTES.

**Yates Brothers' Jacks.**  
Attention is called to the card of Yates Brothers, Faucett, Mo., in this issue of Kansas Farmer. This firm has long been noted as among the foremost breeders of high-class jacks and at this time they are offering a number of extra good ones. All are registered jacks and were sired by the noted herd jack, Yates' Dewey, one of Missouri's greatest jacks. The dams of the jacks offered are a fine lot of good producers—the kind that raise the big jacks. They are also offering two good draft stallions and a very fine registered saddle stallion. They will sell the lot or singly, and for quick sale will price the stock well worth the money. They will also consider a trade for this stock.

**J. E. Weller's Dueros.**  
Attention is called to the card of J. E. Weller of Faucett, Mo., in this issue of Kansas Farmer. Mr. Weller is one of Missouri's progressive and reliable Duero breeders and the owner of a herd of which he may be justly proud. His herd is headed by Red Rambler, sired by Crimson Rambler, a Crimson Wonder and Improver 2d bred boar. Red Rambler is an individual of merit. He is big boned, big bodied, is of the high-class, easy feeding kind and a very fine breeder, and among the young boars now offered by Mr. Weller that were sired by Crimson Rambler, several show prospects will be found. A fine herd of productive Tip Top Notcher, Ambition, Crimson Wonder Again, Hanley, Kansas Wonder and Choice Goods sows is a feature that cannot fail to attract breeders. At this time Mr. Weller is offering a number of very high-class young boars. Among them are a number of show prospects and herd headers. He has them ranging in age from pigs to yearlings, and guarantees the description of every animal sent out. Write him for prices and describe what you want. He can suit you if you want the best of the breed.

**A Very Successful Sale.**  
M. T. Williams' first Poland China sale, held at Valley Falls, Kan., on October 31, was one of the most successful sales held so far this season. The offering was an

outstanding good one, well grown out and very uniform. In fact, there wasn't a bad pig sold at the sale. Twenty boars averaged \$35.75; 20 gilts averaged \$27.50 with a general average on the 40 head of \$31.77. A. B. Garrison of Summerfield, Kan., topped the sale on No. 1, the yearling boar, Blain's Gold Dust, paying \$70 for him. The remaining 39 head were of spring farrow. It will be noticed that there were no sensational prices paid and not a single animal sold below \$20. A complete list of sales follows: Boars—No. 1, A. B. Garrison, Summerfield, Kan., \$70; No. 2, S. N. Perry & Son, Oskaloosa, Kan., \$45; No. 3, Lou Kounts, Valley Falls, Kan., \$35; No. 10, A. R. Reystead, Mankato, Kan., \$31; No. 11, John Daum, Nortonville, Kan., \$59; No. 12, E. F. Jones, Dennison, Kan., \$50; No. 15, Eli Richard, Valley Falls, Kan., \$29; No. 16, Joe Lang, Valley Falls, Kan., \$26; No. 17, Joe Schneider, Nortonville, Kan., \$50; No. 20, Kirk Glassel, Valley Falls, Kan., \$20; No. 24, John Freeland, Half Mound, Kan., \$28; No. 25, B. A. Griffin, Valley Falls, Kan., \$29; No. 26, Frank Keller, Valley Falls, Kan., \$25; No. 30, James Mitchell, Valley Falls, Kan., \$44; No. 32, Austin Smith, Dwight, Kan., \$32; No. 33, W. W. Mitchell, Winchester, Kan., \$28; No. 34, Murray Spencer, Valley Falls, Kan., \$21; No. 35, G. W. Klein, Valley Falls, Kan., \$25; No. 36, Walter Abuel, Valley Falls, Kan., \$26; No. 38, S. W. Tilley, Irving, Kan., \$24. Gilts—No. 4, J. L. Barnes, Golf, Kan., \$31; No. 5, J. L. Barnes, Golf, Kan., \$25; No. 6, W. E. Long, Meriden, Kan., \$21; No. 7, C. S. Moyer, Nortonville, Kan., \$31; No. 8, Walter Counts, Valley Falls, Kan., \$23; No. 9, Omar Davidson, Arrington, Kan., \$20; No. 13, M. T. Curry, Valley Falls, Kan., \$30; No. 14, Frank Renfrow, Valley Falls, Kan., \$25; No. 18, Lou Kounts, Valley Falls, Kan., \$31; No. 19, H. C. Graner, Lancaster, Kan., \$35; No. 21, M. F. Marks, Valley Falls, Kan., \$30; No. 22, John Clinton, Valley Falls, Kan., \$24; No. 23, Lou Kounts, Valley Falls, Kan., \$27; No. 27, W. T. Corey, Valley Falls, Kan., \$42; No. 28, A. H. Grumme, Arapahoe, Neb., \$39; No. 29, S. C. Spurlock, Valley Falls, Kan., \$25; No. 31, Jacob Zinn, Valley Falls, Kan., \$30; No. 39, W. W. Mitchell, Winchester, Kan., \$21; No. 40, F. M. Marts, Valley Falls, Kan., \$21; No. 41, W. W. Mitchell, Winchester, Kan., \$21.

## HIGH CLASS POLAND CHINA SALE

From the Short Grass Herd at Garfield, Kan. The Large, Smooth Kind that Win in the Show Ring and also Fill the Pork Barrel for the Farmer and Packer.

**At LARNED, KANSAS**  
**Saturday, Nov. 18, 1911**

I will sell 60 head in all; 20 tried sows sired by King Darkness, Meddler 2nd, On and On, Corrector 2nd, Meddler Chief and Old Corrector; 20 spring gilts, large and growthy, sired by such boars as Toastmaster, King Darkness and Napoleon 1st and out of my best sows; 20 spring boars and 1 herd boar. Several of these are real toppy herd headers, sired by the above mentioned herd boars. The 20 gilts and 20 spring boars are out of my best herd sows, Chief Fern, Darkness Last, Lady Bell, Keep On Sunshine, Lady Bell 2nd, Dude's Baby, Wild Rose, Peach Fuze 3rd and Regulator. I am selling the best in my herd and the best line of breeding. The catalog is ready to mail out. Send for one and arrange to attend my sale. The Larned Commercial Club will give a banquet at Larned, Friday evening, November 17. All farmers and breeders are invited to come and spend the evening with us and remain over for the sale, whether you buy or not. We want you all to come and carefully inspect what we will offer at public auction at our first Poland China sale. O. W. Devine will represent KANSAS FARMER. Parties who cannot attend, may send bids to him or auctioneers, in my care. For catalog, address

**J. F. Ware**  
**Garfield, Kansas**

Auctioneers—Col. H. O. Correll, Taylorville, Ill.; Col. John D. Snyder, Howard, Kan.; Col. Lowrey Webb, Larned, Kan.

**Mention Kansas Farmer When You Write**



### SAY!

Do you know that fortunes are being made in Registered Jerseys? A bull raised in Missouri sold not long ago for \$10,000. Let me sell you a bull calf from my pure-bred prize winners to build up your herd. I have them from \$50 up. References: Joplin National Bank or any business man in Joplin. DR. D. R. HILL, Joplin, Mo.

B. H. Heede, the efficient general manager of the great International Live Stock Exposition, which will be held at the Union Stock Yards in Chicago, December 2-9, calls attention to the enormous influence that institution has had in the improvement of the live stock of the country during the past 12 years. Here is taught the most modern methods of breeding, feeding and fitting of animals to bring profit to the farm-

ers who raise stock. This serves not alone to prevent our country from paying tribute to foreign lands for our meat supplies, but helps to establish a live stock industry on every farm to take the place of the cheap products of ranch and range, which are no longer possible. The International is a wonderful show and every farmer should see it at least once. Besides, you owe it to yourself and family to see Chicago once-in-a-while.

# Hutchins & Whitfield Jack and Jennet Sale

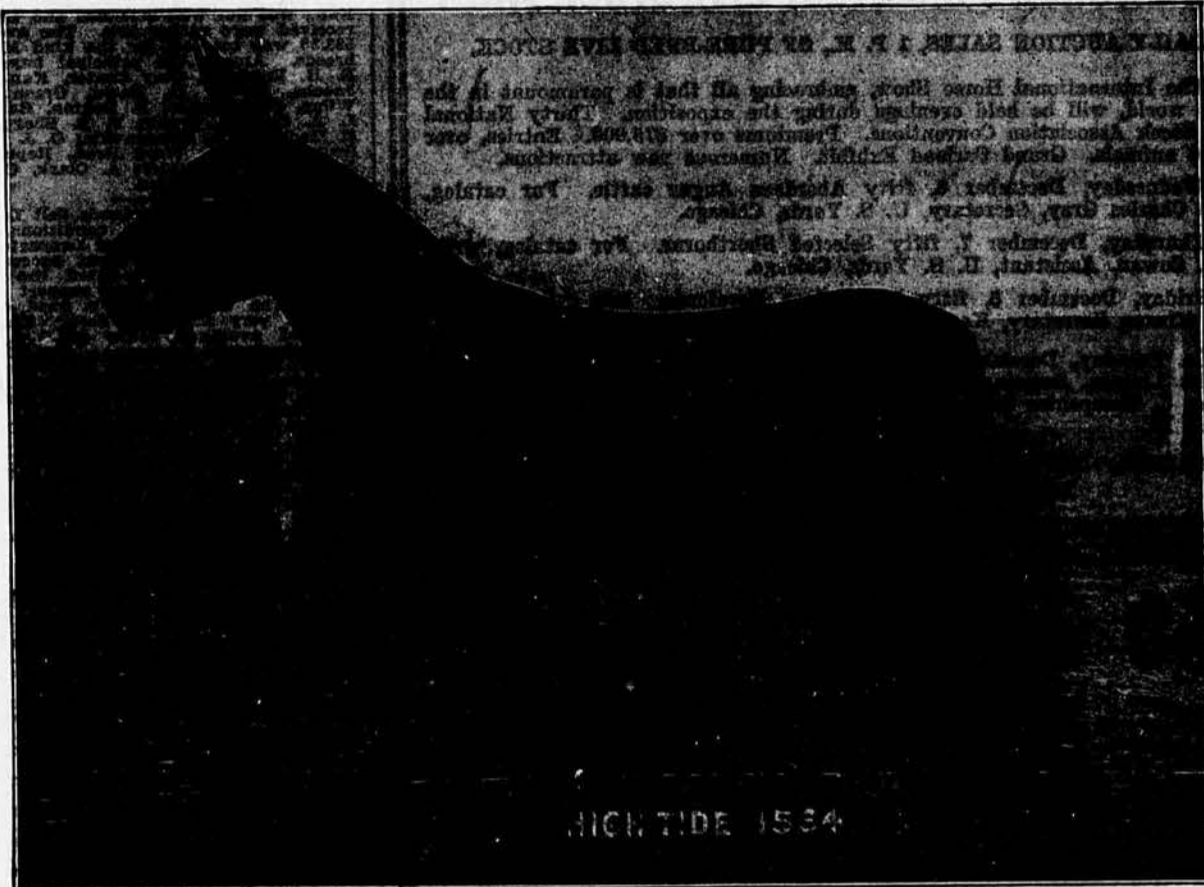
AT STERLING, KANSAS, FRIDAY, NOVEMBER 24, 1911

Ten matured and tried Jacks, including the great herd Jack, Hightide, that sold for \$2,030 in L. M. Monsee's March, 1908, sale; also including the great herd Jack, Missouri Chief, that has been at the head of S. M. Whitfield's herd at Alden, Kan., for two years.  
**TWENTY JENNETS, EIGHT WILL BE SAFE IN FOAL TO THE GREAT HERD JACK, HIGHTIDE. THEY ARE MONEY MAKERS.**

Twelve Jennets will be safe in foal to herd Jacks, Missouri Chief and Ben Franklin. All these Jennets are large and regular breeders.

Three Jack colts coming 2 years old, and one Jennet yearling, sired by Hightide.

This is a clean offering and will be sold to the high bidder. It is all first-class in every way, and guaranteed by men who make their guarantee good. Owing to Mr. Whitfield leaving the farm, this sale is being made a little earlier in the season than most buyers like to purchase. However, this will mean better prices to the prospective purchaser. Sterling is in Rice county, and on the main line of the Santa Fe and Missouri Pacific railroads. Good train service to this point. Catalogs are ready. Send today for one and make your arrangements to attend this sale.



**HUTCHINS & WHITFIELD, Sterling, Kansas**

## Nevius' Fall Sale of

# SCOTCH SHORTHORNS

AT GLENWOOD FARM, ONE MILE SOUTH OF

**Chiles, Kan., Tuesday, Nov. 21, '11**

**45 Head** { 10 BULLS, 12 TO 16 MONTHS OLD,  
 15 COWS, WITH CALVES AT FOOT.  
 15 2-YEAR-OLD HEIFERS, ALL BRED.  
 5 CHOICE YEARLING HEIFERS.

One-third of the females and one-half of the bulls are Scotch. The females have calves at foot or are bred to one of the herd bulls—SEARCHLIGHT, SEARCHLIGHT, JR., or PRINCE VALENTINE 4th. Several of the 1911 SHOW HERD are included. The history of my show herd is a record of prize winnings—the best in the West for any one herd—at western shows.

Representatives of the Cruickshank Violet, Duchess of Gloster, Secret, Luster, Jennie Lind and other fashionable tribes. The bulls are by the champion Searchlight, and Prince Pavonia, my chief herd bulls with undefeated records as sires in the West. If you want good productive females or herd bulls, look after the sons and daughters of these two great sires.

For catalog, mention this paper and address.

**C. S. NEVIUS, Chiles, Kansas**

Auctioneer—Col. R. L. Harriman. Fieldman—O. W. Devine.

## ROSS FARM ALDEN, RICE COUNTY, KANSAS

Registered Imported and American Bred Percheron Horses and Mares, Mammoth Jacks, Large Type Poland Chinas. Winners of Champion prizes on Percherons at Kansas City, American Royal and State Fairs, Hutchinson. High class stock at low prices a specialty. Stock sale always on hand. Everything guaranteed as represented. **GEORGE B. ROSS, Proprietor.**  
 Farm adjoining depot, main line of Santa Fe Ry.

### 50—PERCHERON STALLIONS AND MARES—50

Bishop Brothers have 25 big boned stallions that weight 1,700 to 2,100 pounds that they can and will sell for less money than any firm in the business, quality considered. Write us what you want. **BISHOP BROS., TOWANDA, KAN.**

# POLAND CHINAS AT AUCTION

**Oxford, Kansas**

**MONDAY, NOVEMBER 20, 1911**

## 25 Head

**15 CHOICE SPRING GILTS  
 10 GROWTHY SPRING BOARS**

Five of these gilts are bred to Master Strike by Master Meddler. The entire offering is sired by Referendum, by S. P.'s Chief, out of the great sow Darkness Last. Two boars and four gilts are out of a daughter of Spangler's Hadley, three boars and one gilt are out of Daisy Darkness (by Meddler 2d), two boars are out of Likely (by Imp's Likeness), and one boar and four fancy gilts are out of Velnetta (by Perfection Meddler.)

Don't Wait, But Send for a Catalog Today. Address,

**O. M. FURNAS,  
 Oxford, - - - Kansas**

Auctioneer—Col. Lafe Burger.

# TWELFTH International Live Stock Exposition

Dec. 2nd to 9th, Union Stock Yards, Chicago

THE WORLD'S GREATEST LIVE STOCK SHOW

DAILY AUCTION SALES, 1 P. M., OF PURE-BRED LIVE STOCK.

The International Horse Show, embracing all that is paramount in the horse world, will be held evenings during the exposition. Thirty National Live Stock Association Conventions. Premiums over \$75,000. Entries, over 11,000 animals. Grand Carload Exhibit. Numerous new attractions.

Wednesday, December 6, fifty Aberdeen Angus cattle. For catalog, write Charles Gray, Secretary, U. S. Yards, Chicago.

Thursday, December 7, fifty Selected Shorthorns. For catalog, write B. O. Cowan, Assistant, U. S. Yards, Chicago.

Friday, December 8, fifty High Class Herefords. For catalog, write R. J. Kinzer, Secretary, Kansas City, Mo.

On Tuesday, December 5, Rambouillet sheep sale. For catalog, write Dwight Lincoln, Secretary, Milford Center, Ohio. Also on Thursday, December 7, Hampshire hog sale. For catalog, write E. C. Stone, Secretary, Peoria, Ill.

EDUCATION, ENTERTAINMENT, PLEASURE TRIP—ALL IN ONE. LOWEST RATES ON ALL RAILROADS.


# 160 ACRE FARM AT AUCTION

Tuesday, November 21, 1911

1 mile west and 2 miles north of Pnomna, 12 miles from Ottawa, 69 miles from Kansas City.

Black limestone land, 152 acres tillable, 20 acres pasture, 12 acres tame grass, fenced and cross-fenced. Good bearing orchard, 6 acres fenced hog tight. Big feeding floor for hogs; 9 room, 2 story house, good cellar, well, etc. Barn 36x40, double corn crib, chicken houses, granaries, and other good outbuildings. Will be sold without reserve to the highest bidder. Sale at 2 p. m. Write for further information.

**Geo. W. Benson, Pomona, Kan.**  
Auctioneer—Col. T. E. Gordon, Waterville, Kan.



## L. R. WILEY'S STALLIONS

Imported and Home Bred Percherons, Belgians and Shires. All Percherons are Registered in the Percheron Society of America.

### 50 - Head STALLIONS AND MARES - 50

Including an unusual variety from which to select. All we ask is a chance to show the goods. You'll say the price is right, and buy. Write today.

**L. R. WILEY, EMPORIA, KAN.**  
Breeding Farm, Elmdale, Kan. Sale Barns, Emporia, Kan.

# Must Sell Aberdeen Angus Cattle

Have sold my farm; will give possession December 1, so will offer for next few days Registered Aberdeen Angus cattle at bargain prices, consisting of all popular families except Blackbirds. One bull, 14 months old; two bulls, 6 months old. Females, all ages. These cattle are extra good. If you are interested, I know we can do business.

**T. R. CULVER, Garnett, Kansas**

**PERCHERONS, SHIRES, BELGIANS.**  
Prospective buyers should see our 60 head of big, heavy-boned, drafty stallions and mares. Two importations this fall. We have a fine lot of American-bred Percherons that will suit, both in quality and price. All stock registered and guaranteed fully. Come to the barns or write.  
**SKOOG, REED & DECOW, Bolldridge, Neb.**

**FIELD NOTES.**  
Get a Catalog. Don't fail to send your name in for a catalog of J. E. Ware's sale, to be held at Larned, Kan., Saturday, November 18. This promises to be one of the best sales that will be held this season from an offering standpoint, and the breeders and farmers will have to make the price. We urge all lovers of Poland Chinas to attend this sale and buy some of the real bargains that will be sold. All farmers and breeders are cordially invited to attend. Please read advertisement in this issue, and be sure you have a catalog.

The Missouri Auction School of Trenton, Mo., held a week's session of the school in Kansas City, Mo., during the American Royal Live Stock Show, recently held there. There was a good attendance every day on the part of the public. Every day hundreds of persons, after seeing the school in operation, said they could see that a good auctioneer could be better made in that school than to be just "born." There was no question in the minds of the visitors that the instruction was entirely practical and resultful. Good auctioneers were in evidence, well trained, not only in the science of selling, but in voice culture, as well. The training given in learning relative values of the various lines of merchandise, besides judging live stock, is alone worth several hundred dollars to any young man. Any man with common sense can take a course in auctioneering in this school, and while doing it, increase his earning capacity to the place where his income will be \$10 to \$100 per day. Full particulars from the school at the above address are sent to all asking them.

**Choice Duroc Spring Boars.**  
W. H. Sales of Simpson, Kan., breeder of Duroc Jersey swine, advertises choice spring boars for sale at bargain prices. Mr. Sales reports good sales, but is anxious to close out and is making very attractive prices. Write him at once, mentioning Kansas Farmer.

**W. H. Emens' Poland Sell Low.**  
The Poland China sale held by W. H. Emens at Elmdale, Kan., was not up to the average in price, while the offering was good. The local demand was not strong, owing to local conditions and a shortage of corn in this locality. Mr. Emens will hold a bred sow sale in the early spring and sell a draft of his good brood sows. Fifty-eight head averaged \$15.50.

**Elder's Fall Sale.**  
Frank Elder's fall sale, held at Green, Kan., was not well attended and the prices received were rather low. The average of \$23.30 was too low for the kind Mr. Elder breeds. Among the principal buyers were E. H. Erickson, Clay Center, Kan.; Frank Jacobs, Green; D. Baird, Green; A. L. Wiley, Clay Center; F. Boxton, Baileyville; L. A. Carlson, Green; F. E. Sharp, Riley; C. Hackenbach, Morganville; O. J. Leabuer, Seneca. Sows: Ward Bros., Republic; H. Erickson, Clay Center; A. Clark, Green; C. Bergreen, Clay Center.

**H. C. Graner's Poland Sell Low.**  
Owing to bad local conditions, H. C. Graner's fall sale, held at Lancaster, Kansas, was not a very great success. The breeders present appreciated the offering fairly well, but the local support was not good. The offering was a good one, but sold in very moderate flesh. The entire lot sold averaged below \$25. A partial list of buyers follows: No. 1, John Jesch, Everest, \$40; No. 2, John Klein, Atchison, \$26; No. 3, John Keithlin, Lancaster, \$30; No. 4, N. I. Staples, Burlington Junction, Mo., \$60; No. 5, N. I. Staples, No. 11, Fred Butten, \$20; No. 14, W. R. Webb, Bendena, Kan., \$25; No. 18, Herman Groninger, Bendena, Kan., \$30; No. 19, N. I. Staples, \$35; No. 20, N. I. Staples, \$34; No. 23, W. R. Webb, \$21; No. 24, C. S. Moyer, Nortonville, \$30; No. 33, Herman Groninger, \$21; No. 42, W. E. Long, Meriden, \$20; No. 46, W. K. Helsler, Lancaster, \$21.

**L. R. Wiley Now at Emporia.**  
L. R. Wiley, the horseman of Elmdale, Kan., has purchased a splendid location at Emporia, Kan., formerly owned and operated by Morris Eyle as a horse and mule market. This includes the 10-acre tract near the stockyards, together with the residence and magnificent barns on Sixth avenue. Mr. Wiley is giving everything a complete overhauling, remodeling the water-works, lighting system and making other good improvements. This location at Emporia, with these splendid sale barns right in town and easy of access, makes it much more convenient for customers and, together with the large breeding farm at Elmdale, Kan., makes Mr. Wiley's one of the most complete and up-to-date breeding establishments to be found in the West. Mr. Wiley is advertising with this issue 50 head of Percheron, Belgian and Shire stallions and mares, including an unusual variety from which to select. Call at the new barns at Emporia and see this stud of fine young stallions. Anyone wanting a good horse or pair of mares can find them at the Wiley barn. Be your own judge. Go and look them over. Kindly mention Kansas Farmer when you write.

**T. E. Durbin's Poland China Sale.**  
T. E. Durbin's annual sale of big type Poland China hogs was held at his farm near King City, Mo., Friday, October 3. The offering was one of the best of the season, and although conditions were very unfavorable, the farmers and breeders at an average of \$23.30. Under favorable conditions the average for this offering would have been high, as it was the kind that appeals to breeders and farmers wanting the big, mellow, easy feeding kind. The following is a list of buyers at \$25 and over. Rube Gilbert, King City, Mo., \$30.50; Ambrose Durbin, King City, Mo., \$27; John Vandiver, King City, Mo., \$26.50; Harper Clay, King City, Mo., \$28; H. A. Crawford, Rea, Mo., \$37.50; Ed Campbell, King City, Mo., \$33; Ray Freeman, King City, Mo., \$27.50; Charles Crosswhite, McFall, Mo., \$27; J. P. Elberger, \$44; I. M. Simmons, Stanberry, Mo., \$35; William Webb, Bendena, Kan., \$32; Herman Groninger & Son, Bendena, Kan., \$34; J. P. Elberger, King City, Mo., \$30; John Flood, King City, Mo., \$25; S. A. Hodgson, Parker, Kan., \$27.50; J. F. Lloyd, Jefferson, Kan., 2 head, \$26.50 each.

**Shuck Made Very Good Sale.**  
Mr. Dana Shuck's fall sale of registered Durocs, held at Burr Oak, Kan., recently, was very satisfactory. While no record prices were paid, the general average was good and none sold very low for this season. The entire offering averaged almost \$20 per head. The following is a partial list of the sales: No. 1, W. Davis, Burr Oak, Kan., \$31; No. 2, W. Smith, Esbon, \$26.50; No. 3, F. Entermiller, Burr Oak, \$17.50; No. 4, J. O. Kopoland, Burr Oak, \$20; No. 5, R. J. Melkes, \$20; No. 6, Ward Bros., Republic, \$30; No. 15, C. White, Burr Oak, \$19; No. 20, H. F. Zumbrum, \$15; No. 21, J. Conrad, Esbon, \$31; No. 22, F. Hal-tay, \$17; No. 23, W. Nickoles, Burr Oak, Kan., \$25; No. 24, W. Thompson, Esbon, R. J. Melkes, \$16; No. 25, E. M. Meyers, Burr Oak, \$19; E. Bucknell, Superior, Neb., \$21; No. 34, R. P. Wells, Formosa, \$15; No. 36, C. C. White, Burr Oak, \$31; No. 35, T. Hallingsworth, Burr Oak, \$26; No. 39, R. J. Melkes, Burr Oak, \$17; No. 40, E. Entermiller, Burr Oak, \$18.50; No. 41, H. Feening, Burr Oak, \$29; No. 42, J. Alfus, Burr Oak, \$32; No. 43, W. E. Monasmith, Formosa, \$19; No. 49, G. Shuck, Guide Rock, Neb., \$27.

**Albert Smith's Sale Satisfactory.**  
Albert Smith & Sons of Superior, Neb., send their sale report and write that prices were far below what they usually are, but they are well satisfied and will have their usual good lot of bred sows for the winter sale. An incomplete list of the sales is as follows: No. 1, P. T. Nelson, Superior, Neb., \$35; No. 2, E. L. Vanornum, Superior, \$40; No. 3, Jack Knowes, Cadams, Neb., \$24; No. 4, Fred Evers, Franklin, \$30; No. 5, H. B. Francisco, Hastings, \$42; No. 9, F. C. E. Karper, Superior, \$27; No. 10, F. S. Spurk, Nelson, Neb., \$21; No. 11, O. W. Crispin, Webber, Kan., \$22; No. 12, J. Steinman, Byron, Neb., \$25; No. 13, W. Whiting, Nora, Neb., \$25; No. 16, John Reede, Webber, Kan., \$20; No. 22, E. Virschow, Davenport, Neb., \$51; No. 23, A. Burge, Webber, Kan., \$45; No. 24, E. D. Taylor, Davenport, \$48; No. 25, F. Frank-Clement, Edgar, \$20; No. 29, P. F. Buck-nell, Hardy, \$48; No. 30, Fred Evers, Frank-lin, \$26; No. 31, Joy Busey, Webber, Kan., \$31; No. 32, Carl Cederburg, Mankato,

Kan., \$37; No. 33, John S. Barnard, Nelson, Neb., \$25; No. 35, F. Norton, Superior, Neb., \$20; No. 36, Bob Greenwood, Nora, Neb., \$21; No. 37, Frank Spunk, Nelson, \$20; No. 39, George Haas, Lyons, Kan., \$39; No. 40, F. D. Woodward & Son, Hebron, \$35; No. 41, F. Swihart, Hardy, Neb., \$26; No. 42, Roby Larson, Hardy, \$30. Gilts—No. 1, A. Burge, \$21; No. 6, A. Burge, \$20; No. 14, A. Burge, \$21; No. 15, Jann Sullivan, Superior, Neb., \$21; No. 20, A. Burge, \$20; No. 21, A. Burge, \$20; No. 27, A. Burge, \$24; No. 34, Josh Morgan, Hardy, \$26; No. 38, Glen Beavers, Oak, Neb., \$36; No. 46, John Sullivan, Superior, Neb., \$26; No. 47, John Anderson, Superior, Neb., \$24; No. 48, George Haas, Lyons, Kan., \$30; No. 49, A. Burge, \$25; No. 49 1/2, A. Burge, \$23.

**Buying Goods at Home.**  
The wide discussion of mail order methods, brought about recently by a big manufacturer's campaign, has brought up the question: "What per cent of the goods sold in this country are sold by mail?" Statistics show that about 95 per cent are sold by retail dealers and 5 per cent by mail order concerns. In other words, for every dollar's worth of goods the mail order houses of this country sell, the local dealers sell nineteen dollars' worth. This seems to prove that the public in general have found it to their advantage to buy goods from retail dealers. Nevertheless, some mail order concerns have caused many manufacturers a great deal of trouble. It is not that they themselves have done so much business, but that, by misrepresentation, they abuse public confidence. People have been misled by exaggerated advertisements and catalogs that they are getting, so they discount about everything they read. This hurts honest manufacturers and honest dealers who adhere strictly to the truth in advertising and selling their wares. We cordially commend the manufacturers of "Garland" stoves and ranges in their attitude of telling the public of their business policies and methods of doing business.

**Power Farming Pays Huge Profits.**  
You show us a farmer who owns a gas engine with plenty of power to handle all his farm machinery and we will show you a farmer who will be one of the wealthiest men in his locality in a few years. He will get ahead of his backward neighbor who still clings to muscle power and horse power, just like the modern manufacturer with up-to-date machinery has distanced his competitor who insisted on using hand labor. The man who makes big money in this day and age in any kind of business is the man who uses his head. And he can't use his head if his time and strength are used up doing all sorts of tedious chores and jobs. If you haven't a farm engine of ample power, get one at once, and then equip all your machinery for power that you possibly can. The Sandwich Manufacturing Company was among the first concerns to see the wonderful money making possibilities of gas engines and power-driven farm machines on American farms. They have become famous as makers of the Sandwich corn sheller, the Sandwich all-steel belt-power, the Sandwich feed mill and the Sandwich farm elevator. All these machines can be operated with a modern-sized gas engine and each one is a big farm money maker. Moreover, if you need a gas engine, there's no place in the world where you can buy a good one for less money than your local Sandwich dealer will sell it to you. Just drop a line to the Sandwich Manufacturing Company and tell them which of the following power-driven machines you are interested in: Corn shellers, feed mills or hay presses. The information you will get will open your eyes to a lot of money-making methods that you may be overlooking. Power farming is today the most important subject we know of. More men will get rich in the next 10 years by utilizing gas engines and power-driven farm machinery than through all other farming methods combined. Write to the Sandwich Manufacturing Company, Sandwich, Ill., today, and to all other concerns you know of who are authorities on power farming.

**Why Plow At All?**  
Joseph E. Wing, the great agricultural expert of Ohio, is one of the most enthusiastic advocates of the Spalding deep tilling machine. Mr. Wing makes the effect of tilling with the Spalding very clear in the following remarks: "Why plow at all? What is the reason for tilling the soil? Why, if plowing three inches deep may it help more to plow 12 inches deep or as deep as one can? Well, a soil is a curious thing; it is not a mere anchorage for plants, to hold them from blowing over. It is a laboratory, a storehouse, a place where miracles are worked. A soil is a living thing. It has in it, if it is a good soil, a lot of bacteria. These bacteria perform miracles. They make food for plants. Bacteria cannot exist—the useful sort—without air and moisture. A soil is fertile just in proportion as it is filled with useful bacteria; that is, one can take a soil and leave one-half of a certain field saturated with water, and the pores of the earth closed, as the soil is in a tight, closed condition; and put the other half in order by drainage and deep plowing to let in the air, and will get twice, maybe four times the crop from the drained and deeply plowed soil. Drainage and deep plowing should go hand in hand. There is not much use doing either unless the other is done as well. Let the air into the soil. That then, is the first principle of deep plowing, to let the air permeate the soil and that its bacterial flora will be increased and its feeding depth increased. The lower depths of the soil very often have in them much mineral wealth and less nitrogen. Turn those soils up, aerate them, mix humus through them and the bacteria will get busy and all the soil will be made rich. They do not eat. Thus the limiting factor in crop production is soil moisture. There is not one year in ten in even the most rainy states of America when there is enough soil moisture to afford a full crop of corn, cotton, potatoes or almost any other that can be mentioned. There may be excess of moisture for a part of the season, then comes a dry time when the plants suffer; it is a critical time, too. Corn suffers for moisture when it is earing or filling. Potatoes suffer as the tubers swell. Cotton suffers as the bolls set and enlarge. No doubt there has been moisture enough early in the season, but it was not held. Deeply tilled and well pulverized soil retains moisture very much better than hard soil. It holds more moisture to be used with and it is much more slowly evaporated. So there is dual advantage from deep plowing, the rendering available of much more plant food and the use of much more moisture. These facts explain why crops are frequently doubled by the one factor of correct tilling and preparation of the soil."



# THE PROOF OF THE PUDDING

IS THE EATING THEREOF

## Expressions Received From a Few of the Leading Citizens of Kansas

**The Larabee Flour Mills Co., Hutchinson, Kan.**

We are pleased to acknowledge receipt of our \$10,000 Joint Life Corporation Policy, which has just been delivered to us by Special Agent George K. Perrin.

We are very much pleased with this policy, and now that we have this protection, would not be without it for several times the cost.

After looking over contract we are perfectly satisfied that every statement made by Mr. Perrin or yourself has been fully verified. We have always thought that life insurance should be sold on the straightforward business basis pursued by you gentlemen, and we do not hesitate to state that in our opinion any corporation or individual who is interested in the important subject of life insurance will receive the same treatment which has been accorded to us.

The great Equitable Life is too well known to need any word of commendation from us.

**J. R. Mulvane, Topeka, Kan.**

I am the holder of a paid-up policy in your good company, and value it as among my best assets. I also had an Endowment policy, which became due and has been paid with about \$1,400 of accumulations, all to my full satisfaction. I am a believer in life insurance, and also in this good company.

**J. W. Creech, Herington, Kan.**

I have your favor of the 30th inst. enclosing the Society's check for \$1,138.45, covering surplus on my \$5,000 policy No. 371684.

This policy was taken out twenty years ago on the participating plan. The Equitable has not only stood ready to pay my estate \$5,000 since I paid my first premium, but is now returning to me a large proportion of all premiums paid, thereby enabling me to add a paid-up policy for \$5,000 to my estate at an exceedingly nominal cost. I am pleased with the settlement.

**C. M. Millisack, Goodland, Kan.**

As you may be aware, I now hold two policies amounting to \$12,500, and my wife holds a policy of \$2,500 in the Equitable Life, making a total of \$15,000.

I assure you I consider this a good business investment, and safe asset to my estate. If I decide to take out any more life insurance I will advise you or call upon you personally.

**A. W. Logan, Quenemo, Kan.**

I have just been advised by the Society that the dividend on my \$20,000 Ordinary Life Policy, premium \$707.80, amounts to \$80.80. This I can draw in cash, use to reduce my next premium, or convert into paid-up insurance additional to my policy of \$168.00.

I am pleased, indeed, with this dividend, especially so since it is more than you told me I might expect.

**Lewis N. Troyer, Kensington, Kan.**

I herewith acknowledge receipt of the Society's check for \$2,000 in payment of policy on the life of my late brother, Isaac H. Troyer. Your agent wrote my brother's application and my own on November 5, last; we were examined on November 7.

My brother was kicked by his horse November 9 and died the next day, before application and examination could reach your home office.

Notwithstanding the above facts, your Society has paid this claim very promptly, even though the policy was never sent out. I thank you and the Equitable for the courtesy and promptness with which this matter has been handled.

December 17, 1908.

Thousands of people who read this advertisement will appreciate fully the statements of their well known fellow citizens, because the several statements made are merely a re-echo of their own sentiments. Sentiment put into actual practice, for they have the satisfaction of knowing that even though they should not live to carry the plans which they have been years in formulating for the welfare of their families to a successful issue, their life insurance will immediately become available, and that it will do, in a measure, the work they have started to do.

Thousands of other people—perhaps nine out of every ten who read this page—while appreciating the truth of the statements made—for the integrity of the men who have written these letters is absolutely beyond question—will have a feeling away down deep in their hearts that they have for many years neglected a duty which they owe to their families, themselves, and their respective communities.

Today every wide-awake man and woman appreciates the value of insurance, and they know that life insurance is to the family exactly what fire insurance is to the individual, only more so, because:

**First.**—In either event the insurance is taken to indemnify the man or the family against a probable loss.

**Second.**—Many a man can stand the loss of his house or barn, even though he may have no insurance, without inconvenience. **But few** families can sustain the loss of the head of the household without great inconvenience, and frequently without actual suffering and want.

**Third.**—Life Insurance is infinitely more important to humanity, because there is but one fire loss out of every forty buildings insured, while on the other hand every life insurance contract written and continued in force is ultimately PAID IN FULL.

### The Equitable Life Assurance Society of the U. S.

OVER FIFTY-TWO YEARS OLD

Policyholders more than 500,000  
Total assets over \$500,000,000  
KANSAS investments over \$8,600,000

Many men do not carry Old Line Life Insurance for the reason that they have in some way gotten the impression that the insurance problem is mystical and difficult to understand. Positively this is not the case. Old line life insurance is a simple mathematical proposition based on the American Experience Table of Mor-

tality, and where the policy is placed with a participating company, such as the **Equitable**, the insured will obtain his insurance for the actual cost of carrying the risk; for the insurance contracts issued by the Equitable share to the fullest extent in the profits and savings spoken of in the policy contract as surplus, and each policyholder receives his or her share of the surplus each year.

It is our most earnest desire to reach the men who have no Old Line insurance or who are inadequately insured. We want an opportunity to show these men the simplicity of the Equitable Standard Insurance contract. We want these men to fully realize that by placing their insurance with this company they are making a sure provision for the future welfare of their families, for behind our policy contracts are the total assets of the Society, amounting to over Five Hundred Millions of dollars.

**IMPORTANT.** It is the insurance contract which is in force, and not the one you are going to take, that provides protection for the family. The annual deposits, varying with the age of the insured and according to the policy applied for, are small indeed when compared with the ultimate returns.

Do not delay, but fill out, sign and mail to us the attached coupon. We shall be pleased to tell you about the Great Equitable Life and the Equitable Standard insurance contracts.

## THE EQUITABLE LIFE ASSURANCE SOCIETY OF THE U. S.

120 Broadway, New York.

CHARLES A. MOORE, General Agent

412-414 Central National Bank Bldg. TOPEKA, KANSAS

Charles A. Moore, General Agent, Topeka, Kansas.

Please send me full particulars regarding a life insurance policy for \$..... in your Society

at age .....

Name .....

Full address .....