

# KANSAS FARMER

For the improvement of the Farm and Home

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**M**ILKING cows is to some a most uninteresting and disagreeable task. But once begin to put some mental effort into the handling of the cow, and all this is changed. The boy milking his own cow and selling the product does not think it much of a job. He is financially concerned with the results. He is interested in the quantity and quality of the milk she is giving. An increase of a quarter or a half pound is cause for rejoicing. He will eagerly watch the feed record to see that the increase has not been at too great a cost to be profitable.

Week by week and month by month, as the record lengthens, the interest will grow. If the cow is a good one and has been well fed, the butter fat for the year may bring \$50 or \$60 above the cost of feed. If the calf happens to be a heifer, there will soon be another cow to milk and more profit to come.

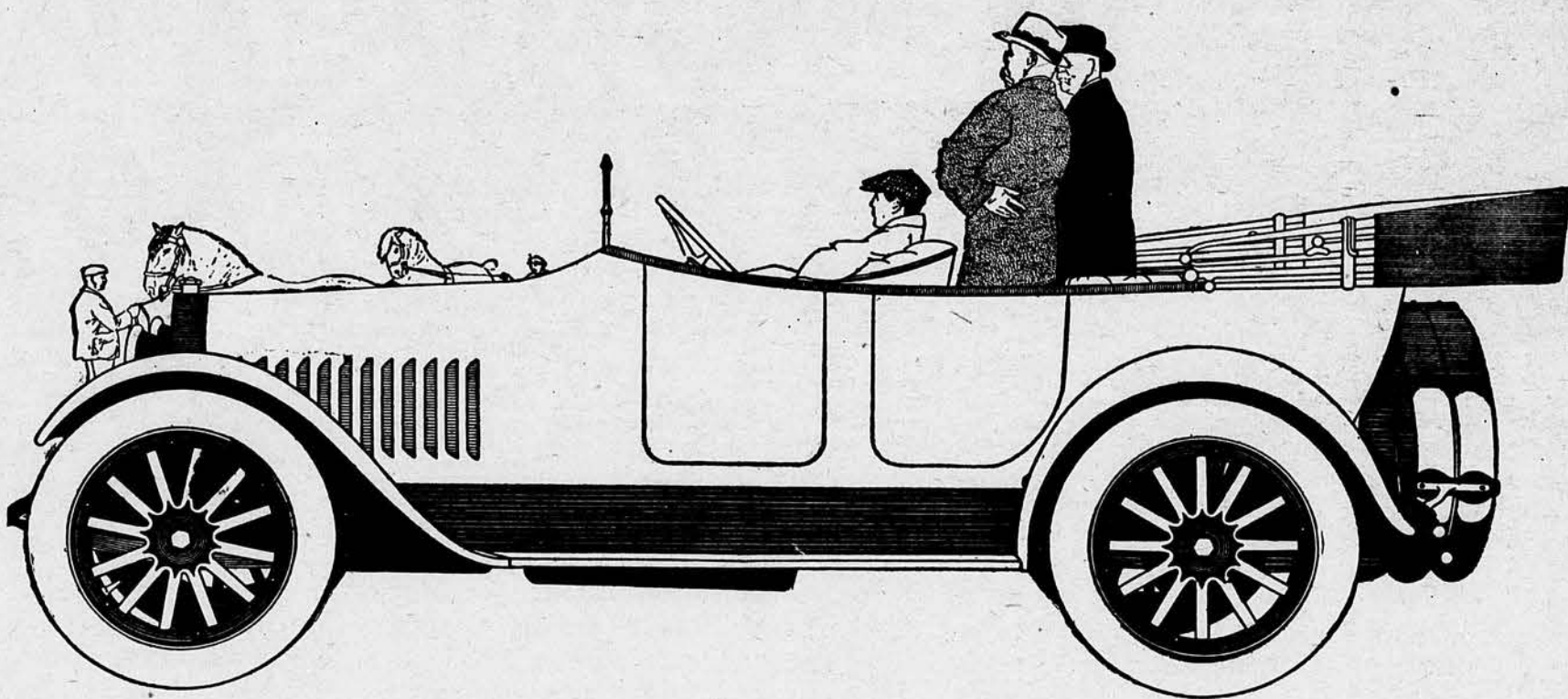
Work in which we are really interested is never drudgery. We do it with an enthusiasm that makes our efforts bring results.

G. C. W.



*Not Drudgery—A Business Full of Interest and Profit*





### IT'S A COMMON-SENSE CAR TO DRIVE—THIS 3400 R. P. M. CHALMERS

Great energy in an engine will do one of two things.

It will either deliver great power or great all-round performance. But it won't do both.

It was up to Chalmers engineers to decide which of the two would be the more desirable in the new 3400 r. p. m. Chalmers.

In early road and laboratory tests of this phenomenal engine's energy they found that it developed superfluous power.

The might of this small engine was amazing; the temptation to let it deliver its full measure of might was tremendous.

But Hugh Chalmers said: "Might isn't everything. We can't afford to sacrifice performance to power. Keep her horse-power down. Get long mileage on gas—quicken her acceleration. Make her perform."

So it was decided that the headlong power of the 3400 r. p. m. Chalmers must be held in check—by the curb-bit of fuel-economy.

Thus it added mileage to might, made every gallon of gas kick in with 18 miles of wonderful flight, with an uninterrupted flow of silken, miraculous acceleration, and speed up to sixty miles an hour.

But bore, stroke, and engine speed remained unchanged. It still recorded its 3400 revolutions per minute.

As long as motor cars run on gasoline, extreme racing speed will be as prohibitive in cost

to the average user as extreme racing speed in a horse.

A Dan Patch is not for the average stable—an interesting sort of beast, but pretty useless when it comes to the prosaic requirements of the day's work in town or country.

When Mr. Chalmers refused to O. K. the sacrifice of all-round performance to mere brute might, he saved the owner of the 3400 r. p. m. Chalmers from \$150 to \$200 per year in cost of gas.

And so it's a common-sense car for a farmer to drive, because thrift is the first law of scientific farming. This car does not require a big burnt offering on the altar of useless might.

Its pick-up and ease of control will astound you the moment you set foot on the accelerator button. You can shoot ahead of another car's dust at will. No jar or sidesway—always four wheels on the road—you slip up the hills on high—your direction is straight and true.

Big and roomy; 115 inches of wheelbase; Westinghouse starting and lighting; deep, rich, genuine full-grain leather upholstery; stunning color options.

The next time you go to town, go and see this car; you feel already that this is the car you must own.

\$1050 Detroit

\$1475 in Canada

Chalmers Motor Company, Detroit, Michigan



**Quality First**





# KANSAS FARMER

The Standard Farm Paper of Kansas

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## KANSAS FARMER DAIRY CLUB

**B**OYS and girls, here is an opportunity that will start you on the road to financial success—it is a chance to own a fine dairy cow. A single heifer can become the foundation of a herd of high producing cows. By becoming a member of the Kansas Farmer Dairy Club you can make this start in a most profitable business.

Dairying is claiming increased attention in Kansas because of its certainty to produce a steady income. A grade cow in a Dickinson County herd produced in one year, butter fat that sold for \$225. The owner estimated that this cow would return a 10 per cent income on a valuation of \$2,000. The average net profit per cow from 150 cows owned by members of the Dickinson County Cow Testing Association, was \$54.89. This was profit over cost of feed. The calves and the manure produced easily offset the labor and the risk. The ten best cows returned an average annual net profit of \$96.43. These results, which are by no means unusual, are given to call your attention to the great importance of the dairy industry.

COW WILL PAY FOR HERSELF.

Bankers are co-operating with KANSAS FARMER in conducting this dairy club. You are not to be given a cow, but can become the owner of one if your banker co-operates and you do your part. It will call forth effort, but it would not be worth while if it did not. It requires capital to own a herd of dairy cows, or even to own a single cow, but capital wisely invested will return not only interest on the investment, but a profit as well. Intelligent dairy farming is a kind of live stock farming that is sure to return good profits on the investment.

Through the co-operation of your banker, you can make this start in dairying and compete for the valuable prizes offered as a reward for your efforts. The bankers are willing to do this because they know that more dairying in a community means increased prosperity. They will expect you to pay for the cow as you earn the money, and the cow will do her part in helping to pay off the debt. Even very ordinary cows will produce from \$50 to \$60 worth of butter fat a year, and then there is the skim milk and the calf to add to the income.

Bankers are always considering the safety of the investments they make. It is an important part of their business, and they know there is no safer place to invest capital than in good dairy cattle. They know that money loaned to boys and girls for the purpose of giving them a start in so permanently profitable a business as dairying, is sure to be repaid.

The terms of payment will extend over a long enough period so that the products from the cow can be depended upon to pay the debt. The details of the loan must be taken up with the banker who furnishes the money. He will, of course, expect a note, taking the cow as security. It is a business matter and should be handled in a business manner. The interest will be at the prevailing rate.

NO RESTRICTIONS AS TO KIND OF COW ENTERED.

There will be no restrictions as to the kind of cow entered in this club. It may be a grade of some dairy breed, or just a common red, roan, or brindle cow, such as might be bought anywhere in the neighborhood. Some bankers co-operating in this club may be willing to furnish money enough to buy a pure-bred dairy cow. Every boy and girl entering should try to get as good a milk cow or heifer as possible, because it will make a better foundation for the future herd and bring in a larger money income. In competing for the prizes, however, produc-

tion is not the only factor to be considered, so no one should hesitate to enter because unable to secure a high producing cow.

In the competition between young heifers and mature cows, due allowance will be made for age. These points have all been very carefully worked out, and the boy or girl who enters with a two-year-old heifer will have just as good a chance to win as will the one having a mature cow.

The cow can be cared for with such equipment as is found on the average farm. Modern dairy barns and other equipment such as is used on many special dairy farms, will not be a requirement, but the better the care and attention given the cow, the better will be the results. Samples of the milk must be taken once each month, and arrangements will be made to have these tested for butter fat at some central point. The average butter fat price for the state will be used in determining the value of the product. A uniform scale of prices for feeds will also be adopted so that all will have an equal chance in calculating the results as to cost of production. Blanks will be furnished for keeping all the required records.

In determining the winners of the prizes at the end of the year, a committee of competent judges will be selected, and in making their decisions they will make a maximum allowance of 30 per cent on the total production for the year; 30 per cent on the profit made over cost of feed; 20 per cent on the keeping of the records and story telling of the work; and 20 per cent on the quality of the product, making a maximum score of 100 per cent.

The spirit of competition or rivalry enters into almost every business, but in this club in addition to this friendly competition among the members to see who can produce the most butter fat, make the most profit from it, market a product of the highest quality, and keep the best set of records, there is the chance to compete for prizes valued at hundreds of dollars.

In becoming a member of this club, you will be working in co-operation with the best business organizations in the state in developing a most profitable type of farming. There is always inspiration in numbers, and you will have fellowship through the columns of KANSAS FARMER with all the other bright boys and girls who become members of the club. Instructions will be furnished on how to select, feed and care for the cow in order to secure the best returns. By taking part in this club, you will not only learn a great deal about dairying and possibly win a valuable prize, but will gain experience in methods of conducting business that will be invaluable to you in later life.

REQUIREMENTS FOR MEMBERSHIP.

Boys and girls from 12 to 18 years of age, are eligible to membership in the Kansas Farmer Dairy Club. Entries will be received from March 1 to May 1. The year's record can be begun any time up to and including September 1.

A number of banks have already wired or telephoned their endorsement of the plan and signified their intention to co-operate. Many more will do so in the next few days.

These banks will loan the money and you will buy your cow and, from the money received for the milk or cream sold, pay the debt.

You will enter into an agreement to keep the required records, study the instructions furnished, and report at stated intervals to the bank and to KANSAS FARMER.

To become a member of the Kansas Farmer Dairy Club, you should make your application direct to KANSAS FARMER, Topeka, Kansas.

### Send Your Name For Membership

The first step in becoming a member of the Dairy Club is to fill in the following coupon and mail to Albert T. Reid, president Kansas Farmer Company, Topeka, Kansas:

I desire to become a member of the KANSAS FARMER DAIRY CLUB and will follow all the instructions and report regularly as directed.

My name is.....

Address..... R. F. D. No.....

My parents' or guardian's name is.....

The bank we patronize is.....



# TEACH AGRICULTURE TO ALL

*Primary Purpose is to Arouse Intelligent Interest in This Fundamental Industry*

By H. J. WATERS, Before Pan-American Congress

HERE are two principal classes of society in any country—the rural and the urban classes. Each is dependent upon the other for its highest development. The greatest misfortune that can befall any nation is for its rural and urban classes to fall apart.

There ought not to be any obstacle to the free intermingling and intermarrying of the country and town people. It ought not to be true that the town girls would rather marry a drug clerk or an omnibus driver than an industrious young man with a farm. Conditions under which the best women are not content to live will not long attract good men.

It ought to be true that no one could determine by their dress, their manners, or their culture, which persons came from the country and which came from town.

#### EVERYBODY ADVISES FARMER.

No other class has had so much gratuitous advice and assistance as the farmer has had. His business is fundamental to the welfare of everybody, so everybody feels free to take a hand in helping him run his business. Fortunately, the farmer has had his feet firmly planted on the earth and has not been very quick to heed the many suggestions offered concerning the way in which he should cultivate his soil, feed his stock, or manage his business.

We are all interested in keeping the farmers on the farm and view with alarm their coming to town to live. It does not occur to us that if the farm possesses so many advantages over the city as a place in which to live and to make a career, our first duty is to our children and that we should be bringing them up with a desire to live in the country and to till the soil. Such, however, is not the case. We think of instruction in agriculture in the schools as entirely for the farmer's children, and for the sole purpose of keeping the farmer's children on the farm.

#### CLASS EDUCATION UNDEMOCRATIC.

The primary purpose of teaching agriculture is to create an intelligent interest in this fundamental industry. Human interest is the most difficult and costly thing to obtain and is our most precious asset once it is acquired. Teaching agriculture broadens the vision of the child whether in the town or the country, and widens its range of choice of occupation.

In a democracy the utmost freedom in the choice of an occupation is the fundamental right of every child, and this right must not be abridged.

If the public schools of the city sought to make blacksmiths of the sons of the blacksmith, and to induce the sons of the bank director to follow in the footsteps of their father, the country would be shaken with protest because the public school—the most powerful agency left us with which to promote democracy—was being employed to destroy democracy.

The boy or girl brought up in the country is entitled to as much freedom of choice of occupation as the boy or girl brought up in town, and is entitled to as substantial help from the public schools in making an intelligent choice.

The city children should be taught about the country, its opportunities, its beauties, its profits, and its advantages, as well as about its limitations and its labors. They need to be taught not alone of the sweats and toils of the farm but that the chances for moderate success, which is as much success as the average may hope to attain, are best in the country and that the country is the place in which human life may flower into splendid physique, strong mind, and sound morals.

Formerly the difference between the city and country were much exaggerated. The young people of the country were taught in their homes, in the school, and through the literature placed in their hands, largely to overestimate the advantages of city life, and they were not taught correctly to comprehend its disadvantages.

The trend cityward, therefore, has been partly due to the half education which prevailed in the rural districts, and which gave farm boys and girls glimpses of a more attractive city life than really existed, and did not teach them the true attractiveness of country life and how they might attain their ideals in the country.

#### MUST IMPROVE LIVING CONDITIONS.

Of even greater importance, we are now seeking, through a more extensive and more practical education, to improve



THIS NEW SCHOOLHOUSE IN JACKSON COUNTY HAS A FURNACE AND A PLAY ROOM IN THE BASEMENT, AND A WORK ROOM ON THE GROUND FLOOR SHUT OFF BY FOLDING DOORS

conditions in the country, that the country may successfully compete with the city.

The plan clearly recognizes the elementary principle that people will quickly discover superior opportunities for securing an income and for procuring the satisfactions of life. Therefore, if the rural community does not afford the kind of life that ought to attract a part of the best of the city children, it cannot be expected that it will hold a fair share of the best of the country children. The fundamental remedy then, must be sought in the life itself. Altering our attitude toward rural life can have little effect when applied as a sole remedy. This has been the primary weakness of all previous attempts to hold a proper proportion of the best people on the land and every such attempt has failed. Such a remedy can only be effective when the conditions on the farm have been such as successfully to compete with those of the city.

If farming offered as good business opportunities as may be found in the city and if the country afforded as good social, school and church facilities as the city does, there would be no complaint of too few people on the land.

#### ALL NEED AGRICULTURAL KNOWLEDGE.

A system of agricultural education to be entirely successful, therefore, must reach all the people, for interest in agriculture must be made universal.

It is true that the ratio of rural to urban population has declined in most countries of the world within recent years, yet the dependence of everybody on the products of the soil has greatly increased.

Manufacturing has recently gained rapidly in importance. Manufacturing has become a city industry, but its dependence upon the farm for raw material was never so great as now. If the farmer refused to make his contribution to manufacturing, nine-tenths of the factories of the United States would close their doors.

In the United States, which may be taken as a type of the Pan-American countries, of the raw materials used in manufacturing, one-half of one per cent is derived from the seas; five per cent from the forest, thirteen per cent from the mines, and eighty-one per cent from the farm. The children of the man who answers the call of the factory whistle should be taught that not only the clothes which their father wears, and the food contained in his dinner pail, but also the materials which provide him a chance to work and afford the family a living, come from the farm.

The children of those who are engaged in transportation should understand that it is the soil-produced material which affords them nine-tenths of their employment.

The merchants should realize that nearly all the goods they buy and sell come originally from the farm.

The children of the banker ought to know that a large part of the value represented by every dollar which reaches the bank vault was produced in the country and that in the long run it

makes as much difference to them as it does to the children of the country how much of each dollar remains in the country with which to build the right sort of family life.

The city children ought to understand that though the farmer has undertaken the most important task of any man, that of providing the world with its food, clothing, and the raw material for its industries, he never has and probably never will have much to say regarding the conditions under which he will discharge that task, and these children should understand that the way in which society determines these conditions will in turn determine the standing and progress of both city and country. They should appreciate the limitations of farm production and realize that conditions which they impose that are not to the best interests of the country people, will not in the end be for their own best interest. They should early learn that no civilization has withstood the effect of the decay of its rural people.

Occasionally a nation may be so situated as to support itself with commercial and transportation enterprises alone, but the exceptions will always be few to the law that a people which forgets agriculture cannot long survive.

No system of agricultural education, therefore, can be broad enough to meet the needs of a modern civilization that does not recognize the principle that interest in agriculture is not limited to those who till the soil, but ought to be universal.

It must embrace research as well as instruction.

It must reach as high in our colleges and universities as does any other kind of education, for how else may the dignity of agriculture be maintained? And it should extend as low as is required to meet the needs of the children of the grades and of the humblest farmer of the land. It must be national in scope.

It is a narrow view which limits the scope of agricultural education to the field covered by the agricultural colleges of the country.

#### FEW CAN GET COLLEGE TRAINING.

Only a small part of the people of any country ever attend institutions of college grade and, in the nature of the case, only a part of these will study agriculture. Therefore, all the agricultural colleges which any country will find it profitable to support when working diligently and efficiently, will not be able to train more than the leaders in agriculture.

The facilities of the high schools of the country must be employed and the United States, at least, needs more high schools, especially rural high schools. A good high school should be within easy reach of every boy and girl in the land.

But the problem is by no means solved when agriculture is successfully taught in all the high schools of a country, for comparatively few of those who are to farm will attend a high school. Indeed, from seventy-five to ninety per cent of the boys and girls in the United States leave school and enter life's occupation

before they are sixteen years of age and before they reach the high school.

Perhaps nine-tenths of our farmers have gone directly to their occupation from the rural school. To reach them with instruction that will make them better citizens and more successful husbandmen and business men, means that we must teach agriculture into this school.

#### AGRICULTURE LAST SUBJECT INTRODUCED.

Although agriculture was man's first organized occupation and has been his chief occupation in every age since, it has been the last subject to be introduced into the course of study of our schools.

The early attempts at teaching this subject in America were failures, principally because the man on the farm knew more about farming than did the teacher. This quickly led to the establishment of agricultural experiment stations, research institutions in which the application of science to agriculture was studied, where the reasons of the most successful farm practices were discovered, and where new and improved practices were devised. Thus, for the first time in the history of education, a deliberate attempt was made, through a well co-ordinated system of scientific research, to create a body of knowledge in relation to a subject which it was deemed important to teach, but about which so little of a definite nature was known that it could not be taught successfully.

It is true that scientific research has been a part of the activity of most institutions of higher learning for a long time, but there has not been before an organized, co-ordinated and compulsory system of research as a definite part of a great educational program.

The success of the investigations in agriculture in this country has been a wonderful stimulus to the research activity in other lines.

As might have been expected, the first result of this suddenly stimulated activity in research was the accumulation of knowledge more rapidly than it could be absorbed by the farmers and adapted into their practices. A way had to be devised by which to get the man on the soil, who is largely muscle-minded and eye-minded, to adopt these new methods. As a result, a system of extension teaching through farmers' institutes, press articles, and farm demonstrations, grew up. It is only within very recent years, indeed, since the passage of an act of congress by which the federal government joined with the states through the agricultural colleges, that the effort to carry this knowledge to the people has become general and effective.

Thus, new as is the system of agricultural instruction, and halting as was its progress at the outset, it has already marked two distinct and important departures from educational traditions—one in the organized system of research through which a body of knowledge pertaining to the subject was created, and the other an organized system of extension or continuation teaching through which parents as well as pupils were reached with this new-found knowledge. Both of these departures have already exerted a large influence upon general education, thought and practice.

#### AGRICULTURE TAUGHT SUCCESSFULLY.

Now agriculture is successfully taught because there is something to teach and because teachers have been trained to teach it. Young men are as well prepared at college to engage in the practice of farming as they are at college to engage in the practice of law or medicine, or journalism, and the farmer has as much respect for the college trained farmer as he has for the college trained lawyer or doctor.

There is no reason why agriculture may not now become the most interesting, the most inspiring and the most educative subject in the school course—which means that it may be the most successfully taught subject in the school.

A system of agricultural instruction, to be truly successful, should reach all the people, for interest in agriculture must be made universal. We think of the three great basic industries as mining, manufacturing, and farming. Transportation and commerce must rest solely upon these industries. Mining as compared with manufacturing and farming, employs but a small fraction of those engaged in the gainful occupations, and its output represents a value less than that of a single farm crop or than that of the output of a single manufacturing industry.



# CONTROLLING ORCHARD PESTS

*Growing Sound Fruit is Not Difficult if Correct Methods 'are Practiced*

By J. H. MERRILL, Kansas State Agricultural College

**I**N Kansas the most common insect pests and plant diseases with which orchardists have to contend are San Jose scale, codling moth, curculio, canker worm, apple leaf skeletonizer, apple scab, apple blotch, bitter rot, black rot, and apple rust. There are others, but in carrying out the following spraying schedule they will usually be controlled.

To control San Jose scale a dormant spray should be applied, using commercial or home-made lime sulphur before the buds open. Lime-sulphur is used as a contact insecticide in dormant spraying and is used in the summer spraying as a fungicide. Arsenate of lead is used in the summer spraying as a stomach poison. It may be procured in either the paste form or as a powdered arsenate. Whenever arsenate of lead is mentioned in this schedule it is the paste form which is being spoken of, but the powdered form may be substituted for it any place. Only one-half the amount of the powdered form by weight should be used, as the powdered arsenate does not contain the large amount of water that the paste does.

The first summer spray should be applied just before the blossoms open and should consist of two pounds of arsenate of lead and one and a half gallons of lime sulphur to every fifty gallons of water. This is a very valuable spray for controlling the spring canker worm, the plum curculio, and the apple scab. It will also control apple rust.

The second spray is applied when the blossoms are one-half to two-thirds off the tree. The composition of this is similar to that of the first. The object of this spray is to fill the calyx cups with poison before they close so that when the young codling moth attempts to enter the calyx end of the apple, as most of this brood do, they will find the poison waiting for them and their entrance will thus be checked. This spray continues to aid in controlling the curculio and apple scab as well as black rot and rust.

The third spray is applied about three weeks after the blossoms have fallen. At this time the codling moths are just hatching and since they take their first meal from the leaves it is desirable that these leaves have a good coating of poison. It is at this time that the spores of the apple blotch are liberated and should be combated. In order to successfully handle the apple blotch it is necessary to use Bordeaux mixture, as lime sulphur will not control this disease. The same amount of arsenate of lead is used in this spray, but Bordeaux mixture 3:4:50 is used instead of the lime sulphur. The control of black rot and rust as well as curculio is also continued by this spray.

If blotch is very bad in the orchard it will be well to apply, three weeks later, another spray of the same composition as the one mentioned above.

The spray for the second brood of codling moth should be applied about ten weeks after the blossom-fall spray. If blotch is present or if bitter rot is expected, Bordeaux mixture 3:4:50 should be added to the arsenate of lead, but if it is not present, this spray should consist of two pounds of arsenate of lead to every fifty gallons of water. In Kansas the codling moth is either three-brooded or else there is a continuation of breeding throughout the whole summer, as they do an immense amount of damage to the fruit late in the season. To prevent such damage another spray should be applied shortly before the fruit begins to ripen, consisting of two pounds of arsenate of lead and 3:4:50 Bordeaux to every fifty gallons of water. This will not only control the codling moth, but will take care of the blotch and bitter rot.

Spraying is not the only work which may be advantageously carried on in an orchard, the young watersprouts may be rubbed off as they first appear, the apples may be thinned wherever they are found to be too thick and summer pruning may also be practiced. If the trees are making too much wood growth and are not bearing enough fruit, this condition may be changed by checking this excessive wood growth by doing the pruning during the early part of the summer. This will have a tendency to throw some of the buds which ordinarily would be leaf buds over into fruit buds.

The problems mentioned are by no means all with which the orchardist will have to deal, as new ones are constantly appearing which will have to be dealt with as they come up.

Whether or not it pays to put these



THESE WINESAP APPLES ARE FROM AN UNSPRAYED TREE.—THEY ARE BADLY AFFECTED WITH SCAB

principles into practice, can best be shown by giving the stories of a few of the orchards where these methods have been used.

George W. Kinkead, of Troy, Kan., purchased a farm two miles north of town which had about forty acres of orchard on it. This orchard was a good example of what neglect would do to an orchard. The trees were growing up as veritable brush shapes, and were so dense that it would have been impossible for the sunlight to penetrate to the fruit. It had been a breeding ground for fungous diseases and insect pests for so long that it had actually become impossible for it to grow merchantable fruit. Mr. Kinkead headed back all of the tall trees and opened up all of them so as to give an opportunity for sunlight to enter and color the fruit. During the summer he applied five sprays to this orchard. In 1912 the apples were so injured by the different pests that they all fell off. In 1913 there were not enough apples produced to pay the taxes, but in 1914, after the orchard was taken care of, it produced 9,558 bushels.

The story of what E. V. Wakeman, of Wathena, has done in his orchard is not only an interesting but also a helpful one. Mr. Wakeman was one of the pioneers in good orcharding in Doniphan County, but even though he practiced the things that he believed would eventually put his orchard on a paying basis, he had to wait three years before he accomplished his purpose. In 1911 he used a rather poor spraying outfit in his work, and as it was a bad apple year all around, all that he received from his crop was \$452.50. In 1912 he purchased a power sprayer of good capacity, and thus was equipped to carry on the work as he believed it should be. Everything was going well with him and his apples were in good condition when a severe hail storm came along in June and did an immense amount of damage, not only to the fruit, but to the trees also. There were, however, 1,106 bushels of apples that were not so badly damaged but what they could be sold, netting \$1,026.50. During the summer of 1913 this orchard, which was still suffering

from the hail storm of 1913, was severely attacked by twig blight, which, together with the fact that the summer of 1913 was extremely hot and dry, caused it to have another "off year." It yielded only 432 bushels, which were sold for \$360. It was about time for Mr. Wakeman to lose hope and give up the task of trying to raise a large apple crop, but instead of being discouraged, he went at the work all the harder in 1914. He continued his pruning, put on the full number of sprays and cultivated his orchard to conserve the moisture. The result of sticking to what appeared to be a losing game was that in 1914 he sold 5,351 bushels of apples for \$2,980.85. Five acres of this orchard, on which were 239 trees, netted him \$1,492, which makes \$298 an acre net profit, or \$6.24 a tree.

Clarence Meidinger, a neighbor of Mr. Wakeman, did not believe in spraying, but after Mr. Wakeman sprayed two rows of his orchard for him he changed his opinion when he saw the difference between the sprayed and unsprayed portions of his orchard when it came to gathering the fruit from each portion. In 1912 Mr. Meidinger sold his crop for \$350, in 1913 he sold it for \$500. During that year he put on some of the sprays but not the full number, however, there was an increase in his output. In 1914 he sprayed his orchard six times, and was rewarded accordingly for his increased expense. His apples were sold for \$3,150 on the trees, which was a very good price to get for the yield from 640 trees in a year when the market price for apples was at its lowest.

During the winter of 1913 L. A. Libel, of Wathena, bought a farm with a small orchard on it and was told by the previous owner he had secured a fine piece of ground but that he would advise him not to waste any money on the orchard, as it would not be worth while. However, Mr. Libel knew what results other people were getting from orchards that were taken care of, so he decided to try the same methods in his orchard. There were only 550 trees in all and part of these were Jonathans, and did not bear at all this year, leaving about 350 trees

from which the crop was to be gathered. These trees produced 3,000 bushels.

Dori Hale, of Troy, Kan., has an orchard of about ten acres from which previous to 1914 he had received practically no returns. During the winter of 1913-14 he began to give his trees some care, and during the summer of 1914 he sprayed his orchard five times. In 1913 there were as many apples in his orchard as there were in 1914, but as they were not sprayed, they were inferior in quality, and he only received \$200 for the entire crop. In 1914 he harvested seven carloads, or 3,500 bushels, and sold them for \$2,000. Mr. Hale estimated his expenses for all the work he has done this year at \$200. This expenditure brought a return of \$1,800 over the receipts of the year before. This is all the more remarkable when the poor condition of the apple market in 1914 is taken into consideration. The prices paid for apples that year was much less than the year before.

## Hardy Shrubs.

Farmers are busy people and many do not find time to plant shrubs to ornament their premises. Why not try to make your surroundings beautiful and attractive? It can be done with little outlay of time and money.

Most of the hardy shrubs can be bought for about ten cents for mailing size, the larger sizes—two to three feet high—for about twenty-five cents each, or even less if ordered with other nursery stock.

Plant all kinds of hardy shrubs very early in the spring and about two inches deeper than they were growing in the nursery row. Cut their tops back considerably at planting time and restrict their growth to a few strong shoots or train to the tree shape, as you desire.

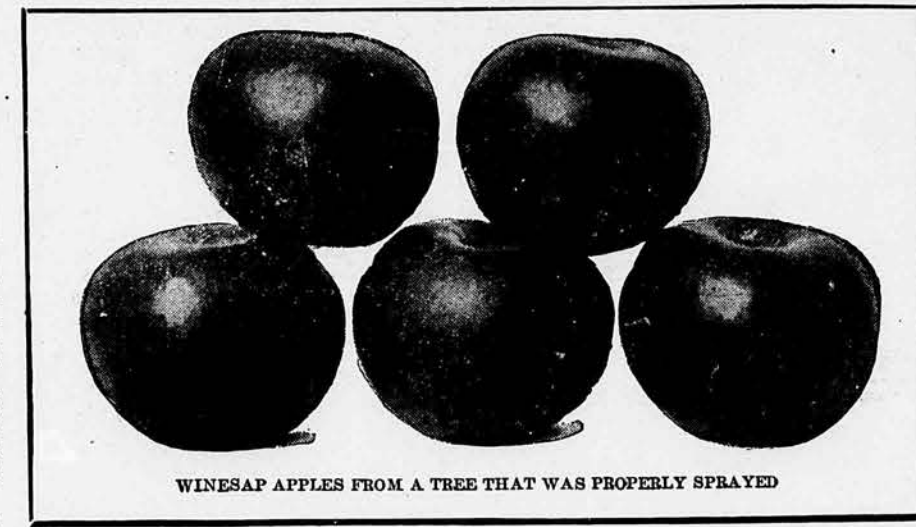
Some pleasant day during the winter or early spring, go over your shrubs and cut out all of the dead wood and remove all of the unsightly branches. Thin out the clumps so that the sun can easily penetrate all parts of your shrubs. Most of the thrifty shrubs should have one-fourth to one-half of their growth removed annually.

The hardiest shrubs for our climate are: Lilacs, of which the Persian varieties are best bloomers; plant them with other shrubs in the corners of your yard or any place where stock cannot trample them, and you will have a wealth of flowers and perfume in the early spring; do not let the bushes spread too much and do not cut the tops back except just after they are through blooming. Sweet syringa-Philadelphus; Japan quince—Cydonia Japonica; Tamarix; Bush honeysuckle—Lonicera; Snowball; Flowering almonds; Forsythia; Spirea, especially Spirea Van Houttei for early blossoms, Rosea Colosse and Anthony Waterer for summer, and Blue Spirea for fall blossoms; Hydrangea; Pini-culatta and Hydrangea Arborescence Grandiflora.

The summer and fall-blooming spireas should be cut back to within six inches of the ground when planted, and should have about three-fourths of the new growth cut back every winter. They all bloom late in the season and the best blossoms are always at the tips of the strongest young shoots. The other spireas and almonds need but little pruning except occasionally to thin them by cutting out the weaker shoots at the ground.

Do not forget the Altheas—the best shrubs of all for fall flowers. Thin the clumps and cut the tops back severely every winter unless you wish to grow them in the tree form.

Hybiscus or Mallows, while not shrubs, are very hardy and can be planted among the shrubs. They grow four feet high and produce many very large flowers during the hottest weather.—W. L. LUX, Shawnee County.



WINESAP APPLES FROM A TREE THAT WAS PROPERLY SPRAYED

"Fruit growers have realized for some time that there are no profits in a one-line system of farming, and almost all the really successful growers have been gradually working into some additional line," says George O. Greene, of the Kansas Agricultural College. "The man who previously grew apples alone is putting in cherries or strawberries, or some other line of fruit in order that he may make his factory work more months in the year than previously. Some growers are even taking care of their by-products in order that they may have an income in the slack months."



# GENERAL FARM INQUIRIES

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

A READER asks that we print more reports from farmers who have actually tried such new crops as Bermuda grass, Sudan grass, sweet clover and others. He seems to have the idea that some of these newer crops are unduly exploited before their true value is known.

It has always been the policy of KANSAS FARMER to be conservative in advocating new and untried crops. We have endeavored to get first-hand information and always give the preference to letters coming from farmers who are actually trying new crops under field conditions.

This correspondent says he is hearing enthusiastic reports of Egyptian wheat or California rice corn, being told that it will make more tons and better feed than kafir. There should be little doubt in the minds of KANSAS FARMER readers as to the attitude of this paper on Egyptian wheat, as it is called. It belongs to the durra group of the sorghums. It does not equal either kafir or cane in forage value, and the seed shatters so readily that it is not to be compared with kafir as a grain crop.

We are always glad to hear from farmers, and will give the fullest publicity to reports of actual results with any of these new crops. Sudan grass is one of the new crops which has given great promise, and we are now gathering all the information we can concerning this grass.

### The Home Orchard.

In recent years the tendency has been to neglect the orchard on the general farm. On many farms almost the entire supply of fruit is purchased, and this means that the families of even well-to-do farmers do not have as much fruit as they should. It does not take a very large orchard to supply the family needs providing it is cared for properly, and the small orchard can be given proper care even on the farm devoted to general crops.

It is largely a matter of learning what to do and when to do it. This information can easily be obtained. In KANSAS FARMER will be found full instructions on keeping trees free from plant diseases and insect pests, also how to prune and cultivate.

Many may argue that fruit can be bought cheaper than it can be grown. The facts are, however, that those who so argue seldom have a continuous supply of fruit for the family through the year. They simply do not buy it because it is not always convenient to do so, and it represents an actual cash expenditure.

If on every farm such orchard were maintained as is suggested in the plan shown on this page, the fruit production of the state would be greatly increased and the families on the farms would consume much more than they now do. It would represent a great saving in the cost of living as well as tending to greater healthfulness. There are other varieties than those suggested in the plan, that will do well in Kansas, but these are thoroughly reliable, of good quality, and have been succeeding under a variety of conditions. They are all, to some extent, resistant to the diseases most common to Kansas orchards.

We hope that many will make their plans at once to put out an acre orchard the coming spring, and thus get ready to grow fruit for home consumption instead of going without it or buying it from the store.

### Working Young Horse.

P. L., Dickinson County, asks if he can work a two-year-old colt in putting in his crops this spring, without injury to its future growth and development. The colt is of draft breeding and is well developed for his age.

The big, well developed, two-year-old colt will be all the better for doing a moderate amount of work. Such colt should not be expected to take the place of a mature horse. We have known of

cases where the colts have been put in and made to do a full season's work and the result has always been harmful. The colt must have a chance to grow, and if it is put in the harness in the spring and kept going every day, its growth and development is certain to be checked.

In working a colt, it should be hitched with a strong horse and should be given the advantage on the double-tree. If there are to be any specially heavy pulls, it is a good plan to use a stay chain on the double-tree so that the mature horse can take the heavy end of the load under such circumstances. In beginning to work a colt, it should not be kept in the harness all day at first. It involves a little inconvenience to use colts, but where horse power is short, enough work can be done by the colts to pay for their keep from the time they are two years old until maturity. They should be fed most liberally during this period.

### Market for Capons.

C. J. W., Osborne County, asks where capons can be marketed, and whether or not the shipper must furnish the coops. George Beuoy writes as follows in answer to this inquiry:

"The capons of which I made mention in KANSAS FARMER in a recent article, were sold to the Richard Butler Produce Company of Kansas City, Mo. This firm buys more live capons than any other firm in the United States. There are a number of capon buyers doing business in Kansas. The Seymour Packing Company, having its main office in Topeka, is a large buyer. This concern has branch houses at Solomon and Winfield. This firm has announced that at any point near their stations where enough capons can be located to make it worth while, they will send a wagon at their own expense to gather them. The seller of capons would be expected to furnish his own coops as in marketing other kinds of poultry. The coops are returned by the express company at a uniform charge of fifteen cents."

### Method of Spreading Lime.

R. T. L., Linn County, asks how best to spread ground limestone, and also how finely it should be ground.

The experiments that have been made indicate that the more finely limestone is pulverized, the more effective it becomes. Of course, it is somewhat more expensive to grind it to a fine powder, and this point would enter into its value as a means of soil improvement. The coarser ground stone will be much more slow in its action.

Ground limestone may be spread with a manure spreader by putting straw or litter in the bottom of the spreader. It can also be spread directly from a wagon-box by means of shovels, but it is difficult to do it uniformly by this method. In a recent bulletin from the Pennsylvania Experiment Station, a home-made lime spreader used by C. C. Hardman of West Virginia, is described as follows:

"Use a pair of mowing machine wheels with the ratchets in them, and fit in the wheels an axle made of a piece of gas pipe 8 feet long. This axle revolves in the box and must have irons riveted to it to keep the lime stirred up. These

irons are 4 inches apart and 6 inches long, 2 inches being turned down for the rivet which passes through the axle. This leaves these irons projecting 4 inches from the axle. The irons from galvanized roofing may be used for this purpose and are also useful to strip the lid and sides of the box to prevent them from splitting. The box is made of 4 planks, 2 pieces 1"x14"x8' for the front and back, and 2 pieces 1"x12"x8' for lid and bottom. The lid should be put on with three 12-inch strap hinges, and stripped with iron to prevent warping. The ends of the box are made of 4-inch blocks which support the axle. The axle hole should be made 5 1/2 inches from the bottom—outside measurements—so as to allow the revolving iron inside the box to come within 4 inch of the bottom. The bottom plank should have through the middle, holes 2 1/2 inches in diameter and 4 inches apart, through which the lime passes. Directly over this lay a thin piece of strap iron 4 inches wide and 7 feet long, having holes 2 1/2 inches in diameter and 4 inches apart. By means of a lever at the end or back of the box, this piece of strap iron can be slid endways 2 1/2 inches to throw it in and out of gear. To hold this iron in place and to conduct the lime to the middle of the box, use 2 boards 1"x6"x7' set on edge and leaning back against the sides of the box. Old wagon tires are used to make the hounds. Bolt them to the tongue 4 feet in front of the box, giving them a half twist, and bolting the opposite end to the bottom of the box 12 inches from the ends. Bolt to the tongue and hounds 8 inches in front of the box, a double-tree. Such spreader should be built at a cost of \$8 to \$10."

### Plant Windbreaks.

E. C. B., Lyon County, asks if evergreens can be grown successfully in that section, and what kinds are best for windbreaks.

An evergreen windbreak is one of the best improvements that can be made on many farms. Too few of them are being set. It would be a good plan to order some evergreens at once and set them in the spring. A good, thick windbreak will add greatly to the comfort of the stock during the winter and will make it easier to keep the house warm. It should not be set too close to buildings or yards, as this would cause snowdrifts to form where they would be in the way.

State Forester Charles A. Scott advises the use of the Austrian pine, Red cedar, Scotch pine or Chinese arbutus, for the part of the state in which this correspondent is located. These varieties are all hardy, and after they have once become thoroughly established will grow from fifteen to eighteen inches a year. Three or four rows should be planted twelve feet apart and the trees from six to twelve feet apart in the rows. They should be given careful cultivation until well established.

### Harrowing Pastures and Meadows.

W. T., Jackson County, asks if harrowing a pasture will be of enough benefit in strengthening the grass to pay for the cost of the work.

Grass in both pastures and meadows will quickly respond to cultivation. We

believe that not enough consideration is given to this matter of cultivating our pastures. Probably many have noticed the effect where the harrow has been pulled out on a piece of grass land in turning at the ends of cultivated fields. The grass on such turning row is almost sure to show a ranker growth than the rest of the meadow that has not been scratched up by the harrow. The opening up of the sod lets in the sunlight and air and this always has a stimulating effect upon plant growth. A good harrowing with a spike tooth—or better, spring tooth—harrow, will be of great benefit to the meadow or pasture. It should be done early in the spring when the ground is in proper condition to work. It would be a positive injury to harrow even a pasture when the surface is in a muddy condition.

Some grass and clover seed should be scattered in the thin patches when the harrowing is being done, or before.

### Seeding Sweet Clover.

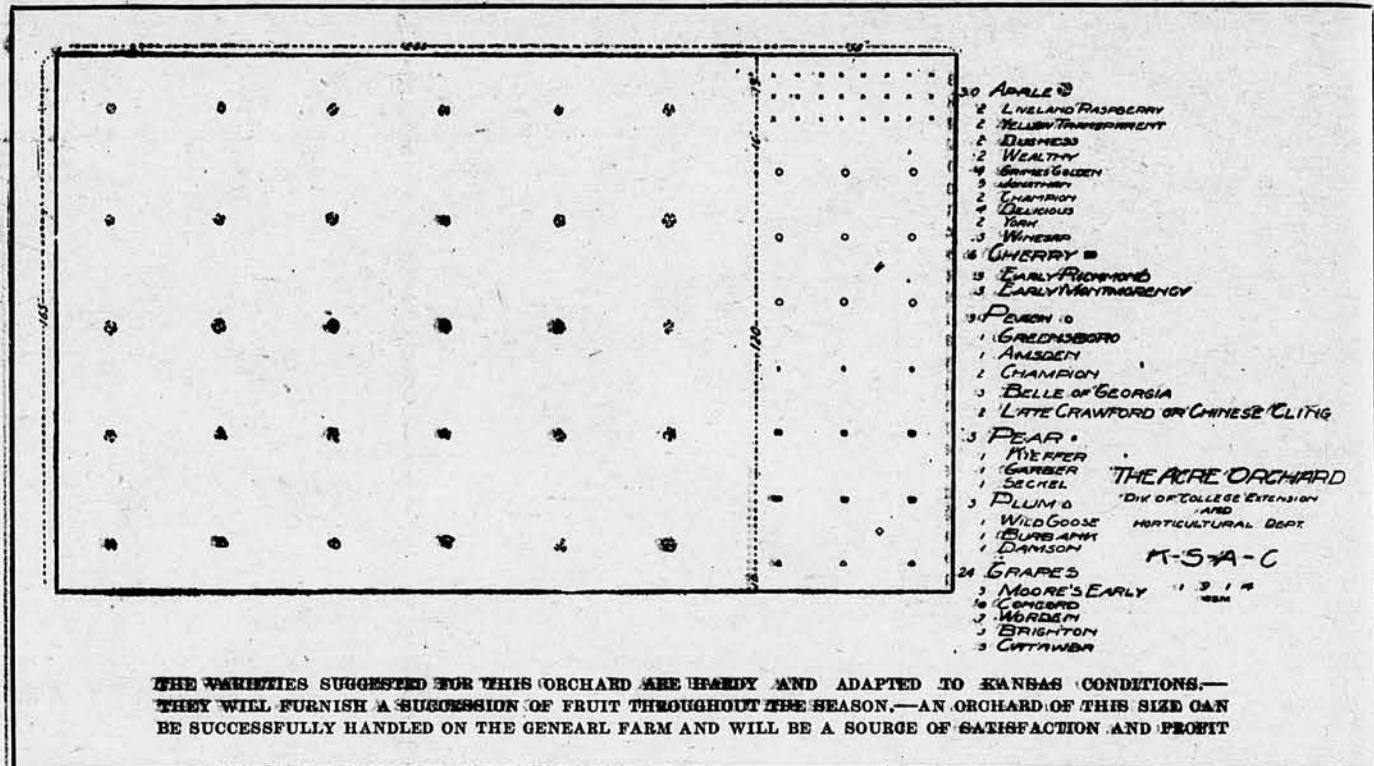
J. L., Allen County, asks for the best method of seeding sweet clover. The greatest danger in the seeding of sweet clover is in having the seed bed too loose. Under natural conditions this plant reseeds itself on very hard, compact soil, along roadways or in vacant lots. The seed is scattered by the wind and other natural agencies, and is covered by the spring rains and the alternate freezing and thawing of the ground.

Sweet clover will respond to good preparation, but it must be of such character as leaves the soil thoroughly settled at the time the seed is sown. A corn field is a good place in which to seed clover. It requires very little preparation to make a proper seed bed. The seed should be sown early. Good results have been secured by sowing at almost any time between January and May. On rough or stony land that cannot be cultivated, clover seed should be sown as early as possible, depending on the freezing and thawing of the ground to cover it.

### Orchard Cultivation.

B. M., Wabaunsee County, asks if he can grow a crop in his young orchard without injury to the trees.

Young orchard trees should be given every opportunity possible to make rapid growth. While they may manage to live under adverse conditions, they will not give the best results. Young trees should always be given careful cultivation. Some crop should be planted in young orchards. It should not be a sowed crop, however, like cane or millet. Corn is a good crop to plant between the rows of young trees. In properly cultivating this crop the trees are receiving the kind of cultivation best suited to their needs. Potatoes and garden vegetables can be grown in an orchard when the trees are small. As the trees get older and larger and begin to make greater demands on the soil for moisture and plant food, the cropping between the rows should be stopped. The cultivation, however, should continue, using care not to stir the ground so deep as to injure the fibrous roots of the trees.



THE VARIETIES SUGGESTED FOR THIS ORCHARD ARE HARDY AND ADAPTED TO KANSAS CONDITIONS.—THEY WILL FURNISH A SUCCESSION OF FRUIT THROUGHOUT THE SEASON.—AN ORCHARD OF THIS SIZE CAN BE SUCCESSFULLY HANDLED ON THE GENERAL FARM AND WILL BE A SOURCE OF SATISFACTION AND PROFIT



# MORE PROFIT FROM FRUIT

By GEO. O. GREENE

A LARGE percentage of the growers of fruit in Kansas this year report their best profits from the home trade. They have eliminated all charges of packages, storage, transportation, and the profits of the wholesaler and retailer. The neighbors have been able to buy fruit at a much lower figure and both the consumer and the producer have profited by the arrangement. Publicity and advertising are going to be among the greatest factors in the promotion of the fruit industry.

## FOR CHEAP HOME STORAGE.

If good, cheap home storage becomes general and the storage is efficient enough so that average growers of good fruit can store their stuff for the winter and early spring trade without paying the present prices for storage space, it will mean a steadier movement of fruit, especially the late fall varieties.

The man with a car or two of apples has not in the past been able to store his fruit and has been compelled to sell on the harvest market, which is always low. If he is able to store at home and prevent the usual harvest glut, he will be able to demand better prices for his fruit.

Transportation and storage have both worked to the end that all products shall go through a central market. Growers are beginning to wake up to the fact that more of their products are consumed much nearer home. If the effort is made to carry on a publicity campaign during the harvest season, it will draw in the local buyer and local consumer, thus saving the cost of distribution through a central distributing point.

We have made great advances along the line of storage, and the grower has seen that, if he uses commercial storage, he must be in a position to hold his fruit until after the first of February when home storage stuff is off the market. There is, however, a tendency on the part of a great many growers at the present time towards longer home storage. A great deal of advance has been made along this line within the last three or four years.

The mistake that was made in early days of planting the orchard and fruit garden as a farm side line will not be made in the future. The growing of fruit for market is a special type of agriculture.

The fruit plantation of the general farm is going to be of a size that will furnish the farm supply only. The localities in which fruit will be grown on a commercial scale will be more sharply marked than in the past. Some of the sections throughout Kansas where fruit growing will be carried on on a large scale undoubtedly will be Northwestern Kansas, the Arkansas Valley, and perhaps the river valleys of Northern Kansas. There are some small areas through Southeastern Kansas where fruit growing can be made a profitable venture, but these localities are small as compared with the Northeastern Kansas section and the Arkansas Valley section.

## GROWERS TO COME TOGETHER.

The drawing together of the territory of profitable fruit growing is going to mean the drawing together of the growers who are interested in that type of agriculture. Organization for a common purpose will undoubtedly receive considerable attention in the state. This organization will not be general for a number of years, but growers are becoming more interested in fruit growers' associations and selling exchanges than they have been in the past.

In short, commercial fruit growing will be taken up by men who have both a taste and training for that type of work, and the man who has been growing fruit as a side line with other farm endeavors will find that it is less and less profitable and will gladly turn it over to the man who makes it a life study.

The large one-type plantation of apples or peaches is going to prove less profitable in the future than in the past, and in fruit growing several kinds of fruit will show a better profit as time passes. This will mean closer organization of the fruit growing interests. While Kansas will never produce the number of bushels of fruit that she has in the past, she will produce a good many more thousands of bushels of good, marketable stuff than she has produced before.

## CARE FOR ALL WASTE.

The development of two or more lines of endeavor on the fruit farm is going to be much more rapid within the next five years than it has been within any period of double that time heretofore. The steadily growing demand for by-products direct from the plantation is going to mean that our growers will meet that demand and many farms will

be equipped with proper machinery to take care of all the waste and byproducts of the plantation.

It has been said that the strawberry grower often wastes from 20 to 25 per cent of his crop on account of slack markets, rains, or some other cause. The western cherry grower packs his cherries in barrels with an equal amount of sugar, placing the barrels in cold storage, then shipping to the soda fountain trade as the product is needed. The same methods are now being used with strawberries to advantage.

The evolution of fruit growing in Kansas has been so rapid in the last few years it amounts almost to a revolution.

It has taken farm management surveys to show the general farmer that there are no profits in a one-line system of farming.

Cheap home storage will mean a steadier and more even movement of fruits, especially the late fall varieties.

Development of the home market eliminates all charges for transportation, and does away with the profits of the wholesaler and retailer.

While Kansas, perhaps, will never grow the number of bushels of fruit that she has grown in the past, she will produce many more thousands of bushels of good, marketable produce than ever before.

## Johnson Grass Seed in Oats.

Seed houses and organizations of farmers bringing Red Texas oats into the state are procuring their seed almost wholly from Oklahoma and Texas. Many cars of oats coming from the South, and particularly from Texas, contain Johnson grass seed mixed with the oats. Prof. L. E. Call, of the Kansas Agricultural College, reports that they are receiving samples of oats almost every day that contain Johnson grass seed.

The weather so seriously injured oats last year that many farmers of the state have found the oats they have unfit for planting, and consequently are forced to obtain seed from outside the state. Those who contemplate the purchase of seed oats should guard against the danger of introducing Johnson grass through the purchase of seed grown in Oklahoma and Texas.

When once established in the central and southern part of the state, Johnson grass is difficult to eradicate. It spreads not only by means of seeds but by large fleshy underground rootstocks which enable the plants to live from season to season. Annual weeds which spread by seed such as cocklebur, morning glory, and crab grass can be eradicated by preventing the plant from seeding. This, however, is not the case with Johnson grass. If the plant is prevented from seeding it increases in growth and thickness by means of the underground rootstocks.

Every precaution possible should be taken to prevent Johnson grass from becoming established on the farms of this state. Under no circumstances should oats containing Johnson grass seed be planted.

It is easy to tell Johnson grass seed in a sample of oats because it is so similar to Sudan grass seed in appearance. Johnson grass has a darker seed than Sudan grass, although this is not an absolute method of identifying the seed.

The seriousness of the spread of Johnson grass in this state was recognized by the legislature six years ago when laws were passed prohibiting the sale of Johnson grass seed and making it unlawful for any person to permit Johnson grass to mature seed upon his land.

## World's Dairy Records.

The leading dairy cows of the four dairy breeds and their record for one year are as follows: Holstein, Duchess Skylark Ormsby, 27,761.7 pounds of milk and 1,205.09 pounds of fat; Guernsey, Murne Cowan, 24,008 pounds of milk, 1,098.18 pounds of fat; Jersey, Sophie 19th of Hood Farm, 17,557 pounds of milk and 999 pounds of fat; Ayrshire, Auchenbrain Brown Kate 4th, 23,022 pounds of milk and 917.6 pounds of fat.

Organic matter is most cheaply added to the soil through crop residues, and stable and green manures. Burn no stalks, straw, leaves or other plant material, all these go to form humus and when turned under and properly managed can readily be taken up by all our ordinary soils. The corn stalks and other coarse material that would interfere with cultivation can be easily handled by cutting them in short lengths with a stalk cutter or disk harrow before turning under.

What boot-wearers—like yourself—are saying about the famous molded

## Goodrich "HIPRESS" Rubber Boots and Shoes

We've told you of the wonderful new "HIPRESS" process and how it makes possible SO MUCH MORE WEAR AND COMFORT.

NOW we're going to give you specific instances of their superiority—not what WE THINK they will do, but WHAT THEY ARE DOING.

Bob Gray, up in New River Station, N. B., Canada, wrote us recently about a pair of "HIPRESS."

Said they were worth their weight in gold—never played him a dirty trick—no sore, tired feet—always dry. Said that 8500 miles would be a conservative estimate of the walking he had done in the boots, much of it over rough ground, and still he couldn't wear them out! Now, this is the sort of things "HIPRESS" is doing everywhere—it has set a NEW STANDARD OF BOOT AND SHOE WEAR!

"HIPRESS" rubber boots and shoes are made by a new process—the same tough, gristly rubber that goes into Goodrich Auto Tires is used, MOLDED INTO ONE SOLID PIECE! Faults of handwork eliminated—they won't leak, peel or come apart—they'll outwear any other made. The genuine has the RED LINE ROUND THE TOP.

The B. F. Goodrich Company  
AKRON, OHIO

Makers of the Celebrated Goodrich Automobile Tires—"Best in the Long Run"



When you buy Rubber Overshoes insist on the genuine Goodrich-made

## "STRAIGHT-LINE"

for best fit—longest wear



## THE SANDUSKY TRACTOR

"THE LITTLE FELLOW WITH THE BIG PULL"

15 Draw Bar H. P.—35 Belt H. P.

It's the hidden qualities in The Sandusky Tractor, appreciated only after hard usage, that have made this machine the favorite wherever it is known.

Provides at low cost ample power for heavy work—clearing, breaking, plowing, threshing, etc. Is also capable of handling economically the many lighter power requirements encountered in and about the average farm.

Sold subject to three day trial, demonstrating on your own work its ability to fulfill

## OUR GUARANTEE

We guarantee The Sandusky Tractor to handle four 14-inch mold board plows 8 inches deep where a big team can pull a 12-inch plow 6 inches deep; to run belt machinery up to 32-inch separator; to have one-third reserve over drawbar rating, and for one year against defective workmanship and material.

Equipped with our own four cylinder, four cycle, 5 x 6 1/2 heavy duty, slow speed, vertical motor; 2 1/2 inch crankshaft; 31 inches of motor bearing surface; all four bolt bearings; positive self-contained combination force feed and splash oiling systems. Motor set crosswise to frame eliminating objectionable bevel gear drive; removable underpan permitting taking up or replacing bearings, connecting rod, rings or entire piston without disturbing any other part of tractor. Three speed selective transmission, 2 to 5 1/2 miles per hour with direct drive on low; three point spring suspension; all steel construction; light weight; small overall dimensions and short turning brakes; easily handled; surplus cooling capacity.

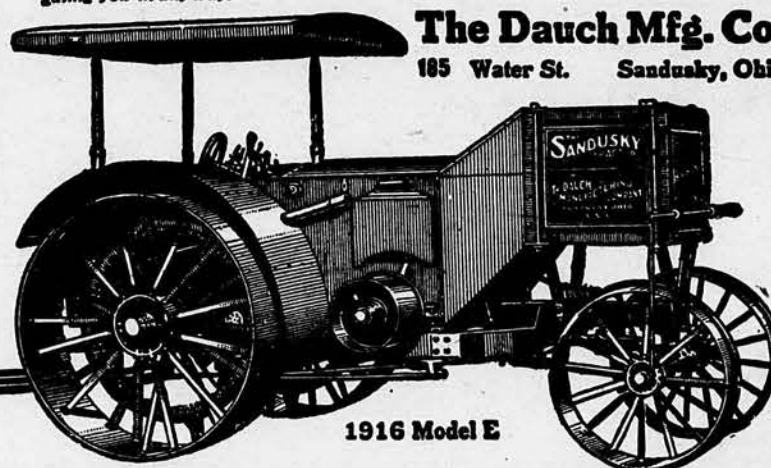
The Sandusky Tractor, its motor, and transmission were each awarded the Gold Medal at the Panama-California Exposition. Also highest award Silver Medal at Society for Improvement of Agriculture Exposition, Lancashire, England.

## Book "Power on the Farm" Free

Write for a copy of the new 40-page edition covering the latest refined 1916 Model E, its uses, and containing other valuable information. Tell us fully about your power problems and we'll gladly help you solve them without obligating you in any way.

The Dauch Mfg. Co.

185 Water St. Sandusky, Ohio



1916 Model E

MENTION KANSAS FARMER WHEN YOU WRITE.





## The Ever-Busy Cushman

This little 4 H. P. Cushman Handy Truck Outfit is right at home on any farm where willing workers are needed. Always ready to put to work anywhere, and a child can pull it around from job to job. The engine weighs only 190 lbs., yet easily develops four full horsepower. The entire outfit, including water tank and iron truck, weighs only 375 lbs.

This is the most useful and popular 4 H. P. engine outfit ever built for farm work. The boys like it, as they can use it for so many jobs—here and there; the women like it, as they can pull it up to the back door for the household jobs; the men like it, for they can lift the engine from the truck, and with Cushman special attachments, hang it on the rear of a binder during harvest, or other moving machines, to save horses and save the crop. Thousands of acres of grain were saved last season by the Cushman that would otherwise have been a total loss. The Cushman is the only all-purpose farm engine.

## Cushman Light Weight Engines

Weight Only 40 to 60 lbs. per H. P.

These are the modern engines, built especially for farmers who need an engine to do many jobs in many places instead of one job in one place. Not only are they very light in weight—8 H. P. weighing only 320 lbs., and 15 H. P. only 780 lbs.—but they run more quietly and steadily than old-style heavy-weight engines.

### BEFORE BUYING ANY ENGINE

#### ASK THESE QUESTIONS

**How Much Does It Weigh?** If it weighs more than 60 pounds per horsepower—why? The old-time argument was that heavy weight is necessary to keep it steady, but if an engine is properly balanced, it doesn't need pig iron to hold it down.

**Is It Throttle Governed?** A throttle governor insures steady, quiet and economical power.

The Cushman Engine is Throttle Governed and has a Schebler Carburetor. It runs with a light purring sound at a uniform speed, instead of by a series of violent explosions and fast and slow speeds. This makes it much more adaptable to the various kinds of work on a farm, where steadiness under different loads is highly important.

Cushman Engines are not cheap, as they are built much more carefully and of better material, like automobile engines, but they are cheap in the long run. Ask for our free Engine Book, explaining the advantages of light weight.

### CUSHMAN MOTOR WORKS

822 N. 21st STREET

LINCOLN, NEBRASKA



## Pure Wool Costs Money

in a Coat or a Blanket

IT'S very much easier to buy goods which contain a little cotton or shoddy, and they look just as well at first.

The difference shows up in the wear. The cheap garment soon wears shiny, then threadbare, then shows gaping holes, while that made of pure wool is practically as good as new.

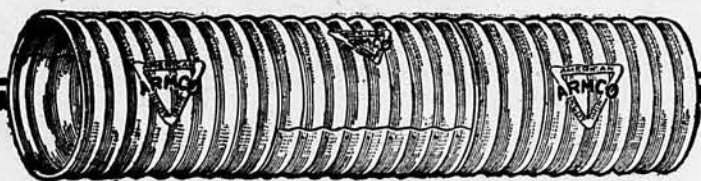
It's just the same with Pure Iron for Road Culverts or other uses in which it is exposed to the elements. After cheaper material has rusted to failure, "Armco" (American Ingot) Iron will still be strong and sound—good for long years of service.

## "ARMCO" IRON CORRUGATED CULVERTS

are made from the purest, most even, and most durable iron on the market. Look for the Triangle Brand. It is your guarantee of service value.

For full information on "Armco" Iron Culverts, Flumes, Sheets, Roofing and Formed Products write

ARMCO IRON CULVERT MFRS. ASSOCIATION  
CINCINNATI, OHIO



## Montgomery County Boys' Tour



PART OF THE DAIRY HERD ON THE EWING FARM, MONTGOMERY COUNTY. HERE THE BOY-HIKERS JUDGED AND PLACED THE COWS, AFTER WHICH MR. EWING PLACED THEM IN THE ORDER OF THEIR PRODUCTION

TWO boys' hikes for the purpose of studying different phases of farming—and incidentally to enjoy a little camp life and diversion—were a part of the activities of County Agent Macy of Montgomery County last summer. And in the estimation of those who took the trips, they were an important part. Mr. Macy was assisted by Southeast District Agent Elling and County Agent Popenoe of Lyon County. Several Montgomery County men were in the party, also.

For the occasion, the county was divided into a northern and southern section, the boys of the north part making the first trip. All met at Independence early one morning, from which place the start was made. A cook and a wagon of provisions were a part of the expedition.

The first stop of interest was at the farm of Robinson, Shulthis, and Shultz, where the boys were told about dairying and dairy cows and the herd was inspected.

A fruit farm was the next subject in the course, and this was especially interesting because within two years the ground has been cleared of scrubby oaks and planted to fruit trees.

On their way to a sheep farm the members of the party stopped to study Japanese clover, which they found growing abundantly and in blossom, affording an ideal opportunity for close observation.

At the farm of Sam Etter, District Agent Elling gave a short talk about sheep, and Mr. Etter told the boys of his experience with these animals.

Up to this time the boys had been entertained, but when they reached H. B. Miller's farm they were asked to estimate the yield of corn in a field that had grown alfalfa for five years previous. This done, they were called upon to make a diagram of the field and crop arrangement of this farm and also of the adjoining one owned by D. C. Krone. They also estimated the yield of corn and stand of one of his fields.

From this point on, until camp was reached, the report is quite brief. They followed Sycamore Creek Valley, through alfalfa fields, corn fields, and rocky pastures, and we can imagine that in spite of their weariness and hunger they paused to make comparisons and note anything unusual which lay in their path. The camp was in Pocket Creek Hollow, near a spring and a clump of trees—an ideal spot for "a pause in the day's occupations" and refreshments. Here they found a good supper awaiting them, as the cook and provision wagon had gone ahead. Around the camp-fire they visited and frolicked until a late hour, having renewed their vim around the festive board.

Despite the loss of sleep, all were up, breakfast was finished, and camp was broken for any early start for H. M. Hill's farm, where beef cattle were studied. Another item of profit to the boys here, was the inspection of barns, silos, springs, farm-house, and ornamental arrangement of grounds. The orchard was also visited, and a close study was made of Sudan grass.

This was the last farm visited. They

located another shady watering place where they had dinner and spent some time together before disbanding. Here, Mr. Romig, president of one of the county institutes, gave them an hour's work in rope tying and splicing. After this, games and a general good time together, brought to a close the two-days' journey.

### HIKE NUMBER TWO.

The hike in the southern part of the county was arranged for the benefit of the boys in that section and those unable, on account of work, to take the other trip. In this party there were fourteen boys and six men.

At the dairy farm of Mr. Godwin the boys were called upon to judge the cattle and place them according to value as they estimated it. When this had been done, Mr. Godwin placed the cows according to their value from a producing standpoint. The comparison of the two placings proved interesting and valuable.

A peach orchard owned by Mr. Bear, and which he has cared for according to improved methods, was next visited. The value of top-working the trees was in evidence, the unproductive limbs having been removed and a new growth having been produced which had given a splendid yield of high quality fruit. One important thing noted on this farm, was the utilization of pigs in caring for the windfalls, which practice greatly lessens the injury to the orchard by worms, by reason of their being disposed of in the fallen fruit.

The Talbert dairy farm was visited at the noon hour. Here the dairy herd and silo were carefully inspected.

After-dinner stop No. 1 was made at Mr. Duncan's farm, where, in addition to the dairy cattle and silo, a growing silage crop was noted. The boys gained valuable information about this crop. Another feature here was the spring house which feeds a milk house, and a hydraulic ram nearby which forces the water to the house. The boys studied all these points with much interest.

One more stop was made before going to camp, this at Mr. Kline's farm, where the silo and feed grinding arrangements were the principal features.

Upon reaching camp, all were ready for supper and the good time which followed until bedtime.

The next morning after breakfast, County Agent Popenoe took the boys through the woods, calling attention to the different kinds of trees and plants and explaining the life and habits of the insects which they found. After this an alfalfa field on the farm where the party had camped, was visited, and volunteer wheat searched for Hessian fly. A few of these insects were found, and the boys were told their life history and habits.

Beef cattle were next studied on J. H. Keith's farm, where District Agent Elling gave a talk on their characteristics.

The treat just ahead was a visit to the farm of F. E. and Walter Johnson—the latter being the well known baseball pitcher in the Washington team. Highly bred dairy cows are the specialty on this farm, and the boys judged and placed



MEMBERS OF THE MONTGOMERY COUNTY BOYS' HIKE PARTY MAKING STUDY OF SILAGE CROPS ON E. I. BURTON'S FARM



the animals and gave reasons for their decisions.

The last farm visited was that of E. I. Burton, president of the Montgomery County Farm Bureau. Here the boys had a splendid demonstration in silage crops, as shown in the picture on this page. Mr. Burton told the boys about how he secured a stand of Kentucky bluegrass, of the cultivation of his orchard, and the growing of crops for the silo. Mr. Burton has a splendid system of curing alfalfa, enabling him to market only the best quality of hay, and this was of much interest to the visitors.

The noon meal was eaten at the county fair grounds and a part of the afternoon was spent in rope tying and playing games, which ended the program.

These cross-country trips for the boys were an entirely new feature, but the reports received by County Agent Macy from a number of the boys, telling of the helpfulness of these hikes, are conclusive proof that they were a success. It is the unanimous opinion of those interested, that the time was very profitably spent, and many have expressed a desire for similar outings this year.

Too few farmers know from close observation, the resources of their own counties and the things of interest and value being accomplished by their neighbors. Trips such as these acquaint those who join them with the things going on around them and may help them see new possibilities in crops and methods.

#### Co-operation Between Town and Country

In the initial number of the Western Co-operator, Alfred Docking has the following to say about the community and its town:

"The inter-relation of town and surrounding country is not receiving the attention it ought. Columns are put in papers denouncing mail order houses and those who trade with them. When Jones & Smith think they want to start something to make some little article of public utility, commercial bodies will hold special sessions to consider the bonus that J. & S. ask, and appoint committees to raise the money at once. Visions of great factories with smoke stacks piercing the skies soon dissipate when J. & S. like the Arabs 'fold their tents and steal away.' Now, industries are all right, and town and country alike are interested in their establishment, but if one would tabulate the schemes 'put over' on the towns, he would be surprised at the revelation. The systematic fostering of the prosperity of the community, the town and its trade zone, will do more to build up permanent progress than any other policy. Co-operation is needed. There is a feeling in many quarters that some towns think that the 'country' just exists for the benefit of the 'town.' Plain conference and square dealing should tend to eliminate this misunderstanding. It has given rise to very important developments in the West."

#### Acclimated Varieties of Corn Best.

Experiments conducted at the Agricultural College and co-operative tests conducted with farmers in various parts of the state show that home-grown seed of an acclimated variety and of good quality will outyield seed introduced from other localities. This is especially evident when corn is moved to a less congenial environment; that is, from a favorable to an unfavorable corn-growing locality. For instance, corn grown on the rich glacial soils of Northeastern Kansas, or on similar soils in Iowa or any other eastern state, does not, as a rule, do well on the less fertile residual soils of Southeastern Kansas. Varieties of corn moved west in the state a considerable distance do not usually produce so well as the acclimated varieties. Results obtained in co-operative tests demonstrate that where a variety of corn has been grown in a given locality for many years, and the seed properly selected each season, that variety is, as a rule, a superior one for growing in that locality.

This goes to prove that the general opinion among farmers that it is advisable to obtain new seed every few years is an erroneous one. The only time when it is desirable to change seed is when an inferior variety of corn has been grown or where the farmer has made no effort to select the seed properly year after year. In these cases it will pay to secure good seed from a near-by farmer who properly selects his seed, provided the soil conditions on the two farms are similar. If, for some reason, home-grown seed is not good in vitality or quality, better results can be obtained by securing first-class seed grown as near home and under conditions as nearly like those under which it will be planted as possible. Every farmer should select and save his own seed, as the corn which was grown on his farm is likely to be better suited

for planting thereon than that grown elsewhere. Many farmers, however, would rather buy seed than go to the trouble of properly selecting and saving it. For this reason there will always be an opportunity in every locality for one or more farmers who are capable of producing good seed corn to build up a local trade, and thus dispose of a part of their crop at seed-corn prices. The community seed-corn grower or breeder not only would be engaged in a profitable business for himself but would furnish an opportunity for others in his locality to obtain seed suitable for growing on their farms.—C. C. CUNNINGHAM, in Kansas Experiment Station Bulletin.

#### How to Make Hotbed.

Mrs. Freeman, of Chicago, is eighty-two years old, but has not lost her interest in things of the farm. She is a loyal friend of the agricultural college of Kansas, two of her sons being graduates and another a former student.

Mrs. Freeman has just written a most practical and readable article on making a hotbed, and it has the horticultural approval of Prof. Albert Dickens, professor in the college.

"Hotbeds are among my earliest recollections," writes C. E. Freeman, in sending his mother's article to Professor Dickens. "It was my detested evening chore, before I wore suspenders, to cover up a whole raft of them just when I

wanted to do something else. At one time father operated one of the largest market gardens near Topeka. The family's experience in this line covered a period of over 30 years."

Here is what Mrs. Freeman has to say about the hotbed:

"First get manure with plenty of litter in it. Fine litter is better than coarse, prairie hay being best, but something else will do if well mixed. The manure should be fresh, never having heated. If enough for the bed cannot be obtained at once, keep the manure spread out until the necessary amount is accumulated. Also protect it from rain and snow."

"To prepare the manure for the hotbed, put it into a neat pile and let it heat. As soon as steam can be seen rising from it, fork it over into another pile, mixing it well and leaving no bunches. Three times it should be forked over that way. Never let it stand after it begins to steam."

"To prepare the hotbed, level a place on top of the ground where the bed is wanted. Do not dig a pit. Make the bed on top of the ground. Fork the manure on to the place, mixing it well again, and make it smooth and uniformly deep all over. The depth should be 16 or 18 inches after the manure is pressed down. Make the manure bed six or more inches larger than the wooden frame which is to be placed on it. Do

not step on the manure while placing it in the bed. Never tramp the manure at all. After it is all placed, take two broad planks and lay them across the bed at one end. Step on the first one to compact the manure under it, then on the second one. Take the plank from behind and lay it in front and step on it there, and so on for the length of the bed."

"Now put the wooden frame in place and cover the manure inside the frame with rich soil to a depth of four inches after it settles. Pack manure around the outside of the frame up within two inches of the top. Then plant your seeds or use the bed in any other way desired."

"The bed will not get too hot if the mixture is just right. The proper proportion of litter and manure is rather hard to judge. One has to learn that by experimenting. Too much manure makes the bed too hot. About one part in bulk of manure and three parts of litter is, perhaps, a fair proportion."

"If the bed should get too hot, which can be ascertained by feeling with the hand, thrust a fork handle horizontally into the bed half way or more across in one or two places, about nine inches from the ground. Leave the holes open 10 or 15 minutes or until the bed cools sufficiently, then close the holes tightly."

"A bed made in the above way will hold the heat about three weeks if properly cared for."

## -POWER

that laughs at the heaviest roads

Never in the history of the industry has there been a 4-cylinder car that offered so much POWER at its price as this new SERIES 17 Studebaker. Never has there been offered to the man living in the country, to the man running a farm, to the man driving over the muddy roads and the trying hills a car with such masterful yet ECONOMICAL power as this SERIES 17 Studebaker possesses.

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It is the ideal car for the man operating a farm—big, light and sturdy and easily operated. It has room for SEVEN to ride in COMFORT. It is handsome in design and finish. It incorporates many new refinements of design such as the tank in rear with Stewart Vacuum Feed; DIVIDED and adjustable front seats; overlapping, storm-proof windshield; self-starting and lighting control and other instruments conveniently located on dash, illuminated by new indirect lighting system. And taken from any angle, it offers the BIGGEST value, dollar for dollar of the price, that the industry has ever seen.

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Open Express, complete	\$1200
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F. O. B. Detroit



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### "WATERLOO BOY"

Will plow over 60 miles of furrow a day at a fuel cost of less than \$1.50. Self-steering when plowing.



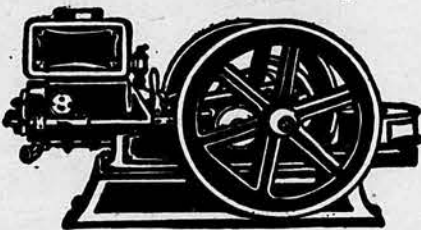
Easily pulls three 14-inch plows 8 inches deep in heavy soil.

# \$750

Have your tractor ready for this year's work—the spring plowing, the seeding, the harvesting.



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The Waterloo Boy Milking Machine is in successful use at leading dairies. Let us tell you about it.



## Between Today and Tomorrow—

**A**FTER a day's work in the blistering hot sun, when your muscles ache clear down to the tip of your toes, and the bed-room is so hot that you hate the very thought of "turning in"—imagine the effect of a five or ten mile trip on a

## Harley-Davidson

Gliding over the road, up hill and down dale with the cool breeze fanning your cheeks, the troubles of yesterday and tasks of tomorrow are soon forgotten. Breathing in great draughts of dewladen air, you remember only the present and that it is good to be alive—that's *Motorcycling*.

The Harley-Davidson, you know, is the motorcycle that smashes speed records, climbs "impossible" hills and gives "the longest run for the money". You'll probably want a sidecar, too. It will assure you of companionship on your pleasure

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## Eradicating Cholera in Marshall County

By C. O. LEVINE

**T**HAT hog cholera can be controlled and even entirely eradicated, is being demonstrated in Marshall County. Less than a year ago the United States Department of Agriculture in co-operation with the farmers of Marshall County commenced an organized campaign to stamp out hog cholera, which in 1913 alone took a toll of \$300,000 from the farmers of the county.

The government veterinarians commenced vaccinating sick herds in May, 1915. During the last six months of 1914 there were about 200 outbreaks of hog cholera in the county. During the last six months of 1915, after the veterinarians had been on the job but a short time with their vaccinating and disinfecting work, there were only twenty outbreaks, and in these cases the losses as compared with the year before were very small, as the sick herds were vaccinated immediately.

Out of 12,000 hogs vaccinated only five per cent were lost. A census recently completed shows that in round numbers the county has 35,000 more hogs than a year ago.

The value of organized work in combating hog cholera is shown by the fact that an adjoining county used 30 per cent more serum than was used in Marshall County during the same time and still had scores of cases of hog cholera.

Much of the success of the work is due to the readiness with which the farmers of the county and the government officials co-operate in the work. Doctor Murphy, government inspector in charge of the work, says the county has one of the best organizations he knows of for this work.

When the county was first selected by the government as a locality in which to demonstrate that vaccination and proper sanitary methods would control cholera, and before the veterinarians had arrived in the field, the farmers had effected their organization. This is known as the Marshall County Hog Cholera Eradication Association.

A vice-president and nine assistants—one for every four sections—were elected by the farmers of each township. When there is a suspected case of hog cholera, the township vice-president of that township is notified and he immediately informs the government inspector in charge, whose office is located in the county seat. The hogs are examined by the veterinarians and if they show symptoms of the disease the whole herd is vaccinated and the premises are cleaned up and disinfected. Except with sows heavy with pig, the simultaneous method of vaccinating is used.

The township organizations also assist in making a hog census whenever it is desired to know the number of hogs in the county.

The farms on which the cholera broke out during the past few months were all close to the county line, and investigation showed that the disease no doubt entered from outside the county.

It was seen that the disease could not be entirely stamped out as long as cholera prevailed on all sides in the surrounding counties and arrangements were made so that the work of vaccination and disinfection is being extended to the border townships surrounding Marshall County, and these townships are effecting organizations similar to those in the townships of Marshall County for combating the disease.

Illustrated lectures on hog cholera, showing methods of prevention and control, have been given in nearly every country school house in the county. The

"clean up and stay clean" gospel has been preached to every farmer who raises hogs. The educational meetings have been extended to the communities surrounding the county.

The county papers give valuable assistance by publishing hog cholera literature prepared from time to time by the government veterinarians. Every month these veterinarians and the state live stock sanitary commissioner issue a bulletin on the progress of the work, and give suggestions for the prevention and control of hog diseases. This bulletin is mailed to every farmer in the county who raises hogs.

### Sunshine in the Hog House.

There is no place on the farm where plenty of sunshine is of more importance than in the hog house. To be profitable, hogs must be healthy, and there is no better germicide than direct sunshine. It will destroy disease germs, always likely to be found where animals are housed. Even fattening hogs will thrive and take on flesh faster if their sleeping quarters are so arranged as to be reached by the sun.

Many attempts have been made to build hog houses large enough for all the hogs on the farm. Many of these have failed and have been discarded, and the principal reason has been that they did not provide for the admission of sunlight to every pen in the house. This accounts for the general use of the individual house or farrowing cot.

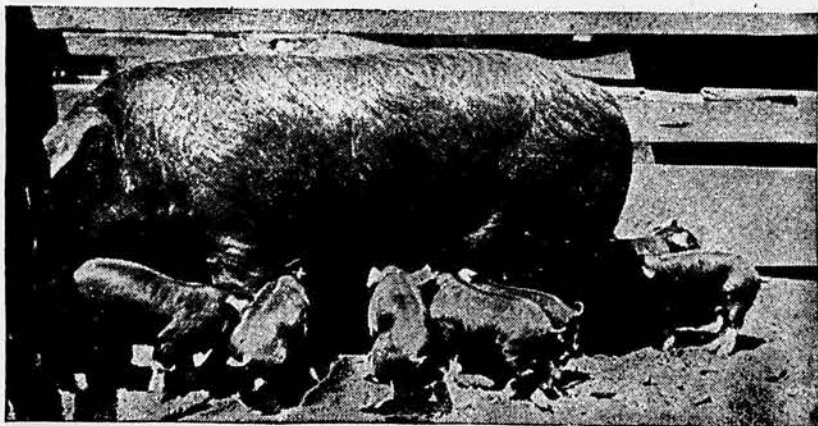
We have seen some large hog houses in which the problem of getting the sun into the pens has been solved. Some of the latest of these have adopted the plan of placing windows in the roof. By this means the sun can be admitted to any part of the house. A house of this type has been very successfully used at the Iowa Experiment Station. These roof windows should be specially constructed and must be protected from hail injury by galvanized netting. It is also necessary that considerable care be exercised to make them proof against leaking. In very cold weather a hog house with much glass in the roof will get cold in the night. This can be overcome by putting in double sashes, thus having a dead air space which prevents the rapid radiation of heat from the inside at night.

Such roof windows might be placed in some of the older hog houses where no provision was made for admitting the sunlight. Hog houses should be built the long way east and west in order to insure the maximum amount of sunshine inside. If it is necessary to make the house with the long way north and south, two rows of windows will be required—one on each side.

### Cost of Keeping Horse.

There has been a good deal of figuring in different parts of the country as to the cost of keeping horses. The farm management department of the Nebraska Agricultural College, has just been tabulating some studies made in Eastern Nebraska, and the department reports that it costs in the neighborhood of \$100 a year to feed and care for a horse. The feed alone amounts to \$60; five per cent interest on \$150 valuation is \$7.50; a ten per cent depreciation is allowed, or \$15; 75 hours of labor at 16 cents an hour, \$12; and \$7.50 for shelter. Such other items as veterinary attendance, shoeing, etc., will bring the total up to over \$100.

The expense of horse power on a farm is a heavy item. The most satisfactory way of keeping it down is to use the best of brood mares and raise some colts.



THIS BROOD SOW AND LITTER OWNED BY C. Z. BAKER, MISSOURI, GIVE EVIDENCE OF GOOD CARE AND FEEDING



# FARMERS' ACCOUNT BOOK

**W**E have received a number of inquiries relative to an account book suitable for keeping farm records. It is evident farmers are not neglecting the keeping of books because they do not realize the value of this work. To be successful, a man must understand his business, and this is as true on the farm as in any other occupation.

A good many farm surveys have been made in the past year or two by the farm management department of the Kansas Agricultural College. The experience gained through these studies of the business of farms has been incorporated into a book for the keeping of farm accounts. The keeping of the necessary accounts has been made so simple that anyone can make the required entries.

A start in keeping books can easily be made by one who will secure a copy of this book which has been prepared by Edward C. Johnson, dean of the extension division, and P. E. McNall, assistant in farm management.

In order to strike a financial balance at the end of the year, the following accounts are all that are absolutely necessary: An inventory of the farm, including all improvements, live stock, machinery, feed, and supplies, at the beginning of the year; a similar inventory at the end of the year; an account showing the total receipts of the farm for the year; and a similar one showing the total expenses. From these accounts can be shown the net profits or the labor income for the year, and it will require only a few minutes each day and a few hours at the beginning and at the end of the year, to summarize these records.

These records should be started before the spring work begins. March 1 is a good date, although many prefer to make the inventory earlier. We hope many of our KANSAS FARMER folks will make this beginning in farm bookkeeping this year. This farm account book, to which reference has been made, has been published by the Kansas Bankers' Association. If you have not received a copy from your banker, write to KANSAS FARMER for one.

## Prize for Farm Business Letters.

A book has been prepared for the keeping of farm accounts and is being distributed absolutely free of cost, but it will amount to nothing unless used. KANSAS FARMER, in conducting this business department, wishes to encourage better business methods on the farm. In doing this, we need the help of those who have worked out methods that have been specially valuable to them in a business way. We want you to write us of your bookkeeping experience or of any other idea or method that you have used successfully. For the best letter received each month on some business idea or method in connection with farming, we will give a year's subscription to KANSAS FARMER, or extend the subscription a year if it is already paid in advance. The best of the letters received each month will be published.

## Teach Boy Business Methods.

A little business training from day to day will prove very valuable to the boy. Give him a corner somewhere and there allow him to accumulate his things. Perhaps in the beginning he will have only toys to put in his corner, but it will not be long before he will begin business operations both on paper and in reality. Every boy has more or less business and, though it may not be of much importance, he should be taught to do it carefully. The most helpful lesson in this will be seeing his father handle his business in an orderly manner.

A desk will add to the attractiveness of the business done. Every boy will have his own idea of how he can make the desk. Let him work out his own plan if it is not too expensive or if he is willing to use his own money for it. This will be a valuable experience for him whether the desk is a success or not. If it is a failure, it will cause him to think how the plans could have been improved. The transactions in connection with the building of the desk should all be recorded.

As soon as established in his corner, the boy should be encouraged to write letters and handle his affairs in a businesslike way. As soon as the boy is able to do these things, he can be taught to do them the right way as easily as to do them poorly. Responsibility should be added to the boy by having him answer some of the business letters received by his father and mother. This training will mean much to the boy in after years. He will become a business man—as every farmer should be if he would realize the maximum from his efforts.

The girl, too, should be taught the

value of system and business methods, for in managing the affairs of a household these will be found very necessary.

## Breeders' Mailing List.

Many breeders of pure-bred stock lose half of the real value of their advertising through failure to build up and preserve a live mailing list. This list can easily be acquired by alphabetically indexing and filing the name and address of every man answering an advertisement and inquiring for stock.

After a complete mailing list of this kind has been built up, it is very easy for the breeder to reach a large number of possible purchasers with sale catalogs or any other advertising literature he may wish to use. He does not have to wait until his sale is advertised and inquiries for catalogs are received through his advertising. Filing names of inquiries for catalogs of a sale of pure-bred stock to be held this winter or spring is simply preparing for, and advertising a future sale.

The bred sow sale recently held by H. L. Faulkner of Jamesport, Mo., was a clear demonstration of the value of a live mailing list. Years ago Mr. Faulkner adopted this system, and every year adds a large number of new names to his list. Prior to his recent sale he did not use advertising space, but advertised his sale by using moderate space in a number of leading farm and live stock papers. In addition he used his mailing list to get catalogs of his offering in the hands of prospective buyers. He felt that they were interested, for at some time they had either purchased stock from his herd or had made inquiry with a view of purchasing.

The result of his method of reaching buyers can be summed up as follows: Buyers were present from six states and mail bids were received from six states. Mr. Faulkner had over \$1,000 in checks, drafts and money orders sent to him to buy hogs in the sale that he had to return. Some of these checks were for over \$100. Only six hogs were bought on mail bids, because buyers present at the sale were the high bidders. Forty-six bred sows and gilts sold for \$3,429 and an average of nearly \$84, with a top of \$203.

## Engine Power Supplement Horse Power.

Animal power cannot supply the present power requirements on the farm, let alone supplying the increasing amount of power which is being demanded every year. Tractor power, however, can be increased rapidly and can readily meet any requirements.

Animal power is unable to supply the concentrated power necessary on account of the difficulty of securing hired help and the necessity of doing more farm work and doing it quicker in order to raise larger crops. With a tractor, however, one man can control the power of from 8 to 40 horses with his own hands, which makes less help necessary and enables the owner to get over a lot of ground in a short space of time.

Because of the tractor being built of iron and steel it is more reliable than animal power. It is not affected by idleness, weather, disease or accident, as are animals, and it is able to meet all kinds of conditions and deliver power on cold days, in dry weather, wet weather and at any other time.

The tractor is able to supply continuous power, working night and day if necessary in rush seasons, while with animals they must be allowed time to eat and sleep, even though the work suffers.

While horses or mules are only able to supply drawbar power, a tractor supplies both drawbar and belt power.

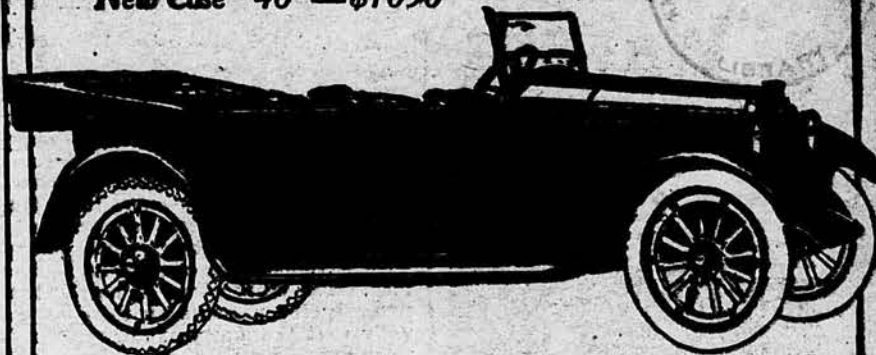
A tractor will not only enable one to produce larger crops but also helps to prevent losing the results of one's work by injury from insects and other plant enemies.

The experience of tractor owners proves that larger crops can be raised by using power, and that the best farm power is a combination of animal and tractor power, retaining horses or mules to do the lighter work and using a tractor for the heavier work.—Threshermans Review.

Probably 75 per cent of the losses of young pigs are due to ignorance or neglect on the part of the owner in selecting, feeding and caring for the brood sow, and not more than 25 per cent to bad weather conditions, inexperienced sows and other unavoidable things.

If the rhubarb produced small stalks last year, dig up and divide the roots, planting in a deep trench, covering with a rich soil.

New Case "40"—\$1090



## "Jay-Eye-See"

Many years ago there was a famous race horse, known from ocean to ocean. Its name was "Jay-Eye-See"—which were the initials of J. I. Case, the founder of the J. I. Case T. M. Company.

The owner of this famous horse was known as a man who loved thoroughbreds—a man who admired perfection. He was recognized as a master-builder of machinery. He established his factory in 1842, and around it gathered a world-known community of able workmen.

## A Thoroughbred

Like the noted "Jay-Eye-See"—known to you surely by reputation—the new Case "40" is a thing of rare beauty. Its long, sweeping lines are distinctive. All corners have disappeared. This unmistakable beauty makes men spot this car and admire it. You will enjoy driving such a "different" car—one that stands out from others.

## Tomorrow's Car Today

Your first mile in this car will delight you with its unusual comfort. This is gained, not alone by the use of the cantilever springs, but by the Case way of suspending these springs from the rear axle so that they do only spring duty.

The divided front seats—the upholstery in real grain leather, which, by the way is removable as a unit for cleaning—together with the unusual room, both in the front compartment and in the tonneau, will excite further praise.

## Tests of Value

Then when you come to test those parts beneath the hood, in a hard pull or up a steep incline, or on the car's 100,000th mile, you will find the Case motor well deserving of the characterization—"the motor that makes extra cylinders unnecessary."

## Here Are More Details

The fact that all wiring is housed in waterproof, rustless, flexible conduits, illustrates the care in planning of details. The junction box between the body and the chassis, also indicate the attention which you will find as you go through the car with a microscope. Study every part. These are but a few of the many things which make this car a rare value. Of course Westinghouse ignition, lighting and starting equipment needs no further comment.



## New Car—New Price

We offer you this car at the price of \$1090, f.o.b. Racine, with the statement that it contains all of the merit of our earlier "40," which sold for \$2300. You know what Case means by value. Let us send you our fine new catalog, which shows you the car in colors and pictures its many superiorities.

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Founded 1842 535 Liberty St., Racine, Wis.



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## TREES

A Dollar's Worth of Trees for Sixty Cents—That's My Offer to You. A straight, clean-cut proposition with no strings to it—an offer which every wise farmer and fruit grower should take advantage of—an offer which I can safely make, because for nearly 40 years right here in the Southwest I have been saving thousands of dollars for thousands of farmers, orchardists, market growers, etc.

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How I Save You Money

and how you can deal direct with me and save the tree peddler's commission of about 40% on the dollar for yourself. Let me help you select the right trees for your locality. I know best what will grow in your soil and your climate. I can refer you to thousands of customers who have profited by following Schell's orcharding advice. It's free and so is my money-saving proposition and my big new fruit book. Write for them today. Freight paid on all orders of \$10 or more.

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READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS



# BRAKE AND CLUTCH

Items of Every Day Interest About  
The Automobile and for the Motorist

**W**E frequently see careless automobile drivers make a spectacular stop with a sudden application of the brake. This desire to "show off" in this manner is hard on the car. Flat wheels on railway trains result from careless application of brakes and the effect on a wheel equipped with a rubber tire can easily be imagined. The proper way to use brakes is to apply the pressure on them so gradually that the movement of the car forward and the rotation of the wheels stop at the same time. Careful drivers shut the power off long enough before reaching the stopping point so that the car will proceed with its momentum and stop at the required spot with a very easy application of the brakes.

When valve springs have weakened through long service, they can be temporarily strengthened by placing some washers under the coils. Care must be taken that the coils do not come together when the valve is raised.

**Kansas Outbuys Missouri at Show.**  
Tractor men at the Kansas City show report that many more engines are being sold in Kansas than in Missouri. While Missouri does not have as accurate statistics as does Kansas, the statement was made that probably not to exceed 600 outfits had been sold in that state. The farms of Kansas are better adapted to power farming than are those of Missouri. There are fewer hills, and the plowing of the great wheat fields of Kansas requires the expenditure of an immense amount of power in a comparatively short space of time. A great deal more power could be used to good advantage than is now available. The turning of a deeper furrow would bring increased profit. According to the Kansas Experiment Station, deeper plowing would increase the crop yield 20 per cent.

One-man outfits seemed to be most in demand at the Kansas City show. A great many were sold, both to farmers and to dealers.

## Does Tractor Pack the Soil?

The charge is frequently made that tractors pack the soil so that the crop is injured. To find out what tractor users have to say on this point, the Federal Department of Agriculture questioned 135 of them and has compiled the answers. Here is the report as published in a recent bulletin:

"These men were located in various states in the Northwest. In answer to the question, 'Does the packing of the soil by tractor wheels injure the crop?' only nine state that the packing of the soil is injurious, while 101 say that it is not, twenty-two of this number declaring it to be beneficial. It may be safely stated that on most soils, when they are in fit condition to be worked satisfactorily with horses, the modern gas tractor will cause no injurious packing."

An 8-16 outfit puts only about ten pounds of pressure on the soil to each square inch. A 170-pound man wearing a No. 8 shoe puts a pressure of fourteen pounds to the square inch on the soil in walking, and the pressure of a 1,400-pound horse is from eighteen to thirty-three pounds to the square inch when pulling a load.

## Tractor and Small Thresher.

The use of the small neighborhood thresher is likely to be associated with the introduction of the farm tractor. On many farms where the amount of thresh-

ing to be done is not large, it is most unsatisfactory to be compelled to wait until some large commercial outfit can be secured to do the threshing.

A Clay County farmer who was recently in KANSAS FARMER office, stated that since he had purchased a tractor a small neighborhood thresher had been bought and used by himself and two neighbors. He considered this use of the thresher as most important. They are able to do their threshing when it is most convenient and the grain is saved in better condition than when they were compelled to take their chance with the traveling outfit. It also furnishes that much more use for the tractor and thus makes it a more profitable investment. This man also uses his engine for filling silos, grinding feed, and other belt work.

## Automobile Prices Reduced.

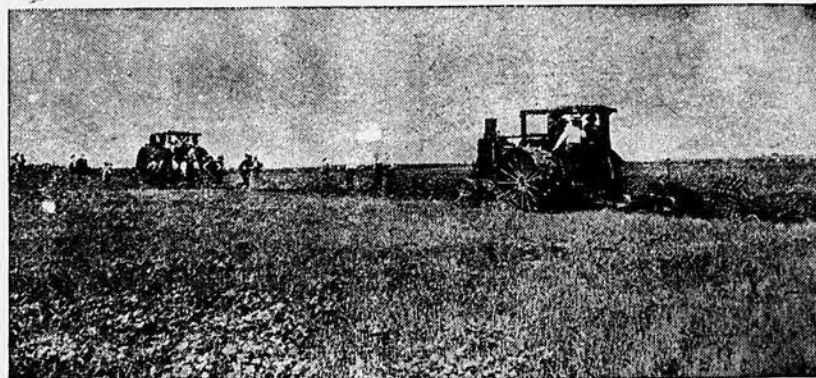
"The 1916 car promises to remain in fashion for a longer time than any of its forerunners," says a writer in Collier's. "And for this very reason it is apt to have a higher resale value should one desire to dispose of it after a few years' time. Another thing: Quite a little has been done to make the 1916 car more comfortable. The average car of this year will have somewhat longer springs and a slightly longer wheel base."

"There is one more reason why 1916 will be a great year to purchase a new car. That is the variety you have to choose from. If you like to plan your car as you might plan the building of a house, you have a wonderful range of cars spread before you. You can get four, six, eight or twelve cylinders. You can get four, sixes or eights with either poppet or sleeve valves. You can have a water-cooled or an air-cooled car. You can get a heavy car or a light car."

"For as little as \$390 you can get a fine little four-cylinder roadster. Sixes come as low as \$785 for a car seating five passengers, while \$950 will buy an eight! And if you want to revel in an even dozen of cylinders, step right this way and see your heart's desire filled for as little as \$1,095."

"Yes, indeed, 1916 will be a great year to buy a car. It probably will be a better year than 1917. And it will be a great year to operate one. There is only one warning, and that you can take for whatever you think it worth: Metal is going up. The war is responsible. The common grades of iron and steel haven't gone up so much, but the better steels used for crank shafts and the more important parts had risen 20 per cent by the middle of October, 1915. At that time aluminum was up 250 per cent, zinc 700 per cent and copper 50 per cent. Tungsten, the material that makes valves what valves ought to be, jumped from 50 cents to \$1.25 a pound. And these increases are probably not at an end. One leading manufacturer has already been forced to boost the price fixed last August. Another of the big-quantity cars selling at less than \$1,000 now costs \$68 more for the materials than it did when announced last summer. It is easy to imagine that self-defense may force many manufacturers to hike water on the prices now in force. The costs of metals continue to go up in this fashion. That is what I referred to when I said that 1916 may be an even better year to buy a new car than 1917. Certainly we can hardly expect the 1917 prices to go much lower than those of this year."

"From every standpoint, then, 1916 will be a great year to buy a new car—and a great year to buy one early!"



TRACTORS TURNING UNDER WHEAT STUBBLE AT PLOWING DEMONSTRATION.—SUCH PLOWING SHOULD BE DONE IN JULY FOR BEST RESULTS

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Less Carbon**

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PISTON RINGS**

The only perfect and durable gas-tight and oil-tight Piston Rings.

Get them from your supply dealer. If he hasn't them—write us. We'll see that you are supplied. Send for FREE book—To Have and to Hold Power.

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**Build It Yourself**

Here is the first real, practical idea for a perfect home-made concrete mixer ever yet produced. Endorsed by all farm papers, by concrete engineers and by hundreds of users. You make it with a few 2x8's, an oak barrel and a few castings. Send your name and get full instructions and

**Blue Print  
PLANS FREE**

It will mix 3 1/2 cu. ft. at a batch. Has self-tilting dump, runs by hand or 1 h.p. engine. Will keep from 2 to 6 men busy. Does finest work, equal to any \$200 machine—and costs you almost nothing in comparison. Just drop me your name on a post-card today. Full instructions and blue print plans will come at once. FREE.

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**Mix Your Own Concrete**

**BOWSER FEED MILLS**

Crush ear corn (with or without shucks) and grind all kinds of small grain and Head Kaffir.

Handy to operate—Lightest running, 10 sizes: 2 to 25 h. p., capacity 5 to 500 bushels. Conical shape Grinders. Different from all others. Also make Sweep Grinders.

Write for Catalog and folder about the value of different feeds and manures.

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**Eureka Potato Planter**

For Large or Small Growers, 1 or 2 rows. Opens furrow, drops seed any distance or depth required, puts on fertilizer (if wanted), covers up, marks next row. Accurate, automatic and dependable. Operated by one man. Furrow is opened directly under axle and seed is dropped in plain sight of operator. Made of steel and malleable iron, assuring long life and few repairs.

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Farlin & Grandorff  
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Men who are building Quality into their everyday work, need comfortable, strong overgarments. Such men always buy and wear

**FITZ Overalls**

It does not matter what size or shape you are—there is a FITZ overall made just to your size and liking. If your regular dealer is temporarily out of your size, hurry up! 'em in 10 hours by sending to

BURNES-MUNGER-ROOT Dry Goods Co.  
Kansas City, Missouri.

**12 1/2% ECONOMY**

Before you buy any more fence, write for facts about our 28-inch ECONOMY HOG FENCE at 12 1/2% per rod. Many other styles and prices.

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The Best Value In Light Farm Tractors

A real tractor, properly designed for heavy farm work, carefully constructed from the best materials, provided with equipment of the highest character and fully guaranteed, the Simplex stands out as a money-saver to the farmer, both in purchase price and in cost of operation.



The Simplex, Pulling Four 14-Inch Plows, Seven Inches Deep. (From a Photograph.)

A heavy-duty four-cylinder motor, supplying 20 horse power on the belt and 15 on draw bar, at 750 R. P. M.  
Two speeds forward and reverse; cut steel gears running in oil bath in dust-proof case. Hyatt heavy-duty roller bearings. Perfect Radiator, with 20-inch fan, all parts easily accessible and replaceable, simplest and most economical to operate.

**Price \$825 F. O. B. Factory**  
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We Want Live Dealers and State Distributors. Write for our New Illustrated Catalogue. We'll tell you all about it.

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1612 Central Ave., MINNEAPOLIS, MINN.

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**WAIT!** Don't buy an engine of any make or kind or price until you first get my low 1916 prices and easy buying plans, including terms.

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All Galloway Masterpiece engines are large, long stroke, heavy weight and low speed. Built for lifetime service and satisfaction. 1916 improvements include valves in the head, extra cooling surface, perfected oiling system, economy carburetor, built-in magneto and Hercules water-cooled cylinder head. These features and many others make Masterpiece engines power kings in every field. Shipped from Waterloo, Council Bluffs, Kansas City, St. Paul and Chicago. Ask for my special proposition and new book today. A postal gets it. I'll pay the postage.

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

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If you are a landowner and do not already have a copy of Ropp's New Calculator—write for yours today. This 160-page book (worth 50¢) answers almost any question that arises on the farm. We will send it free to landowners only, postpaid, together with a catalog of

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10 days' trial. Money-back guarantee. Cuts ditch to 4 ft. Grades roads. All Steel—Practical—Adjustable—Reversible. Cleans ditcher, cuts and works out dirt at same time. Does work of big machines. Soon pays for itself. Write for free booklet and introductory proposition.

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**FARM WAGONS**

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

Electric Wheel Co., 34 Elm St., Quincy, Ill.



## Farm Orchard and Small Fruit Garden

By W. L. LUX, Shawnee County

**E**VERY farm should have an orchard and a small fruit garden in order to keep the table supplied with fresh fruit throughout the year. About one acre of good ground will be enough. Saving the cost of the family fruit supply, and the pleasure and good health secured by eating plenty of good ripe fruit, will make this acre by far the most valuable one of the farm.

For the farm orchard and fruit garden, select a well drained location near the house. If the soil is not moderately rich, fertilize it with barnyard manure. Plow it as deeply as possible before planting, and give it thorough cultivation during the growing season for at least five years. Keep the ground as nearly level as possible unless the orchard is poorly drained or has a hardpan or gumbo subsoil. In this case leave a dead furrow between every two rows to drain the surplus water from the ground. As the trees grow larger the cultivation should be shallower so as not to disturb the fibrous roots that are reaching out for food and water. After the orchard is eight years old it may be seeded to red clover, although some orchardists prefer to continue the cultivation. All of the clover and weeds should be mowed once a month and the grass left on the soil for mulching.

Plant the trees in rows 20 by 30 feet—an apple and a peach alternately, or a plum or pear and a cherry—or else plant the apple trees 30 by 30 feet and the other kinds 20 by 20 feet. In setting, lean the trees a little to the southwest and top low. Most of the top should be put to the southwest, so as to overcome the natural tendency of the trees to become top-heavy to the northeast.

Blackberries and raspberries can be planted in the rows between the trees. These should be three feet apart and four feet from each tree. The berries should be mulched heavily every winter with trashy barnyard manure.

Three or four rows of strawberries can be planted between the rows of trees. Plant them eighteen inches apart and the rows four feet apart. Keep all weeds and grass hoed and pulled out of the berry rows and give them shallow cultivation as soon after each rain as the ground is dry enough to work. Mulch lightly in December with any kind of trashy material that does not contain weed or grain seeds. In the spring remove enough of the mulch to allow the plants to get through, leaving the surplus mulch between the rows.

Plant blackberry plants four to six inches deep. Early Harvest and Mercereau are good varieties.

Raspberry tips must not be planted very deep or they will rot. Plant some St. Regis Ever-bearing red raspberries. Black Pearl, Cumberland, Kansas and Hoosier are all good varieties of black raspberries.

Plant some of the Progressive Ever-bearing strawberry plants, as these are good. They bear a full crop the last of May and June and some berries whenever the weather is favorable until the first of November. Other reliable kinds are Senator Dunlap for your main crop, followed by Glen Mary, Gandy, Son's Prolific, Helen Davis, Haverland, or any other good kind. Go slow on the newer kinds that are so highly advertised. Many of them are not adapted to our soil and climate. The writer has tested about seventy-five different kinds and has found none that is better than the Senator Dunlap for all kinds of soil and climatic conditions. Other kinds may do better when both soil and climatic conditions are favorable. Senator Dunlap does not do well in the South or in California.

Plant some asparagus, rhubarb, and gooseberries. Houghton, Oregon Champion, and Downing are the most reliable gooseberries to plant.

The following trees are suitable and ample for an ordinary farm. There are many other good kinds, but these will furnish a succession through the whole year. There should be four early apple trees selected from these: Early Harvest; Liveland Raspberry; Yellow Transparent; Red June, Sweet June; Cooner's Early White. Four summer apple trees—Maiden's Blush; Bailey's Sweet; Summer Pearmain; Northern Spy. There should be two crab apple trees—Florence, or Hyslop. Ten fall and winter—Grimes Golden; Delicious; Jonathan; King David; Stayman's Winesap; York Imperial; Winesap; Black Ben Davis.

There should be sixteen peach trees and these varieties are good: Japan Dream; Mayflower; Triumph; Carman; Crispy; Champion; Hottes Elberta;

Belle of Georgia; Chinese Cling; Salway; Krummel; Stinson's October.

Four plum trees selected from the following will be about right: America; Golden; Burbank; Shippers' Pride; Lombard; Damson.

There should be two Kieffer pear trees, one Seckel, one Anjou or Garber.

Two apricot trees—Superb and Early Golden.

Five Early Richmond, and five Montmorency cherry trees.

There should be 200 blackberry plants, 200 raspberry plants, and 250 to 500 strawberry plants.

The varieties and kinds suggested should furnish the farmer fresh fruit and plenty for canning, provided they are given reasonable care.

Blackberries and raspberries nearly always produce more bearing wood than

the roots can support when loaded with fruit. They should be cut back and all dead canes removed. They should be kept in rows and well cultivated or mulched to keep the weeds down and conserve moisture. Perfect fruit cannot be matured if the ground becomes dry and hard. Gooseberry bushes that are three or more years old should be thinned down to two-thirds or one-half of their entire growth. The weaker canes should be cut down to the ground. This will let the sun into the bush and prevent the dropping of the fruit, and it will be larger and of better quality.

### New Seven-Day Record.

A new world's champion in dairy production has just been announced. This cow is Ormsby Jane Segis Aagie. She was purchased for \$250 as a two-year-old heifer by Oliver Caban, Jr., of New York. She has produced as a four-year-old, 100.5 pounds of milk in one day; 721.5 pounds of milk in seven days; and 3,050 pounds in thirty days. Her butter production for the thirty days was

180 pounds. This beats all the senior four-year-old records and also all the world records for full aged cows, for this period. The test will be continued and if this cow holds out as she has started, she will undoubtedly make a new year record. The cow is a Holstein and is almost pure white in color. The tests are being supervised by the New York State Agricultural College.

### A Lamp Without a Wick.

The Sunshine Safety Lamp Co., 822 Factory Bldg., Kansas City, Mo., has a new portable gasoline lamp which gives the most powerful home light in the world—a blessing to every home not equipped with gas or electricity. Three hundred candle power at one cent per night. This remarkable lamp has no wick and no chimney, is absolutely safe and gives such universal satisfaction they are sending it on free trial. They want one person in each locality to whom they can refer new customers. Take advantage of their free trial offer. Agents wanted. Write them today.—[Adv.]

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**261,800 Miles**  
Equal to more than  
**10 Times Around the World**

The Actual Mileage Record  
of this Car on its original  
**HYATT**  
Bearings

**F. E. Slason and his Record Making Car**  
"Last October," says Mr. Slason, "261,800 miles had been recorded with absolutely no trouble from the Hyatt Bearings. Thousands of miles more have since been added to this great record."

**S**UCH severe and constant service proves the worth of Hyatt Bearings. Engineering data has been reinforced by records of every day service obtained through our recent investigation.

From everywhere came indisputable evidence of the marvelous performance of Hyatt Quiet Bearings.

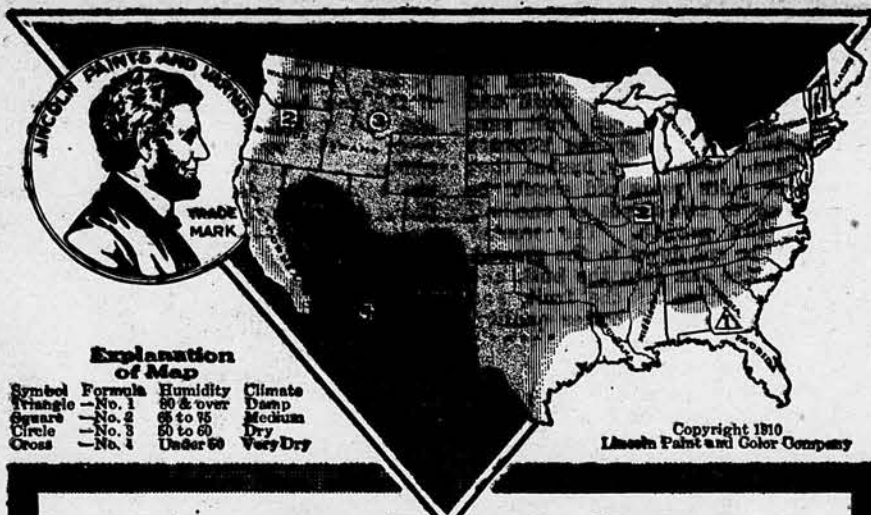
On no single record, however, rests the reputation of Hyatt Bearings. The faithful service of millions in daily use offers a mighty testimonial to their value.

Their remarkable merit is evidenced by the following records which have been carefully investigated and verified.

### Representative Mileage Records of Cars on their original Hyatt Bearings

NAME	CAR	MILEAGE	NAME	CAR	MILEAGE
F. E. Slason, Plainville, Kansas.....	1909-Buick.....	261,800	J. J. Moore, Philadelphia, Pa.....	1911-Ford.....	147,571
James Lewis, Shelton, Conn.....	1909-Mitchell.....	218,734	John Fraser, Jr., Milwaukee, Wis.....	1908-Buick.....	139,523
J. W. Norman, Paint Rock, Texas.....	1909-Mitchell.....	183,837	Geo. R. Mason, Des Moines, Iowa.....	1910-Maytag.....	135,000
Sam Deck, Darlington, Ind.....	1910-Mitchell.....	175,875	J. M. Bertoleto, M. D., Reading, Pa.....	1910-Mitchell.....	127,681
J. D. Albright, Bowie, Texas.....	1911-Ford.....	172,683	James W. Hines, Minneapolis, Minn.....	1910-Hudson.....	120,256
Earl G. Druding, Ellsworth, Wis.....	1909-Ford.....	171,418	Linus Kiene, Buffalo, N. Y.....	1910-Mitchell.....	120,000
S. T. & E. R. R., Stockton, Calif.....	1909-Mitchell.....	160,100	L. N. Burnett, Dallas, Texas.....	1909-Flanders.....	116,557
Jacob Stark, Chicago, Ill.....	1906-Logan.....	148,150	F. I. Wiltse, Oneonta, N. Y.....	1908-Ford.....	113,061





**Explanation of Map**

Symbol	Formula	Humidity	Climate
Triangle	No. 1	50 & over	Damp
Square	No. 2	35 to 50	Medium
Circle	No. 3	20 to 35	Dry
Cross	No. 4	Under 20	Very Dry

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Lincoln Paint and Color Company

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## Lincoln Climatic Paint

is made and mixed especially to give the longest service in your own locality. It is made in four formulas—a paint for each of the four climatic divisions of the United States.

You will know the formula for your climate by the symbols and numbers on the cans, which refer to the different sections shown by the map. Protect yourself by asking for Lincoln Climatic Paint. Thousands of the best informed paint users can tell you the satisfactory, economical service it gives. Write us for our Paint Book. Also get our

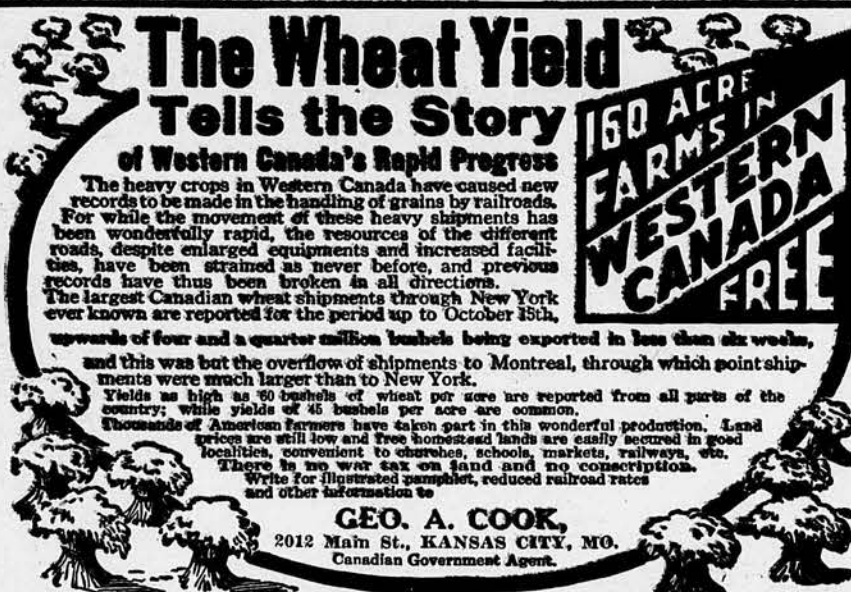
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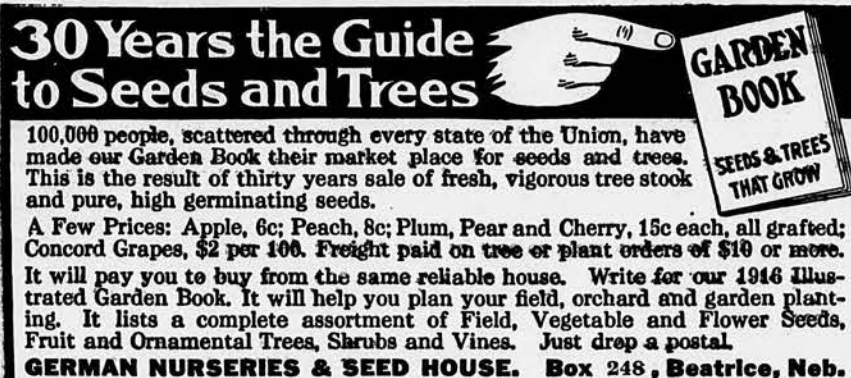



## The Wheat Yield Tells the Story

**of Western Canada's Rapid Progress**

The heavy crops in Western Canada have caused new records to be made in the handling of grains by railroads. For while the movement of these heavy shipments has been wonderfully rapid, the resources of the different roads, despite enlarged equipments and increased facilities, have been strained as never before, and previous records have thus been broken in all directions. The largest Canadian wheat shipments through New York ever known are reported for the period up to October 15th, upwards of four and a quarter million bushels being exported in less than six weeks, and this was but the overflow of shipments to Montreal, through which point shipments were much larger than to New York. Yields as high as 60 bushels of wheat per acre are reported from all parts of the country; while yields of 45 bushels per acre are common. Thousands of American farmers have taken part in this wonderful production. Land prices are still low and free homestead lands are easily secured in good localities, convenient to churches, schools, markets, railways, etc. There is no war tax on land and no conscription. Write for illustrated pamphlet, reduced railroad rates and other information to

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A Few Prices: Apple, 6c; Peach, 8c; Plum, Pear and Cherry, 15c each, all grafted; Concord Grapes, \$2 per 100. Freight paid on tree or plant orders of \$10 or more. It will pay you to buy from the same reliable house. Write for our 1916 Illustrated Garden Book. It will help you plan your field, orchard and garden planting. It lists a complete assortment of Field, Vegetable and Flower Seeds, Fruit and Ornamental Trees, Shrubs and Vines. Just drop a postal.

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**BIGGEST MONEY MAKER ON THE FARM.** HOME GROWN. Tested, cleaned and recleaned until it is the purest and best Alfalfa seed to be had. Sold you direct from headquarters. We handle enormous quantities. Write for free sample and special free book on Alfalfa. Also free big catalog and pink list giving prices on quantities.

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MENTION KANSAS FARMER WHEN YOU WRITE.



## CATTLE AND SOIL-BUILDING

A SALINE County reader of KANSAS FARMER writes us a word of commendation on our front page of January 29 showing cattle suffering in a cornfield during a blizzard, but adds that we are wrong in urging the growing of cattle as a means of retaining soil fertility. In his observations of the methods followed by cattlemen over the state, he has found that this result is not being accomplished. He says that too often the forage is cut and hauled from the field to some sheltered or timbered place on a creek or ravine bank, so that when the water rises in the spring the feed lots will be nicely cleaned out. Meanwhile there will be nothing but the stubs of the corn or cane left in the field to be turned under.

This same excuse has been offered as an argument against the introduction of the silo as a means of getting more out of the corn or kafir. If no effort is made to get the fertility back to the soil, this method of handling cattle, whether the silo is used or not, will most assuredly tend to reduce the producing power of the soil.

In urging the growing of more live stock, as we have done through the columns of KANSAS FARMER, we have constantly endeavored to make this point clear. The proper handling of the manure is a most important part of live stock farming. On many farms the distribution of the accumulated manure is perhaps the most pressing job at the present time. The ideal method is to haul it out as it is made, but on every farm much will accumulate and every effort possible should be made to get it on to the fields before the crops are planted. If this is practiced, the increasing of cattle and other live stock on the farm cannot help increasing the crop yields. It is a notable fact that on dairy farms where cattle have been kept for a good many years, the soil has constantly increased in fertility. This has been true even though the manure in many cases has not been hauled out until much of its fertility has been lost.

A manure spreader is one of the most profitable investments that can be made on the farm where live stock is kept. This is so, not only because it saves a great deal of labor in the scattering of manure, but because it scatters it so evenly that its full value as plant food is secured at once by the crop.

Plants do not take their food in solid form. It must be dissolved before it can be taken up by the roots. Manure that is scattered by hand is apt to be in large chunks or clods, and as long as it remains in this condition it is of little value as a fertilizer. It is only as it is broken up in small particles and evenly distributed over the whole surface, that it can be readily appropriated by the plants. This is accomplished by the spreader more completely than it can possibly be by hand. By the hand method of scattering from 20 to 30 loads are frequently distributed on a single acre. With the machine, as low as three tons to the acre can be spread. This thin, even spreading means a great increase in the profit that will be returned in the crop produced.

At this season of the year there is no better place to spread manure than on land that is to be put into corn or kafir. Where carefully spread, it can be plowed under and used by these crops without any harmful effects.

### Oiling the Harness.

Harness is an expensive part of the farm equipment. It can be made to last a great deal longer by proper care. After harness has been used a while it becomes stiff and hard and will frequently crack and break. This is because the action of the salt in the sweat of the horses has destroyed the oil which is necessary to keep the leather soft and pliable. A thorough oiling of the harness should be one of the jobs attended to before the spring work begins. The best oil for this purpose is the neat's foot oil. This oil can be purchased from the local dealer in such supplies.

The first thing to do in oiling a harness is to take it all apart and carefully wash every piece in warm water with soap. A sunshiny day should be selected for this unless a warm room can be used. When the harness has been thoroughly cleaned the oil can be applied either by going over it with a rag or brush or by dipping the pieces in a vessel containing the oil. It is important to

keep the oil and the harness warm during this operation or the oil will not penetrate the leather.

A harness gone over carefully twice a year in this manner will last a great deal longer than one that is neglected. There is another point in lengthening the life of harness that is frequently overlooked, and that is providing a suitable place away from the stable for hanging it. The common method is to hang the harness directly behind the horses in the stalls. The fumes of the manure will rot the leather very quickly. The properly planned horse barn should have a harness room at the end of the row of stalls. This makes a little extra labor but will greatly lengthen the life of the harness.

### Volunteer Wheat and Hessian Fly.

Hessian fly has become very generally distributed over the wheat-growing sections of Kansas. In spite of the repeated warnings given last fall regarding the destruction of volunteer wheat, much of this has been permitted to grow through the winter. In some parts of the state land that was partially prepared for wheat was not planted. In some instances this was because so much fly was found to be present that it was considered unsafe to risk the usual amount of wheat.

This volunteer wheat in fly-infested areas is now full of the flaxseeds. No matter how many precautions were taken by those who put in wheat, the volunteer wheat in the neighborhood will bring out a spring brood that can do much damage. This condition exists every spring, but this year the acreage of the wheat has been reduced, and there is more than the usual amount of the volunteer wheat to serve as a means of carrying the fly through the winter. The only way to avoid this danger is to destroy all this volunteer wheat at as early a date as possible. The flies will begin to emerge in April. The sooner this wheat is turned under the better. In the flaxseed stage it can be destroyed either by disking or by plowing it under in advance of the date when the mature flies can be expected to emerge.

These measures for controlling the damage done by the fly can only be successful if carried out in a co-operative way. Whole neighborhoods should get together and all agree that none will permit any flies of the spring brood to emerge from the flaxseed stage.

### Blank Listing for Corn.

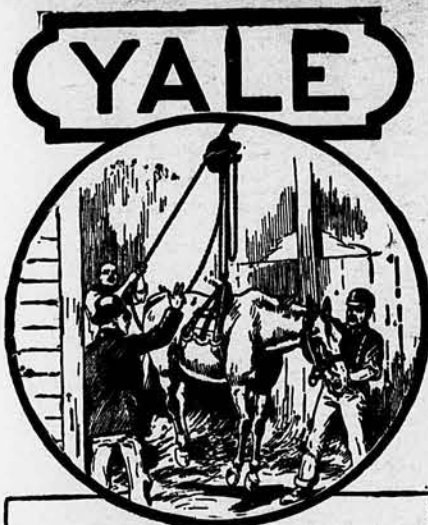
When first introduced, the lister was looked upon as a tool for shiftless farmers by men who prided themselves upon the thoroughness of their work. Corn can be planted with a lister without any previous preparation, and this is the way it was used in many instances when first introduced. It was possible to go into fields full of stalks and weeds and list in two or three times as many acres as could be prepared in the old way. The lister, however, has a great deal of merit and has gradually been accepted as the best method of putting in corn over much of Kansas. It is almost universally used in the central and western parts of the state.

Good, careful preparation of the ground in advance of listing, will always pay. A method now followed with considerable success in Eastern Kansas is to blank list the ground and then plant later either with an ordinary planter or with a lister drill. This method gives the soil in the bottom of the furrow a chance to become warm and the seed will germinate much better than when it is planted at the same time the furrow is opened. This method alone has the merit of permitting more preparation work before the actual time to plant. Listing is heavy work, and takes more horse power than pulling the planter or the drill. When the furrows have all been opened some time in advance of planting, the seeding can be much more quickly accomplished than where it is put in at the same time the furrows are being opened.

Double listing is also practiced with some success, especially when the furrows can be opened up in the fall or during the winter. In this method the ridges are split when the corn is planted.

The practice of following the contour of the land in listing, is a valuable one, especially in that part of the state where moisture is often the limiting factor in the growing of corn or kafir. This





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necessitates some preliminary work in determining the grades or levels of the fields to be listed. The idea is to have the furrows follow the lay of the land in such way that they will catch and hold the water that falls, instead of acting as channels to rapidly conduct it off the field. We would suggest that steps be taken at once to determine the proper grades, on the fields so that when the time comes to do the listing, advantage can be taken of this method of securing a larger use of the water that falls. After the fields of a farm have once been laid off in this way, it will be possible to follow these contour lines year after year.

### Possible Green Bug Danger.

A few years ago a great deal of damage was done by the spring grain aphid, or green bug as it is commonly called. It requires a combination of circumstances favorable to this insect to make it dangerous. The government entomologists report that it has been found in grain fields in Southern Kansas, Oklahoma, and also in Southern Missouri. The danger of this insect doing serious damage will depend largely upon the temperature conditions up to the middle of April. If the weather is warm enough to permit them to breed rapidly and at the same time low enough to prevent their principal enemy—a minute, black, four-winged fly—from developing, a serious outbreak over these areas may be expected.

A circular is being sent out by the Federal Department of Agriculture advising farmers to watch their grain fields closely. The first sign of an outbreak will be the appearance of spots in the growing wheat or oats changing from green to yellow. The bugs will spread rapidly from these spots over the remainder of the field. When discovered they should be plowed under deep and the ground harrowed or rolled. Spreading straw over the infested patches and burning it, is also advised as a means of checking the further spread of this pest.

### Increasing Corn Yields.

The boys who competed in the state corn-growing clubs in Nebraska last year, averaged 60½ bushels an acre. The average net profit per acre for a large number of these boys was \$15.62. This yield is greatly in excess of the average corn yield of the state. The profit, too, is unusually large.

All over the country, however, boys in these corn clubs are demonstrating the possibility of greatly increasing corn yields. Of course, there were prizes to compete for, but every man growing corn has a most vital financial interest in the results, and it would seem that if boys in competing for prizes, could so increase the yields, the general crop could be considerably increased. This result can only be brought about by a careful study of all the conditions necessary in producing large yields of corn.

The wheat acreage has been considerably decreased this year, and there is every reason to believe that it will be a good year to make the most of the corn crop. While it has been officially reported that the corn production of last year was the second largest yield in the history of the country, the supply of marketable grain does not seem to be equal to the demand. A very large amount of the corn produced last year was immature, and for that reason could not be counted as an addition to the world's supply of marketable corn. According to market reports, the primary markets received only eighty-five million bushels of corn from November 1 to the middle of February, as compared with 128½ millions marketed during the same period the preceding year. These marketing figures can be taken as a guide to the amount of corn in the country. There has been no special reason to hold corn, as the price has been good and the immature corn could not be held.

We believe the corn grower this year can well afford to use every effort possible to secure a good yield. There is not likely to be an over-production in the near future.

### Alfalfa Increases Yields.

The United States Department of Agriculture says that data on many farms throughout the corn belt show it to be as easy to grow 45 to 60 bushels of corn an acre after a clover or alfalfa crop as it is to secure 30 to 35 bushels after a corn or an oat crop. It offers data from the Agricultural Experiment Station of Nebraska to the effect that among investigations, 31 farmers reported average yields of 34.5 bushels of corn per acre on land before seeding it to clover and alfalfa and 68.2 bushels per acre on the same land after it was plowed up and again planted to corn.

## Breed Game Birds on Your Farm

FOR many years, we in America have spent much time bemoaning the disappearance of our feathered game. It is indeed a fact that we have little game to eat and little to shoot. But we can have an abundance of game in the fields and on the market.

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Game farming can be done on a small scale, and as a side issue to regular farm work, or it is a profitable occupation in itself.

Women on the farm who are raising domestic poultry, will find it worth while to breed game birds as well.

When conducted on a large scale, a game farm produces sufficient income to be a paying business in itself.

But this subject is too big to be properly treated in this space. Every progressive farmer is sure to be interested in it. Write for the book, "Game Farming for Profit and Pleasure," which will be sent to you without cost. It tells of the subject in a most interesting and informative manner. Fill out the coupon below and a copy will be mailed you at once.

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## GETTING INTO PURE-BREDS

THE dairyman who has made a start in improving his cows by better breeding and better care and feeding, is frequently tempted to make a sudden change from grades to pure-breds. Good cows are essential to profitable dairying, but a sudden change to a pure-bred herd will involve the investment of a good deal more capital in order to secure the same production. It is a worthy ambition to desire a pure bred herd, but the best, safest, and most economical way to get it is to grow into it gradually instead of going into it by selling off all the grades and putting the proceeds into pure-breds. There may be exceptions, but for most men the safest plan is to make the change very gradually.

There are men who make a splendid success of dairy production but who fail completely when it comes to selling pure bred stock profitably. In view of the much larger investment in the pure bred herd, it is almost necessary to secure a part of the income from the sale of stock for breeding purposes. This is a phase of dairying that requires some special ability which all do not have. It is an entirely different proposition than feeding and handling a herd for high production and disposing of the product at a profit.

The very best breeding herds in the country have been started in a small way, beginning with only one or two pure bred animals. After a decision has been made as to what breed most completely fits the conditions, the first step in raising the standard of the herd is to keep production records on the grade cows, eliminating from the herd such as do not come up to a certain standard. The next step is to secure a pure bred bull of good breeding and raise the heifer calves from the best cows. It is becoming more and more difficult to buy good dairy stock on account of the increasing demand, and this is about the only way that a really highly productive herd can be developed.

The knowledge and experience acquired in developing a grade herd along the lines suggested, will be useful in handling the pure bred herd. After a good start has been made with the grades, it is usually possible to purchase a pure bred heifer or two as foundation for the pure bred herd of the future. If proper judgment and care have been used in selecting these pure bred heifers and a high class sire is kept at the head of the herd, it will require only a few years to build up a pure bred herd. As the pure bred heifers come into milk they can take the place, one by one, of grade cows that can usually be sold at good prices. In this way the change is made so gradually that there is no heavy expenditure of capital and the experience gained makes it possible to handle the better animals in such way as to get the largest possible returns.

We have observed instances where exactly this method has been followed in acquiring a good pure bred herd of dairy cattle.

Only a few weeks ago Harry Burger of Nemaha County, sold at a public sale sixty head of grade cows and heifers that had accumulated the past four or five years. One two-year-old heifer in milk brought \$152.50. The mother of this heifer had a record of 508 pounds of butter in one year, and sold for \$150. Young heifer calves brought an average of \$36 a head, and the yearlings sold for \$75 a head. It has been seven years since Mr. Burger started in to weed out the poor cows in his herd. Out of 23 head he retained only four after keeping records on them for a year. He has bought a few grade Holstein heifers and likewise a few pure-breds. In all he has spent \$2,740 for stock since he started to improve his herd. He sold \$970 worth of stock, including some pure bred bull calves, prior to this recent sale. The proceeds of the sale of grade stock recently sold, was about \$4,000. He now has on hand a herd of 30 head of registered cattle, including an exceptionally good herd bull. A conservative value on this pure bred herd would be \$5,000, and during that time he has been working into the pure-breds he has sold an average of \$1,500 worth of butter each year.

We would advise those who have the ambition to possess a pure bred herd, to go slowly. The first steps in herd improvement will bring increased profit.

When the finances and experience will permit, the one or two foundation animals can be purchased, and by this slow and safe method the desired pure bred herd will be obtained. We fear there are those who in their haste to get into pure bred herds, will find themselves with a heavy investment and a greatly reduced income because they are able to own only a few pure bred animals.

### Cream Grading Pays.

The Dairy Division of the Federal Department of Agriculture has recently been making some investigations on the results of cream grading in Iowa. This has brought out the rather startling fact that failure to grade caused a loss to the producer of over six cents a pound on butter fact. Of the creameries investigated, those that graded paid their patrons an average of 33.13 cents a pound, while those that did not grade paid 27.04 cents a pound.

This shows how the creamery must check back to the producer the results of delivering a poor quality of cream.

### Protein for Milk Cow.

Those who are feeding milk cows upon such feeds as corn fodder, prairie or timothy hay, and corn or kafir grain, should try the addition of a pound or two of cottonseed meal to the ration. Even when silage is fed, the addition of a concentrate rich in protein, will give surprising results to those who have never tried it. Protein ought to be grown on the farm as far as possible in the form of alfalfa, clover, or cowpeas. It can be grown usually more cheaply than it can be purchased, but there can be no heavy milk production without a plentiful supply of this nutrient, and if there is not an abundant supply in the form of farm-grown feed it should be purchased. If cottonseed meal costs \$35 a ton, or \$1.75 a hundred, the digestible protein it contains will cost at the rate of about four and three-fourths cents a pound, charging the whole cost of the feed to the protein. This nutrient purchased in bran at \$1 a hundred, will cost at the rate of over eight cents a pound. It can be readily seen that the cheapest source of protein is in the cottonseed meal. Some bran may be fed but it will be used as a means of lightening or diluting the more concentrated cottonseed meal and not in large quantities as a source of the protein required.

Early spring is a trying time in the feeding of cows giving milk. They become restless, and to keep them contented some special effort must be made to provide such addition to the ration as will make it more palatable and satisfying.

### Economy in Cow Feeding.

A dairyman who was in KANSAS FARMER office recently, asked that we suggest an economical ration for a herd of Holstein milk cows. He has good silage made from corn that would have husked about 40 bushels to the acre, and has plenty of high quality alfalfa stored in the barn where the cows are kept. Bran and molasses feed are the principal concentrates being fed at the present time, and they are being used in quite large quantities. He said it seemed as though the feed bill was entirely too high.

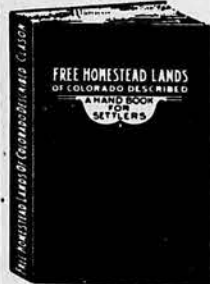
From an economical standpoint, these cows should be fed not less than 35 or 40 pounds of the silage daily. This is about the amount that can be carried in a bushel basket by pressing it down well and heaping it. The alfalfa will supply considerable protein and will help to balance the silage. It is the most palatable dry hay that can be fed to dairy cows. After they have eaten all they will of these two splendid feeds for milk production, some grain can be added with profit to cows of high productive capacity. The use of heavy rations of bran or molasses meal will not give as good results from the profit standpoint, as the use of a mixed grain ration consisting of four parts of corn chop, two parts of bran, and one of cottonseed meal, by weight. This grain should be mixed in quantities in order to economize on labor. On this farm there is a large feed room so that this can be conveniently done. This grain should be fed to the cows in proportion to their productive capacity. It is necessary to feed the animals as individuals, and to do this to the best advantage it is almost necessary to keep

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production records. Unless this is done there is no means of knowing whether the cow is responding to the grain ration or not. It is almost impossible to feed a herd of cows intelligently without having the milk record to use as reference.

### Colored Oleo Competes with Butter.

James H. Maurer, president of the State Federation of Labor and member of the Pennsylvania legislature for several years, gave to the secretary of the National Dairy Union the following statement for publication:

"For the past six years or thereabouts last legislative session of Pennsylvania. I opposed all proposed legislation which aimed to legalize the coloring of imitation butter by manufacturers or dealers. My objections are not based on any thought that coloring matter is unhealthy or that imitation butter is not fit for human consumption. My objection is solely an economic one. At present imitation butter, in its natural state, sells for from 18 to 22 cents a pound in Pennsylvania, while the genuine dairy product costs 36 cents a pound. The purer the imitation is, the writer it is. If the manufacturers and dealers in the imitation article were permitted to color their product, the imitation would be complete, so much so that nothing short of an analysis would reveal its component parts. This is, at least, true of the great majority of consumers.

"The imitation article, therefore, like any other imitation which closely re-



FINE PROSPECT FOR HERD BULL—NOT ENOUGH OF THIS KIND TO GO BOUND

sembles the genuine, comes in direct competition with it. Once we allow it to be colored, its price will begin to soar dangerously close to the real article and, as a consequence, the consumer who is now buying oleomargarine, or butterine, for 20 cents a pound, will pay the advanced price.

"One thing sure, the farmer never could hope to compete with the manufacturers of the imitation article. As a result, many of the dairy farmers would be compelled to go out of the dairy business and turn their farms to raising something else. And just as fast as this happened, the price of the imitation article will rise until finally the great packing companies will have a monopoly, then the consumer will pay more for the imitation article than we are now paying for the genuine. Besides, the imitation will, most likely, not be as pure as it is now, if colored, because the purer, the whiter, and the consumers know this. When colored, a certain amount of impure, foreign matter may be used and cannot be detected by sight because of the coloring.

"On the other hand, if the farmers cannot find a profitable market for their milk and turn their farms to other products, it means the starving of their land, as fertilizer's cattle are the life of soil.

"Therefore, looking at the question from every angle possible, I can see but two reasons why some dealers and manufacturers want a law, giving them the right to color in imitation of butter, their product; one is to charge more for their product, and the other to give them a monopoly of the butter market.

"Let oleomargarine and butterine and all other substitutes stand on their own feet and sell for what they are and not for what their manufacturers can make people believe they are."

Kansas lost \$2,745,803 because of fires in 1915 as compared with a loss of \$3,411,224 in the previous year, according to the annual report of L. T. Hussey, state fire marshall. The total number of fires in the state was reduced from 2,974 in 1914 to 2,445 last year.

In rush seasons keep busy at the most important tasks, but do nothing today that can be put off until tomorrow. In slack times the reverse should be the practice—"never put off until tomorrow what can be done today."



## It costs less to buy a DE LAVAL than to buy experience

EACH year some 40,000 farmers, who have bought at one time or another "cheap" cream separators, discard their inferior, cream wasting machines and replace them with clean skimming De Laval.

These men bought the "cheap" machines because they thought they were "good enough" or "just as good" and that by purchasing such machines they could save a little money. They actually would have been better off in most cases had they bought no separator; for they lost most of the money they spent for the "cheap" machines, besides all the cream these machines have failed to get out of the milk.

No one ever saved money using a "cheap" cream wasting separator or an old or half worn-out machine. No one ever got back the money spent for such a machine by continuing to use it. Those who bought "cheap" machines and got out of the difficulty best are the ones who quickly discovered their mistake, discarded the inferior machines and put in real cream separators—De Laval.

There are nearly 2,000,000 farmers who have bought De Laval, and every one of these had just as many opportunities to buy "cheap" separators as any one else. They did not do it and are now money ahead. They have avoided paying the high cost of experience, and their De Laval have paid for themselves many times over. It always pays to buy a separator of proved, known superiority.

The nearest De Laval agent will be glad to let you see and try a De Laval on your own farm, without obligating you in any way. It is better to take advantage of this opportunity than to pay dearly for your own cream separator experience. If you don't know the local De Laval agent, simply address the nearest main office as given below.

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## Persistence In Live Stock Farming

**L**IVE stock farming has had its ups and downs and prices are none too satisfactory now on fat cattle, but taking it all in all, it has been the only safe type of farming to follow year in and year out.

An Oklahoma live stock farmer was recently selling some steers in Kansas City, and while there he made the statement that he had made it an established rule on his farm never to sell any corn or other feed. For ten years he had followed this rule. He was growing alfalfa and a great deal of such rough feed as kafir and cane. All of this was fed to cattle. Hogs and cattle combined have been the sole market for the crops of this farm during these years. He has not had a total corn failure in this time, and even if he had failed to grow a profitable crop of grain, the cattle he was growing would have marketed the forage produced at a profit.

The advantages of live stock farming are admirably stated in a recent Wisconsin press bulletin: "Live stock pays because it makes farming permanent. It returns highest price for farm crops; it furnishes market for waste feeds; it reduces the bulk of marketable crops; it distributes labor throughout the year; it means cleaner farms; it makes income steady; helps to keep the boys on the farm; and makes farm life more pleasant."

### Diseases and Parasites.

The prevention and cure of hog disease are always more readily accomplished where cleanliness and sunshine prevail. Probably the commonest and worst troubles of hogs are hog cholera, internal parasites, and lice. The farmer should make a thorough study of the methods of preventing and treating these troubles. This study should be made by consulting state and federal authorities, who will gladly give information on the subject.

If the hogs are already wormy, turpentine can be given in the slop each morning for three mornings at the rate of one teaspoonful for each 80 pounds of live weight. Turpentine, however, is not very efficacious, and is liable to injure the kidneys.

Santonin, which was formerly widely used as a remedy for worms in hogs, is practically unobtainable at the present time owing to foreign trade conditions. The following treatment has been found to be very effective. Withhold all feed and water for 24 hours, then give each pig a tablespoonful of castor oil to which has been added oil of American wormseed as follows:

Small pigs 2 to 3 months old, 35 drops; pigs weighing 50 to 100 pounds, 50 to 100 drops; larger pigs, one teaspoonful.

Each pig should be dosed separately if the best results are to be obtained. In case separate dosing is impracticable on account of lack of assistance or other circumstances, the pigs may be sorted out into lots of half a dozen each according to size. Thoroughly mix the castor oil and wormseed oil in proper quantities with a small quantity of milk or mash, and give it to the pigs, watching them carefully to see that none gets more than his share. Attempting to dose too many pigs at the same time in this manner will result unsatisfactorily, as some will get more and others less than they should. This treatment should be repeated in a week or ten days to secure 100 per cent efficiency.

Crude oil makes an excellent dip for hogs. It can be mixed half and half with water and sprinkled on with a sprinkling can. Kerosene oil emulsion is another excellent thing to rid the pigs of lice.

### Hogs Profitable.

In spite of the fact that prices of hogs have been unsatisfactory the past two months, we cannot afford to drop this animal from our farms. Hogs require less labor, less equipment, less capital, and make greater gains on a given amount of grain than does any other animal. They reproduce more rapidly and in larger numbers, and come to maturity quickly. With all these advantages, hogs will continue to be mortgage lifters, even though prices have been unsatisfactory during short periods.

The farmer growing hogs must study closely market requirements. He should plan to have his hogs ready when they are most in demand. The bulk of the hogs go to market in winter. The

market is nearly always higher for a month or two in advance of this heavy movement of the hog crop. As a general thing, the hogs of lighter weight bring the best prices. This is an advantage to the producer because from the standpoint of feed, the most economical production is that up to about 200 to 225 pounds in weight. The last 100 pounds always cost more in feed, and beyond the 300-pound weight it is seldom profitable to carry hogs.

The hog grower should learn how to get his hogs on the market at an age of six or seven months weighing 200 pounds, and finally, if he would make the hog business pay, he must follow it as a regular business each year instead of attempting to follow the market. It is a poor time to close out when market prices are low. The reaction will always come later, and then the man with no hogs will wish he had some.

### Sow at Farrowing Time.

Farrowing time is one of the most important times of the year for the breeder of swine. Often a man destroys his chances of success by neglect at this time. While the number of pigs a sow farrows is important, the number she raises determines whether she is being kept at a profit or loss. A sow that farrows five pigs and raises all of them is more profitable than one which farrows fifteen but raises only two or three. The disposition of the sow has much to do with the number of pigs she will raise, but proper care at farrowing time is also an important factor.

A week or so before she is due to farrow, the sow should be removed from the other sows and placed in the quarters where she is to farrow. It is best to feed her a ration high in protein and rather laxative in its nature, similar to the feed she is to receive while suckling her pigs. At the Missouri Agricultural Experiment Station good results have followed the use of a ration of corn, fifty per cent; shorts, twenty-five per cent; bran, fifteen per cent; and linseed oil meal, ten per cent—all by weight. As the farrowing date approaches the ration should be reduced somewhat. This will bring the sow up to farrowing time in good condition. She will not be so feverish and restless, and there will be less danger of her mashing her pigs when she farrows.

An important precaution to be observed in caring for the farrowing sow, is not to supply her with too much bedding; a bushel of wheat chaff or cut straw is enough. The danger of supplying too much bedding is that the pigs will be covered by it and be smothered or crushed. It may be necessary to change the bedding after the sow farrows, but the amount should not be increased.

The less a sow is disturbed at farrowing time the better, and for that reason she should be kept separate from the other hogs. While some one should be on hand, unless she needs assistance, it is best to keep away from her. If it does become necessary to help her, do it as quietly as possible.

The pigs should not be chilled before they have dried off and suckled, so if the weather is cold a lantern hung in the top of the cot will be of service. If the sow is gentle it is well to take each pig away from her as soon as it is farrowed and place it in a box or barrel containing some hot bricks covered with old sacks. After the hogs have dried off and are lively enough, they may be put with the sow. In case the pigs become chilled, the best way to revive them is to dip them in hot water.

As the pigs are not able to take much milk, the flow should not be stimulated for a few days. Give the sow plenty of water, as she is in a feverish condition, but take the chill off of it if the day is cold. It is not necessary to feed the sow for a day or two, and the first feed given should consist of a small amount of thin slop, which should be gradually increased as the pigs become able to take more milk. In two weeks time she should be on full feed, which should consist of a good, laxative, milk-producing feed. There is no better way of feeding the pigs than through the mother, so feed the sow for the greatest amount of milk.—Circular Missouri College of Agriculture.

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# Destroy Spring Cankerworm

By GEO. A. DEAN, K. S. A. C.

**T**O make a successful fight against the spring canker-worms, too much emphasis cannot be laid upon the necessity of beginning promptly. If the banding method is used, the bands must be on the tree early enough to catch the wingless female moths as they crawl up the trunk. This takes place during the first warm days of February or March.

Last spring the elms and some of the other shade trees over a large portion of Kansas were partly, and in many cases completely, defoliated by the canker-worm. The injury done by this worm was not confined to the shade trees, for many apple orchards were also seriously injured. Many shade and orchard trees were killed outright, while others were weakened and rendered susceptible to the attack of wood borers. Yet, notwithstanding this serious loss, many failed to realize the importance of combating the insect until it had done a large part of its destructive work. At this time it cannot be stated definitely just how seriously they will be during the coming season, but they are almost certain to prove serious, and every effort should be made to prevent them from injuring the trees.

## METHODS OF CONTROL.

A simple method of control, and one that gives excellent satisfaction, consists of banding the trunk of the tree with a sticky substance to prevent the ascent of the wingless females. This is practical for shade trees or small orchards. The best way to do this is to smear the sticky substance on bands of heavy paper, such as building paper or tarred paper, bound to the trunk of the tree. The paper bands should be put on during the first warm days of February or early spring, and the sticky substance renewed whenever it hardens. In order to close all crevices between the tree and the band, a strip of cotton batting—(cheapest grade)—about two inches wide should first be placed around the tree, and this covered with the band of tarred paper. The paper should be drawn snugly enough to press the band of cotton into the crevices. The band can be fastened at the end with three-pointed tacks about three-fourths of an inch long.

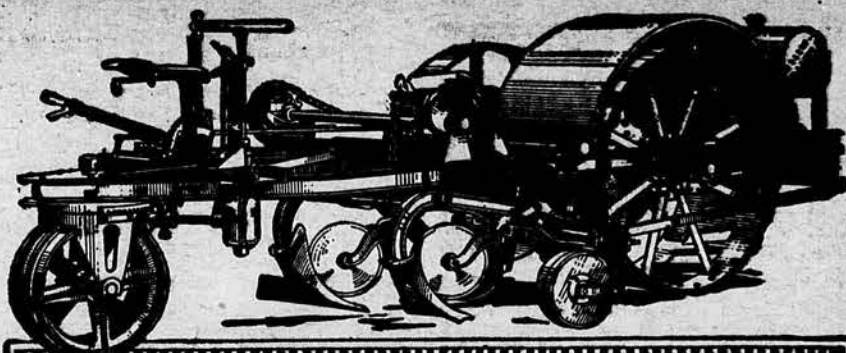
If the paper band is made wider than the narrow cotton one it will completely cover it, and the unsightly appearance of cotton showing either above or below the edges of the paper will be avoided.

A number of substances of a sticky nature may be used, such as pine tar, coal tar, printer's ink, and dendrolene, but the best substance, and one that remains sticky for the entire season, is "Tree Tanglefoot," a preparation sold on the market for this special purpose. The "tanglefoot" should be spread upon the band with a wooden paddle, leaving a smooth coating about one-eighth of an inch thick. On badly infested trees it is sometimes necessary to renew the sticky substance frequently to prevent the females from crossing the bands over the dead bodies and wings of males, which may completely cover the sticky portion of the band.

The use of the sticky bands is especially recommended for large elms or other shade trees that would be difficult to spray. If the sticky substance is applied directly to the bark it will show as a disfiguring mark for many years, while if applied to bands of paper as described, the band can be removed from the tree at any time without leaving any sign or scar. Moreover, so much more of the "tanglefoot" is necessary to fill the cracks of the rough bark in making an efficient barrier that the cost will be as great as where the bands are put on.

## CONTROL BY SPRAYING.

The caterpillars may be quickly destroyed by spraying the trees with arsenate of lead, using from two to three pounds of the arsenate to fifty gallons of water. This method is recommended for orchards and small shade trees. The first spraying should be done as soon as the foliage is partly expanded and before the trees bloom, and the second spraying should be given as soon as the blossoms fall. In other words, if the apple trees are thoroughly sprayed for the control of the curculio and the codling moth they are never seriously injured by the canker-worm. Usually the first spray, which is called the cluster-cup spray, is the more important, as the caterpillars are much more easily killed when young.



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## Which One Is Right?

DOCTORS disagree; doctors of medicine, doctors of divinity, and doctors of poultry. Not long ago at a poultry show a lecturer stated that the feeding of animal food to hens does not help egg production, that all they needed was plenty of grain. Now comes Professor Kempster, of the Missouri Agricultural College, and states: "Milk or meat in the ration makes all the difference between profit and loss. We know this from our tests at the experiment station and from the experience of poultrymen everywhere. We got 945 eggs from a pen of hens that ate no animal food, while another pen of hens, no better in any way, but fed sour milk, laid 1,783. Those fed beef scrap laid 1,802 eggs. While the latter is a higher record than either of the others, the sour milk is so much cheaper and easier to get on most farms, that we recommend it most highly. At 20 cents a dozen, the eggs from the hens fed sour milk brought \$29.71, and those from the hens fed beef scrap \$30.03. The difference wouldn't begin to pay for the extra cost and trouble of beef scrap. The big thing to remember is that the hens fed no animal food brought little more than half as much money as those fed animal food. Now this is real proof, and should outweigh all mere statements of 'I say so,' or 'I think so.' A good sour milk ration is four parts of corn, two parts of wheat, one part bran middlings, one part corn meal, and plenty of sour milk, separately. Give a hundred hens two and a half gallons of sour milk and from nineteen to twenty-five pounds of other food per day."

See that the hens have nice, clean nests wherein to lay their eggs.

Some hens acquire the habit of remaining in the nest boxes at night, instead of being on the roost. They foul the nests, and when other hens go to laying, the eggs become dirty. You should see that such hens are kept out of the boxes.

A hen hates to lay in a foul nest, but when no other is provided, she is compelled to use the dirty one, and soiled eggs are the consequence. No matter how much you wash a dirty egg, it never looks like a fresh one.

It is a good thing to have all things in readiness when the hatching season commences, for spring will come with a rush and find us unprepared, unless we calculate ahead. The brood coops, water fountains and feed troughs should all be cleaned, and be in readiness for use when wanted.

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

Extra care and attention must be given to the early broods of chickens, such as to feed them often and see that they are well protected from cold and storms; but you will be well repaid for this extra trouble when the fall and winter shows come, for it is invariably the early-hatched chickens that carry off the blue ribbons.

It will pay to gather the eggs many times during the day. If they are left in the nests until evening, there is always danger that they will be broken, and the hens will then eat them, thus forming the egg-eating habit. After a hen once acquires this habit, it is almost impossible to break her of it, and it is better to kill her at once.

The farmer who allows his fowls to drink impure water is inviting disease into his flock. It costs but little to have earthen or iron drinking vessels, and in these the water can be kept clean and pure. Plenty of pure water should be at the disposal of the chickens at all times. It is not enough to say there is plenty of water for them out of doors, in the horse trough or hog trough, and other places. Probably the water in these other places is foul and full of disease germs; but if the hens have no other, they are forced to drink it. Don't let them do it.

The dust bath is to the fowl what the wash bowl is to the individual. With the dust bath the hen cleanses her body; it is soap and water to her. She comes as regularly to dust herself as she does to feed, instinct teaching her that it is the best method for ridding herself of lice. If she has free range, where there is plowed ground or soft earth, she will find a place to dust herself, but if confined to pens she must be provided with a place and material wherewith to keep herself clean. Some provide coal ashes, some use road dust. Either will answer the purpose, though as a rule these materials are too dry. If you will notice a hen dusting when she has free range, you will find that she seeks a place where it is shady, and where the dust is moist. The moist earth seems to cling to the feathers longer than the dry dust and is therefore better, for it acts as a preventive of lice. There is such a thing as clean dirt, and there is no better deodorizer than the fresh earth of the field. It is a good thing to sprinkle a few drops of carbolic acid in the dust box. If you will see to it that the hen has the proper material wherewith to clean herself, she will avail herself of the means, and thus solve, in a great part at least, the lice problem.

On the general run of farms it would not be advisable, nor would it be as profitable, to keep the poultry in pens as to let them have free range. There is such a large quantity of good feed lying around every farm that it would pay to keep chickens just to pick up this waste feed. So a flock on free range is almost imperative on most farms. But the custom of using the eggs for hatching from the promiscuous flock is not a good one. At least one pen of chickens should be kept apart for breeding purposes. A dozen or fifteen of the best hens should be selected, with the best male obtainable, and kept in a yard, apart from the general flock. Even if the hens are but graded stock, in time, by selections of the best layers, a good strain of fowls can be secured, whereas if eggs from the general run of the flock are used for hatching purposes, a deterioration of the quality is likely to ensue. A still better plan than to raise chickens from graded fowls, is to buy a pen of pure-bred fowls, keep them penned up and raise all the pure-breds this season, then sell off the graded or scrub chickens and keep nothing but pure-bred fowls hereafter. Even from one pen of fowls, several hundred chicks can be raised in one season. A cheaper way of getting a start in pure-bred poultry would be to buy two or three hundred eggs this season of some breeder of pure-bred fowls and hatch and raise as many of them as you can. Then sell off all your scrubs, and be ready to raise pure-breds yourself next season.

### Two-Day Poultry Schools.

From March to October the extension division of the agricultural college is offering to conduct schools, where they are desired, for giving instruction in poultry growing.

Poultry breeds and breeding, incubation and brooding, housing, egg production, marketing of poultry products and the preparation of poultry products for the table, will be emphasized in these schools. The course will consist of four two-hour periods, and during each period one lecture and one demonstration will be given.

The requirements for securing a school of this kind are as follows:

1. Organization of a class of not less than twelve men and women paying a membership fee of not less than fifty cents apiece.
2. The pledging of \$6 to pay part of the expenses of the instructor.
3. Provision for a room in which to hold the school. This may be a room in a private house, schoolhouse, church, public hall, or meeting place.
4. Furnishing the following demonstration material:
  - a. First First Afternoon—Two birds each of the chief breeds and varieties of chickens grown in the community. Only one class of white fowls is wanted.
  - b. First Afternoon—One-half dozen fresh eggs, raw, and one-half dozen fresh eggs to be hard boiled the first day of the school. One laying hen to be killed and picked during the noon hour of the

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E. J. Reefer, the poultry expert, 4632 Farmer Bldg., Kansas City, Mo., is giving away free a valuable book entitled, "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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first day of the school. One half-dozen small saucers.

c. Second Afternoon—Four or five cockerels, weighing 1 1/2 to 2 pounds each. Cockerels of Leghorn, Minorca and similar breeding are not wanted. These cockerels should not be fed after noon of the first day of the school. A small bowl or cup and a small sponge are also needed.

d. Second Afternoon—Two chickens, one of which should be young, not weighing over 2 or 3 pounds, the other may be either a heavy cockerel or a hen. These will be used for dressing work and may be used for food after the demonstration. Three towels and a pan and a pail for refuse material are needed.

e. One small blackboard and twenty-five yards wrapping paper, about two feet wide.

The secretary in charge of the school should arrange to have the material mentioned on hand when needed.

Any local organization, such as a county farm bureau, farm and home institute, farmers' union, grange, or other organization in which the farmers of the community are interested may promote the school. Where no one organization promotes the work, representatives from various organizations or individuals on their own initiative may take the necessary steps for securing a school.

The first step is to prepare a petition for the school addressed to the Division of Extension, Kansas State Agricultural College and to secure the signatures of not less than seven responsible citizens who agree to work for the success of the school and to guarantee the necessary financial assistance and demonstration material.

The signers of this petition become the first members of the school. They should elect an executive committee consisting of a president, secretary and treasurer, and at least two additional members, with full authority to secure and conduct the school. This committee should look to the necessary local arrangements, do the necessary advertising, secure the required registration and collect funds, provide the room in which the school is to be held and supply the materials necessary for demonstrations. Sometimes subcommittees may be appointed, such as finance committee or membership committee.

After the petition has been received the date for the school will be assigned, the wishes of the community being given every consideration possible.

### Constant Culling Necessary.

L. C. Horst of Harvey County says it took years of constant culling to get his flock of Dark Cornish chickens up to their present standard. In telling of his methods, he says:

"We first bought eggs to improve our flock, but the results were rather poor. Then we bought some stock from those who claimed to have the best, but were more or less disappointed with what we got for the money spent. We kept on, however, and by always saving the best and eating or selling the culls, we began to see that our flock was gradually improving.

"When we first began we tried hatching with hens, but soon wearied of that happy-go-lucky method. We then tried having them hatched in incubators, bringing the chicks home only to see them drop off by twos and threes until sometimes we lost them all. We did not know how to run a brooder and it was only by keeping at it and constantly studying artificial methods, that we finally attained success. When we finally got our first incubator, which was of small capacity, we soon found that it would not do the work alone. When we started in to help, we got some chickens, and we had learned by that time how to raise them better than could the hens. We now keep the chicks in a good brooder for from two to four weeks. They then are moved to fireless hovers out of doors. They must be hatched early and pushed from the start, as they must be strong and well developed before the hot weather comes. Hot weather is as bad for chickens as is cold or wet weather. In the hot weather we get them out under the trees, as it is the best place for them. When cold nights come on we put them in an open front house where they stay all winter, with plenty of straw to keep them busy scratching.

"We have never been bothered much with lice and mites. Close-feathered fowls seem somewhat immune and we find that if we give a reasonable amount of attention to keeping down these pests they cause little trouble.

"We feed a variety of grain and give the chickens all the range they want, and in the winter when they cannot get green feed outside, we sprout oats for them and feed them chopped potato peel-

ings and cabbage or beet pulp, with a little salt and chop mixed with it. We also feed fresh-cut bone through the winter and keep oyster shells and grit before them."

### Good Foundation Stock Important.

C. K. Whitney, of Sedgwick County, who breeds Ancona chickens, says it does not pay to buy "scrub" stock. There will be plenty of this kind to cull out even when breeding from the best foundation. Mr. Whitney says:

"It is not necessary to pay big, fancy prices, but you must get good stock or eggs from good stock.

"We plaster the inside of all of our hen houses. Every breeder who visits our place comments on this. We find it keeps them warm and after they have been whitewashed on the inside they are practically insect-proof. We use the ordinary stucco plaster, adding about 10 pounds of cement to 100 pounds of plaster. We do this work ourselves, and find it costs us less than almost any other way we could finish our houses."

### Light Brahmas Good Winter Layers.

Mrs. Frank Wasson, Cowley County, has made quite a success with the Light Brahmas. She says:

"I purchased in the spring of 1910 a dozen hens and a rooster from a breeder who had raised this breed exclusively for more than twenty years. This stock was excellent and I raised a nice flock the first season. Each spring I cull the hens very closely and retain only the very best of the roosters. I do not buy cheap stock at all.

"We hatch our chickens with incubators and raise them in a brooder. I have tried both the hens and the brooder plan and find that the brooder gives me the best results, as I have no trouble from lice or mites.

"I do not feed the chicks until they have been hatched about forty-eight hours, and then give them only chick feed, sand and water, for the first two weeks. Later I give them cracked kafir. If one will follow this rule he will have no trouble in raising little chickens.

"We always have eggs in the winter time and we find this breed excellent for table purposes."

### Raising Prize-Winning Brown Leghorns.

W. J. Roof, Sedgwick County, writes that he has raised Brown Leghorns for twenty years, but only in recent years has attempted to show any in the poultry shows. After considerable study of the standard requirements, he finally bought some stock from a breeder of high standing. The price was high, but in considering the results Mr. Roof says he can see that it was the right thing to do.

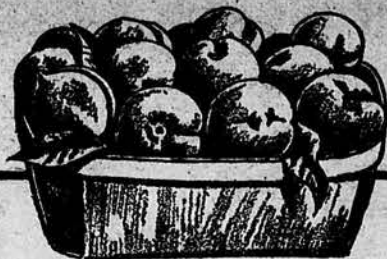
"Buying a dollar rooster or dollar sitting of eggs will never put one to the front in the show room. I hatch my chickens with incubators and now use brooders for raising them. I made the mistake of not getting a brooder when I first started to hatch with the incubator. As a result I lost quite a few chickens from crowding in the coops—sometimes as many as twenty-five that would weigh as much as a pound and a half apiece. Since using the brooders I have overcome this difficulty and am now raising them with great success.

"I have never taken much time in preparing my chickens for the show room. They have the run of the farm and can get plenty of green wheat and alfalfa and can scratch in the barn and barnyard and they usually keep themselves in good condition. I feed them bran, oats, corn, and buttermilk, and when I get ready to make selections for the show room I use my best judgment."

The low acre yield of corn in Kansas is due mainly to the attempt that has been made to grow corn under conditions of climate and soil to which it is not adapted to a lack of proper rotation of crops, and to the depletion of the fertility and humus content of the soil.

Corn should not be grown in the same field continuously. Many weeds are especially difficult to control in corn fields. If other crops, such as alfalfa, clover, and small grains, are occasionally grown, the weeds are more easily controlled, and many of the insects which feed on the corn but not on these crops, die of starvation.

Wisconsin now boasts of having more cow testing associations than any other state in the Union. She has forty-five associations that have a total membership of over 1,200 dairymen and 25,000 cows. The highest average production for any association is held by Sheboygan County with 8,279 pounds milk and 298 pounds fat per cow.



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A. D. FOLKER - MANKATO, KANSAS

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Do you want to move to Topeka to educate your children? If you do, this modern five-room home near Washburn College will just suit you. New, only occupied ten months. A choice location. Must sell quick. \$3,200 takes it. Address S. CARE KANSAS FARMER, TOPEKA.

#### TWO BIG LAND BARGAINS

160-Acre Well Improved Farm—80 acres cultivated, balance pasture and meadow; 1 1/2 miles good high school town; good soil; big snap. Worth \$75. Priced at \$45 per acre for quick sale.

210-Acre Alfalfa Creek Bottom Farm—40 acres now in alfalfa. Some fine walnut timber. 160 acres as good soil as there is in Kansas. Price only \$60 per acre. Come at once and see these farms.

M. T. SPONG - FREDONIA, KANSAS

#### 320 Acres Fine Unimproved Wheat Land in Scott Co.

This half section is every foot smooth land, only eight miles from Griggsby. This is school land. \$1,400 can run for twenty years at 6 per cent interest. Price, \$10 per acre.

D. F. CARTER - LEOTI, KANSAS

#### FOR SALE BY OWNER

Eighty acres of good land in Nowata County, Oklahoma, six miles southeast of Coffeyville, Kan., big town; school house just across the road. Write me for full particulars. Address J. L. ALLEN - LINCOLN, KANSAS

DAIRY FARM—Forty acres, one mile from Emporia. Fine equipment; 20 full-blood Holstein cows; \$400 a month sales. Price right. Write for list of farms for sale. T. B. GODSEY - EMPORIA, KANSAS

#### FOR SALE

The best farm and buildings in Lyon County, consisting of 250 acres. Either as a whole or in 40-acre tracts. 1 1/4 mile west of the city limits of Emporia. Address H. D. NUTTING - EMPORIA, KANSAS

#### FOR SALE

480 Acres Pasture and Fruit Land, 4 miles city 4,000, this county. Bought from government. \$2.35 per acre, some terms. SOUTHERN REALTY CO., McAlester, Okla.

BOW CREEK VALLEY FARM. 160 Acres Farm, 8 miles Logan; 90 acres cult., 70 acres second bottom land, four-room house, fair outbuildings, shallow to water. Price, \$30 per acre; \$1,000 will handle. Other good Phillips County lands. McAULEY & ELDRED, LOGAN, KANSAS

#### FOR SALE

A non-resident has ordered sold at rock bottom price, 160 acres, Trego County pasture land. Title perfect. This will bear close inspection by those who have money to invest. For description, write the agent. C. M. BELL, Box 106, Utica, Ness Co., Kan.

160 ACRES, ONE MILE FROM TEXHOMA. Improved, all farm land; 80 acres in cultivation, balance in pasture. Fine location for home. \$3,500. SCRIBNER-WHITE & CO., Texhoma, Okla.

#### Virginia Farms and Homes

Free Catalogue of Splendid Bargains. B. B. CHAFFIN & CO., Inc., Richmond, Va.

#### Beacon Burner FREE

FITS YOUR OLD LAMP. 100 Candle Power Incandescent pure white light from (kerosene) coal oil. Beats either gas or electricity. COSTS ONLY 1 CENT FOR 8 HOURS. We want one person in each locality to whom we can refer new customers. Take advantage of our Special Offer to secure a Beacon Burner FREE. Write today. AGENTS WANTED. HOME SUPPLY CO., 38 Home Bldg., Kansas City, Mo.

#### New Feather Beds only \$5.40

6-A. Values \$1.00 per pair. New, Clean, Odorless, Sanitary and Dustless Feathers. Best Ticking. Satisfaction guaranteed. Write for catalogue and our wonderful FREE OFFER. SOUTHERN FEATHER & PILLOW CO., Dept. 1136 GREENWOOD, N. C.

#### SCHOOLS AND COLLEGES

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Students Earn Board while Learning. A practical school with railroad wires. Owned and operated by A. T. & S. F. Ry. Earn from \$25 to \$100 per month. Write for catalogue. Santa Fe Telegraph School, Desk F, 505 Kansas Ave., Topeka, Kan.

—OTTAWA—  
**Business College**  
OTTAWA, KANS. CATALOG FREE

#### A Modern Topeka Home

##### TO SELL AT A BARGAIN

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

BOX 5, Care KANSAS FARMER

#### A New Crochet Book Edgings and Insertions

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

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

#### LANE COUNTY BARGAINS.

Improved 800 acres level land, close to market, \$21 per acre. Improved 480 acres level land, \$20. Choice location. Get a list. C. N. OWEN - DIGHTON, KANSAS

GENUINE BARGAIN—Quarter section 3 1/2 miles from market, no buildings; 120 acres in wheat; average rental for three years, over \$360. Surrounding lands, \$40 an acre. This goes for \$30 for quick sale. Terms. No trade. JAS. H. LITTLE, LA CROSSE, KANSAS

#### WESTERN COLORADO GRAIN AND CATTLE RANCH

Ideal small cattle ranch near Glenwood Springs, Colo., in one of the best potato, grain and cattle districts of the West. Rich soil. Open range for cattle. Excellent transportation. Live towns, good schools and churches. Ranch contains 160 acres, 100 acres under cultivation. Good improvements, including some stock. Ranch ready for spring crops. Investigate it before the growing season opens. Price, \$16,000. Liberal terms. ADDRESS P. O. BOX 575, SALT LAKE, UTAH.

Advertisers in Kansas Farmer are reliable and sell dependable merchandise. Tell them where you saw their ad.



## Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

Ah, how skillful grows the hand That obeyeth Love's command! It is the heart, and not the brain, That to the highest doth attain. And he who followeth Love's behest Far exceedeth all the rest! —Longfellow.

If you are going to varnish any furniture this spring, be sure to rub the wood with fine sandpaper to give it a smooth surface before applying the varnish. See that the brushes to be used are soft and of a good quality, else the varnish will dry streaky.

Silver or gold jewelry may be satisfactorily cleaned by adding a teaspoonful of ammonia to a cup of water and applying with a soft cloth.

When grinding bread crumbs, slip a quart fruit jar over the outlet of the grinder as far as possible and hold it there while grinding. In this way all of the crumbs will be caught, instead of a lot of them flying around the room to make extra work in cleaning up.

Sometimes the most careful washing will not remove the flavor and odor of food from the utensil in which it was

cooked. This is frequently the case with fish, onions, cabbage, etc., but there is a remedy which, while it may be a little trouble, is well worth trying. After all of these articles have been cooked, wash the dish well with soap and water. Then nearly fill it with cold water, and for each quart of water add about one tablespoonful of dissolved washing soda. Place the saucepan on the fire and let the water get boiling hot. Now pour the water into the sink. Rinse the utensil with clean water, and on wiping it dry it will be found perfectly sweet.

Old corks should never be thrown away as worthless, because, when they are too cracked or broken to be of use in any capacity where soundness is essential, they are excellent fire lighters; and, although they are very combustible, when a sufficient number have been collected to make it worth while they may be rendered additionally combustible by steeping them in kerosene before storing them away in cans. A suitably sized cork with a pin driven through it constitutes a capital and absolutely immovable "save-all" for candlesticks, permitting the tiniest pieces of candle to be

#### FASHION DEPARTMENT — ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7568—Children's Rompers: Cut in sizes 2, 4 and 6 years. Linen, gingham or percale can be used for these rompers with the trimming of braid. The rompers close at the front and may be made with either the long or short sleeves. No. 7536—Ladies' Skirtwaist: Cut in sizes 34 to 42 inches bust measure. Any of the pretty flowered materials can be used for this waist. The neck is finished with a frill of lace and there is a seamless yoke. The long sleeves are finished with a narrow band. No. 7546—Girls' Dress: Cut in sizes 2 to 10 years. This pretty little dress is very simple and easy to make. It closes at the back and can be made with or without the trimming bands. The plaited or gathered skirt may be used. Plain serge may be used for the dress with the trimming of striped material. No. 7539—Ladies' Maternity Dress: Cut in sizes 34 to 42 inches bust measure. Any of the pretty flowered woolen materials can be used to make this dress, with the collar and cuffs of plain material. The dress has the empire waistline with front closing. The sleeves may be long or short. No. 7553—Ladies' Skirt: Cut in sizes 22 to 32 inches waist measure. Striped serge or broadcloth can be used for this skirt. It can be made with or without applied yokes. High or regulation waistline may be used. No. 7577—Ladies' Apron: Cut in sizes 34 to 44 inches bust measure. Linen, gingham or chambray can be used to make this practical apron. The apron closes at the front and may be worn with or without a dress. The sleeves are very short.



used to the last. If a looking-glass loses its "grip," nothing answers more satisfactorily to keep it in position than a small cork fastened, by a ribbon or cord, to the support and inserted between it and the glass at a point which will insure the right tilt. A slice of cork glued to each of the back lower corners of a picture frame on a wall that is liable to be damp at times keeps the frame from actual contact with the wall and prevents damage to valuable paintings and engravings.

Our greatest glory consists not in never falling, but in rising every time we fall.—Goldsmith.

#### "Some Day" Losses.

We are all guilty of having put off some little pleasure until "some day" when we would have more time. The opportune time for the pleasure seldom comes, and we are the losers.

Or, perhaps it is a kindness that will bring pleasure to another, that is left for the future, because we feel we cannot now spare the time for it.

Let us check in these pleasures for others and ourselves by doing a little more hurriedly the routine work that stands between us and many things quite as necessary as the daily cares.

#### Study of Baby Necessary.

Every week should be a better babies week, and every household blessed by the presence of a baby, should be organized to protect his best interests.

Baby has many needs—though for the most part these are very simple—and they should be understood and supplied. If the baby is neglected, he cannot de-

velop into as robust a child as he would have under more favorable conditions. The baby that is below normal in some respects, at birth, but is understood and cared for intelligently, has a much better chance in every way than has the physically better child whose needs are not understood and therefore neglected.

The little life can well be compared with the intricate, delicate machine, every part of which must be in good running order if the work expected of it is accomplished.

We cannot believe any mother would knowingly neglect her child, but there are many mothers who, through lack of knowledge, are doing things which are robbing their babies of vitality, growth, and development, and which will hamper them through life.

Are you caring for your baby in accordance with the custom that has been handed down from generation to generation without regard to individual differences in children, or have you made a study of this important subject and your baby, which enables you to know why certain methods are best?

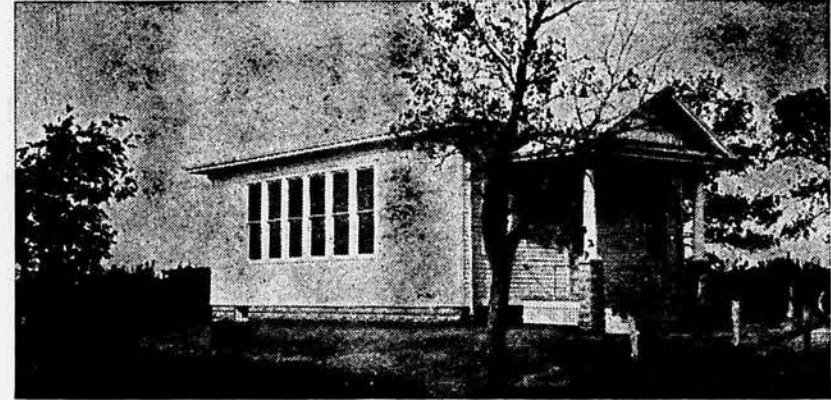
The object of a campaign for better babies is not to kindle the mother-love for her babe. This will never be necessary. It is to acquaint the mother with right and wrong methods and the importance of choosing wisely in this matter.

Nor should the whole responsibility rest with the mother. The fathers should join in the study also, and all who have it in their power to better the conditions influencing the lives of these little helpless creatures.

#### Right Use of Money a Habit.

We learn to do a thing by doing it. The man or woman who has never had the use of any money until grown, should not be expected to use it judiciously.

The child who has an allowance that must cover certain necessities as well as his frivolities, will soon learn to take care of the necessities first, and to carefully plan the way the money shall be spent.



THIS IS ONE OF THE COUNTRY SCHOOL BUILDINGS IN FRANKLIN COUNTY.—THERE IS INSPIRATION IN SUCH ENVIRONMENTS

legitimately earns his spending money. By this, we mean if he receives it in pay for doing things which do not rightly belong to his regular duties. It is a valuable part of the child's training to learn to be useful and gallant, and this spirit of helpfulness should not be discouraged by pay, but encouraged by appreciation shown in other ways. However, there are tasks for which children should be paid, and these transactions between parents and children can be used to good advantage in teaching the value of money and of spending it properly.

If the child is allowed to use his own judgment in choosing the things for which his money shall be used, he is quite apt to see the difference between a good and bad investment, especially if a little concealed advice is given by parents.

Not only is the ability to use money essential to success. The saving habit has an important part, also. Nothing will more quickly develop this habit than a savings account at the local bank. If such account is started with an object in view which is interesting to the child, the habit will be formed almost unconsciously, it being lost sight of in the anticipation of realizing the object in the future.

The value of early training in the proper use of money and in saving it, cannot be over-estimated.

Have you ever tried to can any of the vegetables that are so well liked by the family? Have you failed in the attempt? Have you ever investigated the sure method and by which many housewives are able to supply through the

winter months those vegetables which cannot be kept in fresh form?

#### Cream Slaw.

Shred fine half a head of crisp cabbage and pour over it a dressing made as follows: Whip half a pint of sweet cream until it begins to thicken, then add gradually four tablespoonfuls of cider vinegar, whipping it until it becomes thick again. Add salt and pepper to suit the taste, and some like the addition of a little sugar.

#### French Toast with Cheese.

Slice white bread rather thin but evenly. For every six slices of bread beat two eggs well, the whites and yolks together; add a scant half cupful of grated cheese, with salt and pepper to taste. Dip the bread in the egg and cheese mixture and fry crisp and delicately brown in hot lard or pork drippings.

#### Abuse of Eyes.

In these days of much crocheting, tatting, knitting, and fancy work of all kinds, the eyes are quite apt to be overstrained and neglected. Too much thought cannot be given to saving the eyes. Many of us have the habit of keeping some bit of work near at hand, to be picked up when we have a few minutes' time to work on it while waiting on something else, but we often do this to the detriment of our eyes by working with a poor light. The light should come over the left shoulder and should be good.

What is the value of all the fancy work combined, if sight has been the sacrifice?

Teach me to feel another's woe,  
To hide the fault I see;  
That mercy I to others show  
That mercy show to me.

—Pope.

If you want to be miserable, think much about yourself; about what you want, what you like; what respect people ought to pay you, and what people think of you.—Charles Kingsley.

**"Just What You Want"**

—tempting, tasty, tender Biscuits, Doughnuts, Cakes and other wholesome things to eat—so good that I could eat 'em all.

"That's because they're made with Calumet Baking Powder. I know Calumet is pure—I know it makes everything uniformly good—I know it never fails—I know it's safest—the most economical to buy and to use."

"Mother uses Calumet every bakeday and you ought to taste the good things we have at our house."

Received Highest Awards

New Cook Book Free  
See Slip in  
Pound Can



Operator

Installer

Lineman

Clerk

## The Picked Army of the Telephone

The whole telephone-using public is interested in the army of telephone employees—what kind of people are they, how are they selected and trained, how are they housed and equipped, and are they well paid and loyal.

Ten billion messages a year are handled by the organization of the Bell System, and the task is entrusted to an army of 160,000 loyal men and women.

No one of these messages can be put through by an individual employee. In every case there must be the complete telephone machine or system in working order with every manager, engineer, clerk, operator, lineman and installer co-operating with one another and with the public.

The Bell System has attracted the brightest, most capable people for each branch of work. The training is thorough and the worker

must be specially fitted for his position.

Workrooms are healthful and attractive, every possible mechanical device being provided to promote efficiency, speed and comfort.

Good wages, an opportunity for advancement and prompt recognition of merit are the rule throughout the Bell System.

An ample reserve fund is set aside for pensions, accident and sick benefits and insurance for employees, both men and women. "Few if any industries," reports the Department of Commerce and Labor, "present so much or such widely distributed, intelligent care for the health and welfare of their women workers as is found among the telephone companies."

These are some of the reasons why Bell telephone service is the best in the world.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY  
AND ASSOCIATED COMPANIES  
**One Policy      One System      Universal Service**

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



## GENERAL FARM ITEMS

Drainage improves the physical condition of the soil by making it more porous and friable. Thus stiff soils are made more easy to work. The roots of plants are given a greater feeding depth by the lowering of the water level and hence the ability of crops to utilize moisture is increased. Well-drained soils also absorb more rainfall than undrained soils, thus decreasing erosion and damage by floods.

Drainage warms the soil. Heat from the sun acts directly upon the soil when excessive moisture is removed by drainage. This is noticeable in the North, where the planting season is from one to two weeks earlier on drained land than on similar land when undrained. The danger of damage by frost both in the spring and in the fall is reduced. Warming of the soil also causes the seed to germinate more readily, thereby giving a better stand of crops and causing the plants to grow more promptly.

Drained land can be plowed earlier in the spring than undrained land. Crops can be cultivated sooner after a rain, and if covered tile drains are used instead of open ditches, machinery can be used to better advantage.

Health conditions are also improved by the drainage of swamps and standing water. The breeding places for mosquitoes are removed, with the consequent abolishment of malaria in the locality.

By simple drainage much of the wet swampy farm land which cannot be cultivated in its present condition may be made productive. There is also many a piece of cultivated land which is not producing what it could be made to do if it were properly drained. Indeed, according to the department's specialists, drainage in the United States is only fairly begun, and its immense possibilities are but little known.

Lands that are too wet for the most profitable production of crops, such as wet level land, low spots, and the dry subsoils of flat areas on the summits of knolls, rivers and creek bottoms, and peat bogs, should be drained. Even uplands may often be drained with profit, especially hillsides subject to erosion or inclined to be "spouty." Indeed, drainage is profitable wherever it is necessary to the fullest use of the land. It is not uncommon for lands too wet for cultivation to produce, when drained, 60 to 70 bushels of corn or oats to the acre. On much of the drained land the increase of yield is from 25 to 100 per cent, and by the increased yield and decreased cost of cultivation the value of the land is often doubled.

The most practical drainage system is one that is adequate, permanent, uses the least possible land, and is not a hindrance to cultivation. Tile drains which empty into either open or closed outlets most nearly provide such a system. By the open-ditch system much valuable land is occupied, the drainage is seldom thorough, and the ditches become filled and have to be cleaned out. Open ditches sometimes occupy as much as 10 per cent and frequently 5 per cent of the area drained. Thus it is that tile drains, while more expensive to install, are generally the most economical in the end.

In laying out a drainage system, the outlet is the first consideration. On rolling or hilly lands channels have usually been washed out, although they may need to be straightened and cleaned out. On low, level land it is usually necessary to dig open ditches, and they should be straight and deep, since curves check the flow of water, while in a deep ditch water generally flows more rapidly and less vegetation is likely to be present. The outlets should be deep enough to take care of the flow from branch drains, which may necessarily be placed low to secure sufficient fall.

Open ditches work well with a drop of four feet to the mile, although some, of necessity, have no more than one foot drop. In loamy soils subject to freezing the sides of the ditch should have a slope of 45°, in sandy soils a greater slope, while in stiff soils subjected to little freezing a less slope will do.

Outlet ditches should usually follow the natural course of the water, although efficiency and economy may necessitate a diversion from the natural water-course.

When the ditch runs through a field, the earth should be leveled back from the bank, so that no more ground than is necessary will be lost from cultivation. When the value of the land is high, the open ditch should not be used where it is practicable to use tile. In the Middle West tiles as large as three feet in diameter are frequently used, and, being covered over, they do not occupy tillable land or divide a field.

Where properly laid, there is little danger of the tiles filling and practically no maintenance cost. Because water runs faster through tiles they can be much smaller than the open ditch. The latter, however, has an advantage in holding more water after a rain, though, perhaps, not carrying more. The farmer is in a position to judge for himself when it is profitable to use tile.

### Give Cow Better Care.

Selecting and breeding the right kind of cows has much to do with the profits obtained from a bunch of cows, but care and feeding are equally important, was the opinion expressed by Prof. O. E. Reed in addressing the International Dry Farming Congress. It is possible to double production of the average cow by better care and more intelligent feeding. Too many farmers do not appreciate the value of good care of milk cows. The cows are often allowed to run outside during the cold weather and rustle for themselves. It pays to give them some protection during the winter and to prepare and carry the feed to the cows. It does not require an expensive barn in order to make the cow comfortable. A straw shed or a shed built of rough lumber will serve the purpose.

In feeding the cow we must remember that she is producing a balanced ration in the form of milk and it is therefore necessary that we supply her with the necessary elements from which she can make this material. Milk is a balanced ration we know, because the young calf is able to grow and get fat on it.

The problem of furnishing a balanced ration for the cow in the dry-farming district where it is difficult if not impossible to grow leguminous crops is more serious than in a country where such crops can be grown. The sorghums, wheat straw and native grasses, etc., usually furnish enough fat-forming nutrients for the ration but it is very necessary that we have more nitrogenous foods in order to get the greatest flow of milk. The practical method of obtaining the protein or nitrogenous foods is to buy concentrated feeds, such as wheat bran, shorts, cottonseed meal, linseed meal, etc. When such expensive feeds are bought it is essential for the farmer to know how to buy and how much to feed. A good dairy ration may be made up from sorghum hays, silage, oil meal and bran. Where alfalfa can be grown the ration can be made cheaper. The exact amounts to be fed depend upon the amount of milk produced by each cow. The cow must be fed as are individuals. Too many farmers waste their feed by feeding all the cows the

same amount of grain. By such a practice the good cows are underfed or the poor ones are fed too much. By feeding each cow in proportion to her production it will usually require less feed and more milk can be obtained.

A million dollars' worth of furs were sold in four days in St. Louis in January. This is an industry the size and importance of which is commonly overlooked. London has for years been the central fur market of the world, but it has shifted to St. Louis. Fur buyers were present from all over the world. A great many skins from American trappers were sold, as well as those from fifteen different countries.

### Hitching Tractor to Push Binder.

One of our readers asks if there is any practical way to hitch a four-wheeled tractor to a push binder.

We have no information on this point. Perhaps some of the many tractor users in the state have figured out a way to use the push binder with a tractor. If so, we would be glad to have the method explained.

Sows with pigs should be fed so that the milk flow will increase as the growing demand of the litter requires.

The pigs should have a dry sleeping place. Dampness causes rheumatism.

# 12 Grafted Apple Trees

## Given FREE!



**3 GENUINE DELICIOUS**  
This apple has, ever since its introduction, secured and maintained the highest price ever paid for any apple. A beautiful deep red, shading to golden yellow at the blossom end. Of wonderful flavor and aroma.



**3 STAYMAN WINESAP**  
Deep, rich red in color, it is a marked improvement over the old Winesap, both in appearance and quality. It is a universal favorite in all markets.



**3 JONATHAN**  
The Jonathan is liked by everyone. Its deep wine color apparently reflects its rich winey flavor. Invariably in good demand at high prices.



**3 WEALTHY**  
One of the first really good apples of the season, and a general favorite, especially for eating out of hand.

## This Home Orchard Collection

CONSISTING OF

## 12 Grafted Apple Trees

Given with Kansas Farmer This collection of Twelve Grafted Apple Trees which we want to send you, consists of three trees each, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit.

**INCLUDING THREE GENUINE DELICIOUS, THREE STAYMAN WINESAP, THREE JONATHAN AND THREE WEALTHY**

**These Trees** are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees, and we want to send you a set of twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.

**Early Maturing Varieties** such as these four grand varieties, mean that you will have fruit from this orchard in just a few years. In three years you should have some apples from these trees; in five years you should have an abundance. No better varieties could be found for a Model Home Apple Orchard than the four in this collection.

**Complete Instructions** are sent with each set of twelve trees, practical, simple directions that explain just how to plant and take care of these twelve trees. By following these instructions you will have, in a few years, an orchard that will prove a constant source of pleasure and profit to you.

**Our Offer** is made possible by a comparatively new method of propagating the apple tree. Instead of the slow, laborious method of "budding" a "seedling" apple tree to obtain the variety desired, a much quicker method is now employed. Healthy, vigorous branches are clipped from trees selected for their size and yield. To each of these branches a strong root from a tree of the same type is carefully grafted, and the little tree, thus complete, is ready to be set out. The twelve little trees we send you are all produced in this manner. They take root at once, make thrifty growth, and develop into large, heavy-bearing orchard trees as soon or sooner than a large tree set out at the same time. These little trees are about a foot long, and the thickness of a lead pencil. You could not secure trees of better quality, or trees that would come into bearing quicker, if you were to pay a dollar apiece for them. Thousands of trees are sold every year and sent packed in damp moss at the proper time for planting.

## How to Get These Trees

If you will send only \$1.00, and 15 cents extra for handling — \$1.15 in all — we will enter or renew your subscription to KANSAS FARMER for one year and send the TWELVE (12) Apple Trees postpaid to you; or, if you will send \$2.15, we will renew your subscription two years and send KANSAS FARMER one year to some new subscriber you may name, and send you the trees. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted.

SEND ALL ORDERS TO

## KANSAS FARMER

625 Jackson Street, Topeka, Kansas

These twelve grafted apple trees are packed in sphagnum moss, are well wrapped in heavy oiled paper, and securely tied. They will stand the longest trip by parcel post, and arrive in perfect condition for planting.



# Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 300,000 readers for 4 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

**SITUATIONS WANTED** ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

## HELP WANTED.

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

**FREE TO A FEW MEN—SUIT MADE** to measure in latest style and chance to make money in spare time. For samples and offer write Knickerbocker Tailoring Co., Dept. 374, Chicago.

**CIVIL SERVICE EXAMINATIONS OPEN** the way to good government positions. I can coach you by mail at small cost. Full particulars free to any American citizen of eighteen or over. Write today for Booklet CE-809. Earl Hopkins, Washington, D. C.

**WANTED, FARMERS—MEN AND WOMEN**, 18 or over, for government jobs. \$75 month. Steady work. Common education sufficient. Write immediately for list positions now obtainable. Franklin Institute, Dept. G 82, Rochester, N. Y.

## REAL ESTATE.

**NORTHWEST KANSAS ALFALFA** FOR sale. Geo. Bowman, Logan, Kan.

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

**FOR SALE—PANHANDLE AND OKLA-** homa land. Write D. L. Thornburn, Higgins, Texas.

**WELL LOCATED FINE FARM, OKLA-** homa land. Write W. T. Davidson, Abilene, Kan.

**FOR SALE—MODERN 8-ROOM HOUSE** on residence street. Write S. C. Orr, Manhattan, Kan.

**SEVEN ACRES WELL IMPROVED. SALE** or exchange. Owner, Box 51, Route 3, Galena, Kan.

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

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**HALF SECTION IMPROVED LAND TWO** miles from county seat, two railroads, churches to fit most notions, and schools for a sizeable brain; good land, good roads, good shallow water, fields and pastures laid off for handy feeding. Six thousand dollars cash will swing this deal. Don't waste stamps with less. Easy time on balance. No trade. L. G. Conner, Canyon, Texas.

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**NOTICE TO WHOM IT MAY CONCERN:** The Perfection Metal Silo Company, a Kansas corporation, having its principal office in Topeka, Kansas, by resolution of its stockholders, duly adopted at a meeting held on January 11, 1916, changed its name to The Perfection Metal Products Company.

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

## TREES, SEEDS AND PLANTS.

**GOOD SEED CORN FOR SALE.—WRITE** Baker Bros., Farragut, Iowa.

**SEED CORN. BRUCE SAUNDERS, HOL-** ton, Kan.

**SEED CORN FOR SALE—WHITE ELE-** phant, largest yielding early corn grown. G. Manville, Faucett, Mo.

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

**SUDAN SEED, GUARANTEED PURE, 10c** per pound. Less for large quantities. P. P. Orr, Garfield, Kan.

**PURE GOLD MINE AND BOONE COUNTY** white seed corn, \$1.50 per bushel. Samples free. J. F. Feigley, Enterprise, Kan.

**PURE WHITE BLOSSOM SWEET CLO-** ver seed, own growing, 1915, \$10.00. Sample on request. Jos. Y. Weir, Winfield, Kan.

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

**ST. CHARLES WHITE SEED CORN FOR** sale, \$1.40, tipped and sacked. Peter Rucker, Route 2, Carbondale, Kan.

**PURE WHITE BLOSSOM SWEET CLO-** ver seed, hulled, \$10 bushel. Samples free. Chas. F. Redding, Waverly, Kan.

**500 BUSHELS CHOICE PURE "COMMER-** cial white" seed corn. High germination. Sacks free. E. D. King, Burlington, Kan.

**YELLOW BLOSSOM UNHULLED SWEET** clover seed, 10c pound. Far ahead white variety for pasture or bees. Sam Wilkinson, Hewins, Kan.

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

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**TREES AT WHOLESALE PRICES—** True to name. Packed with care. Fruit book free. Wellington Nurseries, Dept. G, Wellington, Kan.

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**YOUNG MAN WANTS SITUATION ON A** farm by the month. Will work all summer. Wages no object. J. J. Camel, Newton, Kan.

**WANTED—STEADY WORK ON FARM;** age 18. My home is in Virginia. Write R. L. Snead, Greenville, Texas.

**MARRIED MAN WANTS JOB ON FARM** where house and garden is furnished. Have had experience and can give good references. G. I. Bardwell, Arno, Mo.

**EXPERIENCED FARM HAND, SINGLE,** no bad habits, wants work on farm, wheat belt preferred. Harry M. Harpster, Council Grove, Kan.

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**WANTED—A JOB BY THE MONTH, OR** to rent a farm with everything furnished but labor and brains. Luke Griffiths, Route 1, Geneseo, Kan.

**YOUNG MAN, SMALL FAMILY, WANTS** 80 or 100 on salary or shares if you back me. Experienced, some scientific training. Address E. J., care Kansas Farmer, Topeka, Kan.

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**FOR SALE—HIGH-GRADE HOLSTEIN** heifer calves, \$15 each, crated. Edward Yohn, Watertown, Wis.

**REGISTERED HOLSTEIN BULL CALF—** Fine individual, nearly white. Dam, two granddams, nearly white. \$60. O. S. Andrews, Greeley, Kan.

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**CHOICE HOLSTEIN GRADE COWS AND** heifers, mostly springers. The best obtainable. Save time, money and long shipments. Car loads a specialty. State requirements. Paul E. Johnson, Olathe, Kan.

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**SHEEP—FIFTY YEARLING WETHERS,** good for a short feed, 8c pound. Francis Dutton, Penabosa, Kan.

## LUMBER.

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

## THE STRAY LIST

**TAKEN UP, ON THE 10TH DAY OF** January, 1916, by Frank Schibler, of Delphos, Logan Township, Ottawa County, Kansas, one heifer calf, color dark red, white underneath body, no brands; appraised at \$25. C. C. Davis, County Clerk.

**TAKEN UP—BY CHARLES MOONEY,** Hayes Township, McPherson County, Kansas, one horse about eight years, color bay with black points, white spot in forehead, roached mane, wire cut on left foreleg; appraised at \$100. W. E. Rostine, County Clerk.

**TAKEN UP—BY E. T. BURTON, IN** Lake Township, Harvey County, P. O. address Burrton, Kansas, R. 2, on the first day of October, 1915, one red steer calf coming yearling, weight about 350 pounds, crop in right ear, appraised at \$25.00. C. A. Young, County Clerk.

## DOGS.

**AIRDALE—THE GREAT TWENTIETH** century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

## HEDGE POSTS.

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

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**W. J. Cody, Manager, Stock Adver-**  
**tising. O. W. Devine, Representative**

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## CLAIM SALE DATES.

**Jacks and Jennets.**  
Feb. 28—I. N. Green, Kiowa, Kan.  
March 9—G. M. Scott, Rea, Mo.  
March 6, 1916—W. J. Finley, Higginsville, Mo.  
March 7 and 8—L. M. Monsees & Son, Smith-ton, Mo.  
March 15—Bradley Bros., Warrensburg, Mo.  
March 20—G. C. Roan, LaPlata, Mo.

**Shorthorns.**  
March 8—H. E. Huber, Meriden, Kan.  
April 5 and 6, 1916—Central Shorthorn Sale, Independence, Mo.  
April 18—Robert Russell, Muscotah, Kan.

**Hereford Cattle.**  
March 4—Northwest Missouri Hereford Breeders' Association. Sale at South St. Joseph, Mo. Jesse Engle, Sheridan, Mo., sales mgr. H. D. Cornish, Osborne, Mo., Secretary.  
March 3—Kansas Hereford Breeders, Manhattan, Kan. Prof. W. A. Cochel, Mgr.

**Holsteins.**  
April 25—J. R. Smith, Newton, Kan.

**Guernseys.**  
Feb. 29—C. W. Danford, Hutchinson, Kan.

**Poland Chinas.**  
March 1—Clarence Dean, Weston Mo. Sale at Dearborn, Mo.  
March 8—John Kemmerer, Mankato, Kan.

H. B. Walter, Effingham, Kan., held at his farm on February 18 one of the good Poland China sales of the season. Thirty-eight head of bred sows and bred gilts sold for an average of \$67.50, the top price of \$142.50 being paid for No. 41 in the catalog. This average is the state record on bred sows and one of the best sales ever made by Mr. Walter. The competition for sows bred to Big Bob Wonder was strong. Mr. Walter invited the sale crowd and the public to come back on October 19 and also on February 6, on which dates he will hold other sales.

John Belcher and the Bennett Bros., at Lees Summit, Mo., broke the year's sale record on Poland China bred sows on Saturday, February 19. They sold forty-four head at an average of \$89. The top price, \$275, was paid by Sigel Brown, of Reeds, Mo., for No. 18 in the catalog. The offering was a splendidly bred lot and in the pink of condition. Sows bred to Smooth Columbus seemed in keen demand. A large crowd of breeders from several states was present and bought very liberally. The returns were very satisfactory to both Mr. Belcher and the Bennett Brothers.

Herman Groninger & Son, Bendena, Kan., held their bred sow sale as advertised, and it was about the best sale that has been held on the Groninger farm for several years. Forty head of bred gilts, mostly fall and spring yearlings, averaged \$37. The top price, \$62, was paid by H. C. Lookabaugh, Watonga, Okla., for No. 2 in the catalog. Nothing sold high, but it was a quick, snappy sale, and the returns on the entire offering were very satisfactory to Groninger & Son, and every one sold should prove a splendid bargain for the purchaser.

E. D. King, Burlington, Kan., owner of Meadow Brook Farm and one of the largest herds of pure-bred Berkshire hogs in existence, writes that his herd is in fine condition. The best blood of the Berkshire breed will be found in Mr. King's herd. The boars used in the herd include King's Masterpiece 102500, Premier Longfellow's Rival 105500, King's True type 174369, True type 105501, Fair Rival 10th 149920, Iowa Royal Champion 4th 184352, and King's 22d Masterpiece 174370. This year Mr. King has bred a large number of choice sows to farrow in March, April, May and June. He keeps his herd immune at all times.

H. C. Graner & Son, Lancaster, Kan., held one of the best sales ever made on his farm on Thursday, February 17. Thirty-five head of sows and gilts sold for an average of \$44.85. Even prices ranged all through the sale. The first ten head sold averaged \$47, the second ten head \$46.50, and the third ten head \$43.50. It was a quick, snappy sale, and Graner & Son were well pleased with prices received. They had grown most of these hogs on alfalfa pasture. Mr. Graner is keeping a number of young pigs and small gilts and will be back in the hog business again in a year or two. Big-type Poland China hogs, alfalfa, corn and Shorthorn cattle make the best profits on the Graner farm.

A. M. Dull & Sons, of Washington, Kan., are among the progressive Percheron breeders, and own one of the good herds in this state. They have a splendid lot of Percheron mares in their herd and all farm work is done with these mares, and in addition all of them are of breeding age; raise a good colt each year. The imported stallion Siroco (51358) heads their herd. He is a grandson of Besigue (19602) foaled in 1901 and was imported as a four-year-old. He is a bright bay, a splendid individual, and has made a record as a breeder. He weighs 1,900 pound in work horse condition and has weighed 2,160 pounds in good flesh. They have a choice lot of youngsters in their herd by this sire, and are keeping a lot of his fillies in the herd so will be compelled to make a change in herd sires.



# RELIABLE POULTRY BREEDERS

## LEGHORNS.

LEGHORNS—SETTING EGGS, BUFF, \$4, 100. Jessie Crites, Florence, Kan.

SINGLE COMB WHITE LEGHORN cockerels of quality, \$1. Will Tonn, Haven, Kan.

CLASSY S. C. W. LEGHORN COCKERELS, \$1 each. Shetland Pony Farm, Coffeyville, Kan.

ROSE COMB BROWN LEGHORNS—Kulps strain. Prize winners, \$1 and up. Otto Borth, Plains, Kan.

EGGS—SINGLE COMB WHITE LEGHORNS exclusively. Keeping strain. Thol R. Wolfe, Conway Springs, Kan.

CHOICE S. C. BROWN LEGHORN HENS, \$10 dozen. Mrs. L. H. Hastings, Thayer, Kan.

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

ROOF'S SINGLE COMB BROWN LEGHORNS. Twenty-four prizes at state show, including ten firsts, eight seconds. W. J. Roof, Maize, Kan.

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

FOR SALE—PRIZE WINNING SINGLE COMB White Leghorns, \$2 to \$25 each. Eggs, 5 cents. Chicks, 10 cents. Clara Colwell, Smith Center, Kan.

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

SINGLE COMB WHITE LEGHORNS—Official egg records. Missouri Experiment Station. Harmon, 400 1/2 South X, Springfield, Mo.

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

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

THIRTY ROSE COMB WHITE LEGHORN cockerels, state and national winners. Price, \$2 to \$5. Satisfaction guaranteed or money refunded. Ruth McFarland, Route 1, Sedalia, Mo.

S. C. BROWN LEGHORN COCKS, COCKERELS, hens and pullets, both matings, from prize winning stock, mated for best results. Must sell to make room for breeding season. H. P. Swedfeger, 1144 Forest Ave., Wichita, Kan.

SCHOOLEY'S LEGHORN FARM (SINGLE COMB White exclusively). We specialize in fancy table eggs and farm raised breeding stock, trapnested, selected and bred for egg production. Book your order now for guaranteed eggs for hatching. Box 87C, Lawrence, Kan.

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

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CAREY STRAIN WHITE ORPINGTONS—Prize winners. Settings, \$2 to \$5. Mrs. Helen Lill, Mt. Hope, Kan.

BUFF AND WHITE ORPINGTON COCKERELS. Prices reasonable. Clarence Lehman, Newton, Kan.

SINGLE COMB WHITE ORPINGTON eggs, \$2 per fifteen. Roy Young, Leonardville, Kan.

S. C. BUFF ORPINGTON COCKERELS for sale. Eggs, \$4 hundred. Mrs. Frank Neel, Beverly, Kan.

S. C. BUFF ORPINGTONS—THE KIND that win, lay and pay. Good buff color, shape and size. Eggs, \$1.50 per fifteen. A. L. Beall, Green Castle, Mo.

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BABY CHICKS, TRAPNESTED WINTER layers. Eight prize winners. White Leghorns, both combs; Buff Orpingtons; Barred Rocks; March, \$9.50 per hundred; April-May, \$8 per hundred. Fluhrer Hatchery, Russell, Kan.

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FAWN INDIAN RUNNER DRAKES, \$1, \$1.25. Mrs. E. C. Wagner, Holton, Kan.

WHITE INDIAN RUNNERS, PURE-BRED. Drakes, \$1. Bertha Louk, Michigan Valley, Kan.

SIXTY VARIETIES PRIZE WINNING geese, ducks, chickens, peafowls, guineas. Stock eggs cheap. Write wants. F. J. Damann, Farmington, Minn.

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

THIRTY-ONE YEARS A BARRED ROCK breeder. Beautiful catalog free. O. E. Skinner, Columbus, Kan.

IVORY STRAIN WHITE ROCKS—LARGE white cocks, cockerels, females. Grace Dolson, Neal, Kan.

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

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

BUFF ROCK COCKERELS BRED FROM Frisco World's Fair champions, \$5 each; elegant breeders. C. R. Baker, Box F, Abilene, Kan.

BARRED PLYMOUTH ROCK COCKERELS, \$2 to \$5. Eggs, \$1.50 per fifteen. Bradley strain, large boned. F. F. Wood, Wamego, Kan.

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

## KANSAS FARMER, Topeka, Kansas.

Gentlemen.—I have used many mediums of communication to reach land buyers—among them farm papers and dailies, including \* \* \* \* \*, and I wish to state that I have received more inquiries with the "ring" to them, ten to one, from KANSAS FARMER than from any other source.

This is rather surprising information to me and I suppose that it will be a sure "tip" to land owners and real estate firms as to the correct place for their appropriation. KANSAS FARMER want advertising and display reaches the people who have the money. Sincerely,

H. N. HOVEY.

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

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January 31, 1916.

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

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SOME EXTRA CHOICE MAMMOTH Bronze turkey toms for sale. Mrs. Harry Keene, Cuba, Kan.

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At Hutchinson, Kansas, February 28, 1916

**65 - Head Choice Guernseys & Jerseys - 65**

This offering will consist mostly of high grade Guernseys. The foundation stock is from the best herds in Wisconsin. They are producers. A few choice Jerseys and a few extra good red cows are included in the offering. Many of them are in milk, some of them just fresh, some springers.

**A Lot of Choice Heifers and Calves**

This will be one of the best lots of dairy cows and heifers that will be sold this year. If you want profit producers you cannot afford to miss this sale. For catalog or further information, write

**C. W. DANFORD, Hutchinson, Kansas****POLAND CHINA****BRED SOW SALE**

At Dearborn, Mo., Wed., March 1

**ON ELECTRIC LINE FROM ST. JOE and KANSAS CITY**

**FIFTY BRED SOWS**—And in order to make this offering attractive, I have listed many of my best producing herd sows, such as Lady Wonder 6th by Mastodon Price. This sow farrowed sixty-three pigs in five litters and always raised from nine to eleven at a litter. She sells without a fault. A number of other good sows by Mastodon Price go in the sale. Lady Mastodon 67 has farrowed thirty-four pigs in three litters. She is by Columbia Wonder and her dam is Lady Mastodon 68th. Lady Wonder 6th and others as good will go in the sale. Several sows of A Wonder breeding go in the sale. All the sows in the sale are bred to a son of Black Big Bone by Smooth Big Bone, a 1,000-pound hog, and Big Bone Model by Long Big Bone out of a Big Bob dam. All my herd is Cholera immune and sold with an absolute guarantee. Please send for my catalog today, to

**CLARENCE DEAN, Weston, Mo**

REMEMBER, SALE WILL BE HELD AT DEARBORN.

**Hereford Cattle Sale**

South St. Joseph, Mo., Saturday, March 4

UNDER THE AUSPICES OF THE NORTHWESTERN MISSOURI HEREFORD BREEDERS' ASSOCIATION.

**75 - Sons and Daughters of the Following Sires - 75**

Lucius 362320, Beau Andrew 3d 289639, Sir Donald 12th, Perfect Donald, Baxter 367170, Good Cross, Beau Andrew 4th 382761, Iron Clad, Rosecrans, Paragon 36th, Paymaster, Gay Donald, Beau Gomez, Move On 43d, Beau Blanchard, Beau Perfect, Columbus Regent 324141, Donald, Polled Addition (4770), Ambition, Governor 2d, Beau Of All 419212, Jolly (1061) 361673, Beau Of Shadeland 10th, Horace, Alfonso, Onward A 8th, Gaylad 14th, St. Elmo, Rex Onward, Master Sunny, Sir Albany 9th, Beau Blanchard Jr., Douglas.

There will be thirteen young bulls 8 to 11 months old; twenty-three bull calves from 12 to 18 months, ready for reasonable service. Ten bulls are two years and over. Sixteen young cows and nearly as many 2-year-old heifers, some open, some bred, and some with calves at foot. The cows are all safe in calf. All females of breeding age are bred to these good bulls: Disturber 4th, Bonny Beau, Beau Perfect, Morris Fairfax, Bond Lad 22d, Beau Gudgeon, Onward A 8th, Rex Onward.

For catalogs address

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**STALLION AND JACK SALE**

Savannah, Missouri, March 9, 1916

Twenty-six black registered jacks, three Percheron stallions, and twenty 3 and 4-year-old mules, good ones.

As Kansas people are always in the market for the very best, I want to insist on their getting my catalog and coming to my sale, for I have your kind and at your price. Mention this paper.

**G. M. SCOTT, - - - Route 2, - - - REA, MISSOURI****GROTHER'S SHORTHORN SALE**

PITTSBURG, KANSAS, SATURDAY, MARCH 4, 1916

20 HEAD - REGISTERED BULLS AND HEIFERS - 20 HEAD

Seven choice young bulls and thirteen heifers, good individuals, best breeding. Sale at farm 1 1/2 miles east on Quincy Street, Pittsburg, Kan. Send for catalog. Address

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

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"Iams' kind," and in the "Pink of Condition."

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

**40 PERCHERON AND BELGIAN STALLIONS AND MARES**

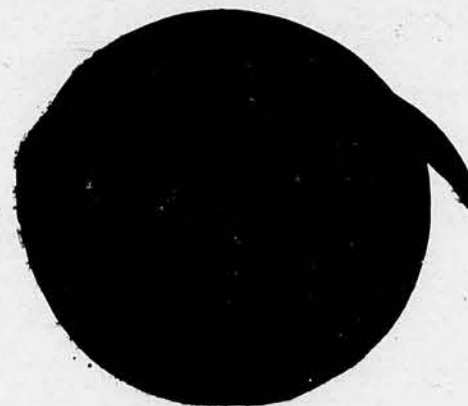
2 to 6 years old, weight 1,700 to 2,410 lbs., all "Branded," "Approved," "Registered and Inspected" by governments of France and U. S. and certificates "stamped" O. K. All "inspected" by a Nebr. Deputy State Veterinarian and certificates of "Health and Soundness" are given with each horse. Iams sells

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

(few higher). "Home-Breds" come cheapest. Registered 1,800 to 2,100-lb. mares at \$700 to \$1,000. Terms cash, or one year's time at 7 per cent; land security at 6 per cent; \$500 less price for cash than time. Iams pays freight and buyer's fare; gives 60 per cent breeding guarantee. Can place \$1,500 insurance. Iams backs up his ads. with a \$500 guarantee that you find the horses as represented. Write for Horse Catalog. It has a "Big Bargain" on each page. References: First National and Omaha National Banks, Omaha, Neb.; Citizens' State and St. Paul Bank, St. Paul, Neb.

**ST. PAUL, NEB.****Kansas Herefords****TO BE SOLD AT**

Manhattan, Kans., March 3, 1916

**25 Bulls 22 Heifers 10 Cows****CONSIGNED BY**

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The animals in this sale have been carefully selected and are in good, thrifty condition. So many good herds have contributed that practically all the popular blood lines are represented.

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# G. C. ROAN'S ANNUAL JACK AND JENNET SALE

40 HEAD - CLOVER LEAF VALLEY FARM JACKS AND JENNETS - 40 HEAD

WILL BE SOLD IN MY ANNUAL AUCTION AT LA PLATA, MISSOURI, MONDAY, MARCH 20, 1916

Twenty Jacks, two to six years old, fifteen to sixteen hands high. Twenty Jennets, ten with foals. An offering selected to make good for those who buy them. Every Jack is black with white points and broke. My Jennets are three to six years old. G. C. ROAN, LA PLATA, MISSOURI  
COL. P. M. GROSS, AUCTIONEER

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### CEDAR LAWN SHORTHORNS

For Sale—A number of choice bull calves from 8 to 16 months old, by Secret's Sultan #63835 by Missie's Sultan by Glenbrook Sultan by Whitehall Sultan and out of West-lawn Secret 2d, weight 2,200 in breeding condition. Description guaranteed.  
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For Sale—Ten choice Scotch topped bulls from 8 to 16 months old. They have size and quality. My price is right. Try me.  
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For Sale—A number of good bulls 8 to 18 months old. Some Scotch, others Scotch-topped. Some herd headers among them. Two outstanding ones. Can spare a few females. Farm one mile from town.  
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Two Shorthorn bulls. One red, 11 months old, sired by Bettie's Albon 399451. One white, eight months old. Extra fine and priced low.  
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Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.  
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For Sale—Fifteen pure Scotch and Scotch-topped cows and heifers. Five pure Scotch and Scotch topped young bulls. Prices reasonable. Come and see them.  
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Thirty head of good registered Shorthorn cows and heifers. Cows with calves at foot, others to calve soon, open heifers by Bra-worth Heir 351808. Priced to sell.  
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Scotch and Scotch-topped, 50 per cent roans. Bulls 8 to 20 months old, sired by old Double Champion and by Alfalfa News.  
HOMAN & SONS - PEABODY, KAN.

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More registered jacks and jennets than any farm in the West. Jacks to 1,240 pounds. Prices and terms reasonable. Written guarantee with every jack. Car fare refunded if stock is not as represented. Young jennets bred to Kansas Chief. Reference, any bank in Dighton.  
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33 Mi. N. E. of K. C. on C. M. & St. P.  
40 Mi. S. W. of St. Joe, on Santa Fe

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I have three good young jacks for sale and worth the money. Also a few very fine jennets.  
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Seven head of big mammoth jacks, from two to seven years old. Would take some White-Face heifers in exchange. Jacks guaranteed as represented.  
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Home Phone 817 Black.

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Sixty Mares and Fillies.  
Thirty Stallions, from weanlings to five years old  
At live and let live prices.  
Route 6,  
GREAT BEND, KANSAS.

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Imported Percheron, Belgian and Coach Stallions. Good jacks, \$450 up. ILLINOIS HORSE CO., Good Block, Des Moines, Iowa.

## HORSES AND MULES.

### 58 Head Registered Stallions and Mares 58

Percherons, Belgians and French Drafts, from Yearlings to Seven Years Old.

I have rented my farm and am quitting farming. Must sell all my horses by March 1. Nothing reserved. All priced reasonably—the first buyer to come will get a bargain. I mean business and must sell my entire herd. Come and see me.

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In public service at our ranch south of Ellinwood. Excellent facilities for handling any number of healthy jennets.

#### Write Us for List of Winnings of His Get.

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

M. E. RICHARDSON - STERLING, KANSAS

### ROBISON'S PERCHERONS

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

J. C. ROBISON, Towanda, Kans.



### LAMER'S PERCHERONS

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

WRITE, WIRE OR PHONE.

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



### REGISTERED PERCHERON STUDS

We have them, BIG FELLOWS, 1, 2, 3 and 4 years old. Real drafters, BIG BONE, lots of quality and action. Grown right, will go out and make good both as to sires and foal getters. You lose money if you don't look at BISHOP BROS.' STUDS before buying. Twenty miles east of Wichita, on Mo. Pacific Ry.  
BISHOP BROS., BOX E, TOWANDA, KANSAS



## HORSES AND JACKS

FOR SALE—Six coming two-year-old fillies, big growthy fillies, dark steel grays; one black mare, three years old in April; stud colts, two years old; all extra good; all out of imported sire and dams; Percheron Society of America. Twenty-two head two-year-old jacks; all raised on the farm; all priced to sell, cash or time. You can see the sire and dams of all this stuff. These are the blacks with mostly noses, the color that all breeders raise. I am now breeding white-faced jacks that will produce white-faced mules, and in a few years the breeding of white-faced jacks, alone, will be continued on this farm. Since running my advertisement every man who came to the farm found what he wanted and bought.  
OAKLAND STOCK FARM, Box 207, CHILLICOTHE, MO.



### PERCHERON and BELGIAN STALLIONS

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

W. H. RICHARDS, Emporia, Kans.



### THE SAUNDERS JACK COMPANY

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

### MAMMOTH JACKS AND PERCHERONS

Forty big, black, mammoth jacks, 15 to 16 hands standard. Young, black. Percheron stallions and mares, extra quality. Also jennets in foal. Mares in foal to 2,400-pound horse. Reference, banks of Lawrence.  
AL E. SMITH, R. R. 1, LAWRENCE, KANSAS. Forty Miles West of Kansas City.

### EWING BROTHERS

Stallions from 2 to 5 years old, good ones, the kind that make ton horses. Mares in foal and few yearling fillies. Young bulls, 6 months to 3 years old, some top notchers. A few good cows and heifers for sale. A few Shetland ponies for the children. All priced to sell at live prices. Come and see us before you buy.  
EWING BROTHERS - PAWNEE ROCK, KANSAS

### IMPORTED PERCHERON HERD STALLION

For Sale or Trade for One His Equal—Siroco (51358), grandson of Besigue (19602), bay, foaled 1901, has weighed 2,160 in good flesh. A sire of the right kind, which we must change on account of so many of his fillies being in the way. Also pair of coming fours and a coming three, sired by him, that are good enough to show in any company.  
A. M. DULL & SONS - WASHINGTON, KANSAS

### REGISTERED JACKS and PERCHERONS

A few tried imported black Percheron ton stallions; Brilliant blood, good enough for herd headers. Twelve big black registered jacks, two to five years old, 14 1/2 to 16 hands high, well broke and quick performers. Good herd of registered jennets headed by large Spanish Jack.

J. P. & M. H. MALONE, CHASE, KANSAS  
Rice County.

SHIRE STALLIONS — Registered, well bred, first class stock.  
JAMES AULD, Wakefield, Clay Co., Kansas

ONE HUNDRED Registered Percheron, French Draft, Belgian and Shire stallions and mares for sale cheap.  
A. LATIMER WILSON, CRESTON, IOWA.



### DUNHAMS' PERCHERONS

For Fifty Years the Best.

Send for fine photographic catalog.

DUNHAMS

Wayne, Dupage Co., Ill.





## POLAND CHINAS.

## Henry's Big-Type Polands

March gilts, sired by Big Bob Wonder, Big Bone Jr., and Grand Orange. Bred or open. Also fall pigs, not related. Write me.  
JOHN D. HENRY - LECOMPTON, KAN.

## ARKELL'S POLANDS.

Choice Fall Yearlings and Spring Gilts. Yearlings by Longfellow Again, bred to Chief Big Bone. Spring gilts by Chief Big Bone, bred to Longfellow Again. Priced for quick sale.  
JAMES ARKELL, R. 4, Junction City, Kan.

## SPOTTED POLAND CHINAS

June and July farrow. Pairs or trios. Not akin. Recorded pedigree with each hog.  
GEO. HENRY, JAMESTOWN, IND.

LANGFORD'S SPOTTED POLANDS.  
Choice fall boars. Also boars for service. Must sell.  
T. T. Langford & Sons, Jamesport, Mo.

## POLLED DURHAM CATTLE.

## The Profitable Breed

For Sale—Double Standard Polled Durham Cattle. Write for description, breeding and prices.  
C. M. ALBRIGHT, OVERBROOK, KANSAS

## SHROPSHIRE SHEEP

## SHROPSHIRE EWES

Bred to the very best bucks obtainable, for sale in lots to suit purchaser. All stock recorded.

## L. M. HARTLEY

PINE RIDGE FARM - SALEM, IOWA

## MISCELLANEOUS.

## YOU CAN BUY THEM HERE

Registered Percheron Stallions and Mares. Registered Mammoth Jacks and Jennets. Registered Holstein Bulls, Cows and Heifers. M. G. BIGHAM & SONS, OZAWKIE, KAN. 20 Miles Northeast of Topeka.

## TAMWORTH HOGS.

## TAMWORTH PIGS

Of summer birth, from massive, natural immune parents. Sent in pairs, not akin. Write Q. I. SIMPSON, Palmer, Illinois.

## HAMPSHIRE HOGS

## ATTEBERRY'S HAMPSHIRE

Choice breeding. Bred sows and gilts. Outstanding boars. Priced to sell quick.  
ATTEBERRY & SON - LANCASTER, MO.

## AUCTIONEERS.

## Live Stock and Real Estate Auctioneer

Authorized state agent of Kansas Rural Credit Association. Write me your wants.  
H. M. JUSTICE - PAOLA, KANSAS

## GUERNSEY CATTLE

A GUERNSEY BULL is a sure way to increase your profits. Grade up your herd by using a pure bred Guernsey Bull and you will be surprised at Results.

Send for free literature.

Guernsey Cattle Club.  
Box E, Peterboro, N.H.

## GUERNSEY HERD BULLS

For Sale—Four-year-old registered Guernsey herd bull, gentle. Also one nine months and one three months old. Glenwood breeding. Cheap.  
JOHN PERRENOUD, HUMBOLDT, KAN.

## ANGUS CATTLE

## ABERDEEN ANGUS

We Offer For Sale Bulls and Heifers, Any Number, Single or Carload Lots.

These cattle have size and quality and are bred in the purple. See them at Lawrence—forty miles from Kansas City, on Santa Fe and Union Pacific railways.

SUTTON & PORTEOUS  
Phone 8454. Route 6, Lawrence, Kan.

## Breeders' Directory

## PERCHERON HORSES.

M. E. Glendon, Emmett, Kan.  
ANGUS CATTLE.  
Geo. McAdam, Holton, Kan.  
SHORTHORNS.  
E. E. Heacock & Sons, Hartford, Man.  
C. H. White, Burlington, Kan.

## HOLSTEINS.

C. E. Bean, Garnett, Kansas.

## JERSEY CATTLE.

J. B. Porter & Son, Mayetta, Kan.

## DORSET-HORN SHEEP.

H. C. LaTourette, Route 2, Oberlin, Kan.

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

## FARM AND HERD.

Doyle Park Stock Farm, owned by Homan & Sons, Peabody, Kan., is one of the noted pure-bred stock farms in this state. It is the home of good herds of pure-bred Percheron horses, Shorthorn cattle, Shropshire sheep and Durock Jersey hogs. The herds on this farm are drawn upon heavily for breeding stock, and representatives of Doyle Park Herds can be found in many of the best herds in the Southwest. The young stock in his herds is a feature at this time, and includes a very fine lot of roan Scotch and Scotch topped Shorthorns. Visitors are always welcomed and a visit to the farm to see these profitable pure-bred herds is well worth the trouble and expense.

Catalogs are out for the Clover Leaf Farm Jack and Janet sale to be held by G. C. Roan in his modern sale pavilion at LaPlatte, Mo., Monday, March 20. Twenty Jacks from two to six years old and from 15 to 16 hands high have been cataloged for this sale. Every Jack cataloged is black with white points; all are broke. Twenty Jennets have been cataloged; they are from three to six years old, ten of them with foals at foot; most of the females are by Mr. Roan's great herd Jack, Yucatan.

John Kemmerer, of Mankato, Kan., owner of Maple Lane Poland China Herd, has announced a bred sow sale to be held at his farm near Jewell City March 8. Forty-five head of choice tried sows, fall yearlings and spring gilts will be cataloged for this sale. The offering will consist of ten tried sows, twenty outstanding big type fall yearlings and fifteen choice gilts. The sows and gilts in this sale were sired by such noted boars as Jumbo Ex, Neb. Chief, J's Wonder, Long King's Best Son, Big Ben Amazon, Moore's Halvor, Referendum and Giant Chief Price. They are bred to a son of Big Bob Wonder out of O. K.'s Maid and Long King's Best Son and out of Guy's Best. Mr. Kemmerer has the big, easy feeding, high quality kind, and keeps his herd immune.

In establishing a pure-bred herd of any kind, it always pays to start with foundation stock that meets all requirements both as to breeding and individuality. The value of this policy is clearly demonstrated in the Tredloc Farm Herd of Holstein cattle owned by Geo. C. Tredloc, of Kingman, Kan. For foundation stock he selected only the best breeding to be had, and was very careful that the individual was right in every way and backed by records. As a result of starting right and using only the best sires, Tredloc Herd is making a record for production and has proven profitable from the start.

J. S. Kennedy, of Blockton, Iowa, owner of the famous Cedarvale Farm herd of Chester White hogs, writes that his immune herd is in fine condition. He has bred a large number of choice sows and March gilts for spring farrow. They are the big, smooth, easy feeding kind. The gilts in the herd will average 250 pounds or better, and are bred to extra good boars. Mr. Kennedy is a pioneer Chester White breeder, and has succeeded in developing a type of Chesters that has attracted the attention of breeders throughout the corn belt. They are the type that are profitable as a market hog and finish for market at an early age.

Dr. J. H. Lomax, of South St. Joseph, Mo., is one of the progressive breeders and earnest workers in the interest of improved live stock. He owns one of the best farms near Leona, Kan., and has herds of Jersey cattle and big type Poland China hogs that are among the best in the country. He has recently completed a modern hog barn and sale pavilion, has a good dairy barn and a herd of consisting of thirty head of heavy producing Jerseys. Among the recent additions to his Poland China herd is a very fine young board by Big Bob Wonder by Big Bob by Chief Price 2d. His dam was King Giantess 5th by Long King's Equal by Long King. He also purchased two sows from Pfander & Sons' herd. One of them is by Big Ben and bred to King of Wonders, the other is by King of Wonders and bred to Giant Ben. Dr. Lomax has bred a large number of choice, big type sows for spring farrow, and plans to have a sensational offering for his 1916 fall sale.

Catalogs are out for the Shorthorn sale to be held by H. C. Grotheer, of Pittsburg, Kan., March 4. Mr. Grotheer has cataloged seven choice young bulls and thirteen extra good heifers for this sale; they are richly bred and are good individuals. They are a very useful lot of young Shorthorns, and will be profitable on any farm.

H. W. Mollhagen, of Pioneer Dairy and Stock Farm, Bushton, Kan., writes that his Holstein herd is doing well. Mr. Mollhagen has one of the richly bred, heavy producing herds of Holsteins that has returned a good profit every year since the herd was established. He has a fine lot of youngsters, including young bulls by Canary Butter Boy King 70508, out of A. R. O. dams with records of 20 to 22 pounds butter in seven days, as three-year-olds.

The Kansas Hereford breeders have cataloged a selected group of fifty-seven well bred Hereford cattle for sale at Manhattan, Kan., on March 3, 1916. Twenty-five bulls, all old enough for service, and thirty-two cows, some with calf at foot and rebred, heifers bred to good bulls, and open heifers, are consigned to this sale from twenty of the best Hereford herds in the state.

Frank Iams, of St. Paul, Neb., the well known importer of Belgian and Percheron horses, has for many years been a consistent worker for better draft horses on every farm. Many of the best Percheron and Belgian stallions that are heading the leading herds of the country are from Mr. Iams' barns at St. Paul. He reports a good demand for high class stallions and mares this year. A feature of his herd at this time is the choice lot of young stallions and mares from two to six years old and weighing from 1,700 to 2,140 pounds. All lovers of good draft horses will find a visit to the Iams' barns at St. Paul well worth the trouble and expense.

Joe Fox, of Greeley, Kan., is a live booster in the interest of pure-bred stock, and has good herds of O. I. C. hogs and Jersey cattle. Mr. Fox has found that pure-bred stock on the farm means increased profits in stock raising.

H. E. Huber, of Meredin, Kan., has claimed March 8 as the date of his second annual sale of registered Shorthorn cattle and Duroc hogs. This year Mr. Huber has cataloged twenty-four head of choice Shorthorns, ten bulls ten to twelve months old, nine yearling heifers and five coming yearling heifers. This lot of young Shorthorns was sired by the Scotch bull Silk Goods 293713 by the champion Choice Goods, some are out of Scotch and Scotch topped dams. He has also cataloged twenty head of high class Duroc breed sows.

## HOLSTEIN CATTLE.

## HOLSTEIN CATTLE.

## REGISTERED HOLSTEINS

Young bulls, heifers and bred cows. We have a number of young bulls from the best blood of the breed.

Dams: A. R. O. cows of unsurpassed individuality and breeding.  
Sires: Sir Julianna Grace De Kol and King Hengerveld Model Payne.  
Sir Julianna Grace De Kol's dam made record of 924 pounds of butter and 22,087 pounds milk in one year. His sire's dam was the World's Champion 3-year-old butter cow until last spring, making 1,021 pounds of butter in one year.  
King Hengerveld Model Payne's dam was Bloomingdale Hengerveld Model, the world's champion 30 days butter cow in her time. His sire's dam was the second 35-pound cow of the breed. His four nearest sires have produced twenty-five 30-pound cows, and his 7 nearest sires have seventy-three 30-pound granddaughters. This herd deserves your careful consideration. Prices right, herd free from tuberculosis, and a guarantee goes with each animal.

## ALBECHAR HOLSTEIN FARM

SHULTHIS, ROBINSON & SHULTZ, OWNERS, INDEPENDENCE, KANSAS

CLYDE GIROD—At the Farm.

F. W. ROBINSON—At Towanda State Bank.

## HOLSTEIN FRESIAN FARM

PURE-BRED AND HIGH-GRADE HOLSTEINS, ALL AGES.

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

GIROD & ROBINSON, Towanda, Kansas

## 260 - HOLSTEIN COWS AND HEIFERS - 260

If you want Holstein cows, springers or bred heifers, see my herd. I have them. They are very large, good markings, out of the best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. Want to reduce my herd and will make bargain prices for thirty days.

J. C. ROBINSON

TOWANDA, KANSAS



## TORREY'S HOLSTEIN HEIFERS

High-grade Holstein heifers in single lots or car loads. Prices reasonable. Write, wire or phone.  
O. E. TORREY - TOWANDA, KANSAS

## Regier's Holsteins

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.  
G. REGIER & SONS, WHITEWATER, KAN.

## IN MISSOURI

Eight bulls, 2 to 8 months, \$100 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.  
S. W. COOKE & SON - MAYSVILLE, MO.

## SUNFLOWER HERD

Prince Artie Pontiac Abbecker No. 136392 Heads Sunflower Herd. Only 30-pound bull in Kansas. Buy where the best breeding, best producers come from.  
F. J. SEARLE, OSKALOOSA, KANSAS.  
(Several bulls ready for service.)

## BUTTER BRED HOLSTEINS

Registered bull calves. Prices reasonable. Write today. These bargains will not last long.  
J. P. MAST - SCRANTON, KANSAS

## REGISTERED HOLSTEINS

For Sale—Choice young bulls, also a few females. Have bred Holsteins 35 years on the same farm. Come and see our herd.  
M. E. MOORE & CO., CAMERON, MO.

## Bonnie Brae Holsteins

Ninety head of high-grade heifers and young cows. Some fresh now. Many heavy springers. Heifer calves. Registered bulls from 7 to 14 months of age.  
IRA ROMIG, STATION B, TOPEKA, KAN.

## Golden Belt Holstein Herd

Canary Butter Boy King No. 70508 in Service.

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

## REGISTERED HOLSTEIN BULL

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

## CORYDALE FARM HERD

Jewel Paul Butter Boy No. 94245 One of the best bred bulls in the state. We offer three bulls ready for service out of good producing dams.  
L. F. CORY & SON, Belleville, Kansas.

## FOR QUICK SALE

Fifty head of highly-bred registered Holstein-Friesian cows and heifers; good ages and good producers. Several bulls from calves up to yearlings. Ready for service.  
HIGGINBOTHAM BROS., Rossville, Kansas

## CHOICE HOLSTEIN BULLS

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

HOLSTEIN BULLS, "REGISTERED"  
Two ready for service. Smith & Hughes, Breeders, Route 2, Topeka, Kansas.

REGISTERED HOLSTEIN BULL CALVES  
My herd bull grandson Old King Segis, fine animal. E. VIOLETT, Altoona, Kansas.

HOLSTEIN CALVES, both sexes, fifteen-sixteenths pure, \$20 each, crated. Also carload heifers 1 and 2 years old. Write us for Holsteins. Edgewood Farm, Whitewater, Wis.

MENTION KANSAS FARMER WHEN WRITING ADVERTISERS.

## HOME FARM HOLSTEINS

## OFFER HEIFER CALVES

Five months up to 15 months; granddaughters of De Kol Burke, Fobes Tritonia, Mutual De Kol and Walker Korn-dyke Segis. Official record and untested dams. Prices, \$95 to \$325.  
W. B. BARNEY & SONS, Chapin, Iowa.

## REGISTERED HOLSTEIN-FRIESIAN BULLS

I have two excellent bulls ready for service, sired by Canary Butter Boy King 70508, from A. R. O. dams with 20 and 22-pound butter records as three-year-olds. Write for prices and description to  
HARRY W. MOLLHAGEN, Bushton, Kan.

## CEDARLANE HERD HOLSTEIN-FRIESIANS

T. M. Ewing, Prop., Independence, Kan.

Herd headed by a grandson of Pontiac Korndyke. The average record of his dam and sire's dam, 7 days, 29.4 pounds butter; 30 days, 117.3 pounds.

Several bull calves for sale sired by the above bull and from cows that produce as much as 80 pounds milk per day.

Better buy now while you can get choice.

## 23 - HOLSTEIN-FRIESIAN BULLS - 23

Best of sires. A. R. O. dams, fourteen over 20 pounds. Seven of the others from heifers with records of 14.89 to 19.2 pounds. The kind you want. We have only two cows in the herd with mature records less than 20 pounds.

Breeders for Thirty Years.

McKAY BROS., Waterloo, Iowa

## Registered Holsteins

For Sale—Fancy Holstein bull in service. Send for photo. First check for \$100 takes him.  
B. R. GOSNEY - MULVANE, KANSAS

## BRAEBURN HOLSTEINS

A 15-months bull, mostly white; dam has a 30-pound sister, and sire a 24-pound junior 2 sister; \$200. Younger ones less.  
H. B. Cowles, 608 Kansas Ave., Topeka, Kan.

We Believe that it is your desire when getting a bull, to buy a producer of good individuals that will meet the Advanced Register requirements for 300 days of each year.  
TREDICO FARM  
Kingman, Kansas

Route 44

## HEREFORD CATTLE.

## STAR BREEDING FARM

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

Holsteins for Sale High bred registered bulls ready for service  
N. S. AMSPACKER, JAMESTOWN, KAN.

## GALLOWAY CATTLE.

## GALLOWAY BULLS

FORTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.  
E. E. FRIZELL, Frizell, Pawnee Co., Kan.



# MAPLE LANE HERD BIG EASY KEEPING POLAND CHINAS

## Cholera Immune State Serum

## Public Sale of Bred Sows

AT FARM 2 1/2 MILES WEST OF

**JEWELL CITY, KANSAS, WED., MARCH 8, 1916**

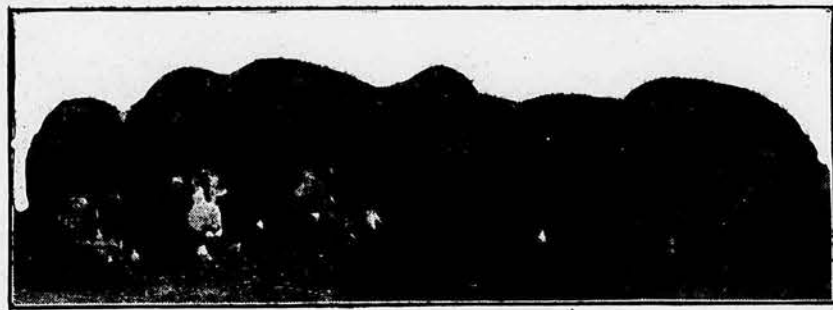
45 HEAD—TRIED SOWS, FALL YEARLINGS AND GILTS—45 HEAD

Our offering consists of ten tried sows, twenty fall yearlings and fifteen choice gilts. They are by such boars as Jumbo Ex, Long King's Best Son, Nebraska Chief, J's Wonder, Big Ben Amazon, Moore's Halvor, Referendum, Victor's Prospect, and Giant Chief Price. They are bred to a son of Big Bob Wonder, out of O. K.'s Maid, and Long King's Best Son.

A more useful lot of big-type sows will not be sold this year. They have the size and quality and are the ideal brood sow type.

If unable to attend sale, send mail bids to me personally or to auctioneer. They will receive careful attention. Write for catalog. Address

**JOHN KEMMERER, - - - - MANKATO, KANSAS**  
AUCTIONEER—COL. MEYERS.



## GUERNSEY CATTLE SALE

### NEWLIN DAIRY FARM

**Hutchinson, Kansas, Thursday, March 2, 1916**

Hourly Interurban Car—Wichita and Newton.

**SIXTY-FIVE HEAD**, consisting of twenty bred two-year-old heifers, a splendid lot of yearling heifers and heifer calves, a few high grade bull calves and one pure-bred Guernsey bull eight months old.

This offering has been raised here on the farm near Hutchinson. They are from extra milking Iowa and Wisconsin cows; one carload costing \$200 each, and by our pure-bred sires; one purchased of Kansas State Agricultural College, the other of William H. Jones, Waukesha, Wis. This is the choicest offering of Guernsey dairy cattle ever offered west of the Missouri River.

Ask the Department of Dairy Husbandry, Manhattan, Kan., or Secretary of Agriculture of Kansas about our Guernseys.

We are keeping the dams of this offering, fifty head, that produced in 1914 \$10,000 in milk, and almost as much in 1915.

Here is the place to buy richly bred Grade Guernseys—the real dairy type and kind. Come and see their mothers and sires. Sale at farm 1 1/4 miles from end of Monroe Street car line. Parties from a distance met at car line. Phone 839. Write today for further particulars. Address

**NEWLIN DAIRY, - - - - HUTCHINSON, KANSAS**

Auctioneer—Jesse Langford.

## FARM AND HERD.

The sale of Poland China and Duroc sows held at the Agricultural College February 19 was well attended. Twenty-three head of Durocs sold for an average of \$38 per head, twelve head of Poland Chinas averaged \$36.54 and the general average on the lot sold was \$46.54.

The sale of Duroc bred sows held by Thompson Bros., the well known Duroc breeders, held February 16, attracted a number of breeders from a distance. The blood lines of the stock offered was of the best, and the offering was not highly fitted. The forty-one head of sows and gilts sold for an average of \$27.38, which was a very conservative average, when the breeding of that herd is considered. Sows and gilts bred to Select Chief were in demand.

Catalogs are out for the Jack and stallion sale to be held by G. M. Scott, of Rea, Mo., March 8. Mr. Scott has cataloged twenty-six very fine Jacks and three Percheron stallions for this sale. He will also sell twenty head of fine mules. The sale will be held at Savannah, Mo.

T. E. Collins & Son, of Belleville, Kan., owners of Republic County Jack Farm, are among the progressive breeders of high class registered Jacks and Jennets, and have one of the good herds in the state. Some of the good Jacks now in service are from this farm. At this time they have a very fine lot of young Jacks and Jennets in the herd sired by the best bred Jacks now in service.

William Newlin, of the Newlin Dairy, Hutchinson, Kan., has announced a public sale for March 2 that will be of special interest to dairymen and breeders of dairy cattle. On that date he will sell sixty-five head of young Guernseys. There will be twenty head of bred two-year-old heifers, a choice lot of yearling heifers and heifer calves, one pure-bred Guernsey bull eight months old, and a few high grade bull calves. These heifers are from dams purchased in some of the best herds in Wisconsin. They were selected by Prof. O. E. Reed, of the Agricultural College, Manhattan, one carload costing \$200 each. This foundation stock has proven a very profitable investment for Mr. Newlin, as they produced last year \$292 each for milk and in 1914 this herd produced \$10,000 for milk alone. The offering is from high producing stock and will make good on any farm with ordinary care. Mr. Newlin has one of the noted dairies in this state and it is well worth a trip to Hutchinson to see the herd and have Bill Newlin tell how he succeeded with Guernseys.

## Improving the Farm Flock.

Improvement with farm animals comes from proper methods of selection and breeding. Feeding enables the animal to do its best, but its ability is determined by its breeding. This being true, it will be seen that failure often comes through improper methods of breeding.

If the proper selections and matings are made for the breeding yards, the flock next year will be better than this year. If improper selections are made, the flock will not be as good as this year, and if eggs for incubation are taken from a mixed flock in a haphazard manner, haphazard or uncertain results will be sure to follow.

One mistake often made is to set the first hen to go broody in the spring. The best hen there is on any farm is the hen which lays during the winter season, and she is usually the first hen to go broody in the spring. About the time the winter layer goes broody, the non-winter layer begins to lay. By setting the first hen to go broody in the spring on eggs from the flock, usually means that the good layer is set on the non-winter layer's eggs, and as a result the good winter layer spends three weeks incubating the eggs and perhaps six weeks brooding the chicks. The final results are that the good hen has spent about nine weeks raising a brood of chickens from the poor hen; therefore, none of her eggs have been used for incubation.

The better plan is to select the good winter layers and place them in a breeding yard with a good male, and by using their eggs for incubation, we can raise chicks from the good hens, which will improve the egg production of the flock.

Where incubators and brooders are used, it is easier to get chicks from the winter layers, for incubation can be done earlier in the season and before the poor layers begin to lay.

In order to secure a good hatch of

## JERSEY CATTLE.



**The Giant Of The Dairy**

**Grade up with a Jersey Bull!** He is half the herd, and the breed determines half the profits. Breed him to your grade cows and bring the herd average near the Jersey average—459 pounds of butter fat per year. Your calves will be beauties. They'll mature quickly into gentle, hardy, vigorous and persistent milkers, long-lived and adapted to any climate. Let us tell you more about them. Send for our book, "The Story of The Jersey." It's free and it's a dandy.

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## JERSEY CATTLE AND CHESTER WHITE HOGS

Two registered Jersey bulls ready for service. Richly bred.

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**BLUE BOY BARON 99918**  
Five years old, solid light fawn, blue ribbon winner. Must change. Keeping his heifers. His sire, half brother to Noble of Oaklands, sold for \$15,000. His first five dams on his dam's side made 102 lbs. butter in seven days. Also four of his sons, serviceable age, and a few females. Will sell very cheap.

**S. S. SMITH, CLAY CENTER, KANSAS.**

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The famous Blue Belle-Golden Rosebay breeding. A few bred heifers and young bulls for sale, singly, pair or trio. Send for circular giving description of herd, breeding, production, etc., and mention your wants.

**The Ennis Stock Farm, Horine Station, Mo.**  
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## JERSEY BULLS

For Sale—A few great young bulls, ready for light service. Splendid individuals of most popular breeding, sired by Blue Belle's Owl 7944 and H. F. Golden Fern's Lad 9th 101728, all out of great dams. Only bulls from our very best cows, raised and offered for sale. You must buy a good one if you buy here. Address

**ROLLA OLIVER, Box 701, St. Joseph, Mo.**

## CHOICE JERSEY BULL

Yearling Jersey bull for sale, from dam that gave 1,260 pounds of 5 per cent milk in thirty days. Also a bred heifer and a five-months-old heifer calf.

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## LINSCOTT JERSEYS.

First Register of Merit Herd in Kansas—Established 1878.  
Oakland Sultan, first Register of Merit sire in Kansas, is dead. Last chance to get one of his daughters, \$100.

**R. J. LINSKOTT - HOLTON, KANSAS**

strong chicks, care should be used to select eggs which have good shell texture, and uniform in size and shape. One reason why a hen which steals her nest usually hatches a good per cent is that the eggs are all uniform.

The results of many tests at this station indicate that from ten to twenty females with one male gives better fertility than a larger or smaller number; the larger breeds, ten; the medium, fifteen; and smaller ones, twenty females with each male. A sterile hen will produce fertile eggs in about three days after a male is placed in the pen, and the eggs will remain fertile often for twenty days after the male has been removed from the pen. Cockerels mated with hens and cocks with pullets usually give best results.—Missouri Experiment Station Bulletin.

## OHIO IMPROVED CHESTERS

### Murray's O. I. C. Chesters

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

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Pure-bred O. I. C. pigs, 3 1/2 months old. Seven boars, one gilt, \$10 each. They are good ones. One pure-bred Jersey bull 27 months old, weight 1,100, \$65.00.

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Extra good gilts bred for March farrow. Also choice males. All priced reasonable.

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### RED POLLED BULLS

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

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AND PERCHERON HORSES.

A few choice bulls. Eight extra good two-year-old stallions for sale at reasonable prices.

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### RED POLLED CATTLE

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

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### RED POLLED CATTLE.

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

**L. W. POULTON - MEDORA, KANSAS**

### RED POLLED CATTLE

A few choice young bulls for sale. Priced reasonably. T. A. Hawkins, Hill City, Kan.

### BERKSHIRE HOGS.

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

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## DUROC JERSEYS.

### Sisco's Duroc Jerseys PRIZE WINNING BLOOD

Big, growthy, richly-bred gilts, bred to a choice son of the great boar, A Critic, for spring farrow. Outstanding spring boars. Also a choice herd boar. Prices right.

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Twenty spring yearling bred gilts sired by Klondyke and bred to a grandson of B. & C's Col, for May farrow. Price, \$30. First check gets choice. I guarantee satisfaction or money back. Write today, they will sell quick.

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By the great Duroc Jersey boars. Country Gentleman, Gold Medal and Long Wonder 2d. Bred to Country Gentleman and Gold Medal. All immune. Prize winning blood. We price them right.

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Pedigreed Duroc gilts, prize winning blood, guaranteed immune and in farrow. Shipped to purchaser on approval before he pays for them. Prices reasonable. Address

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Durocs of the most approved type and breeding. Bred gilts, open gilts, and pigs, either sex. Prices reasonable.

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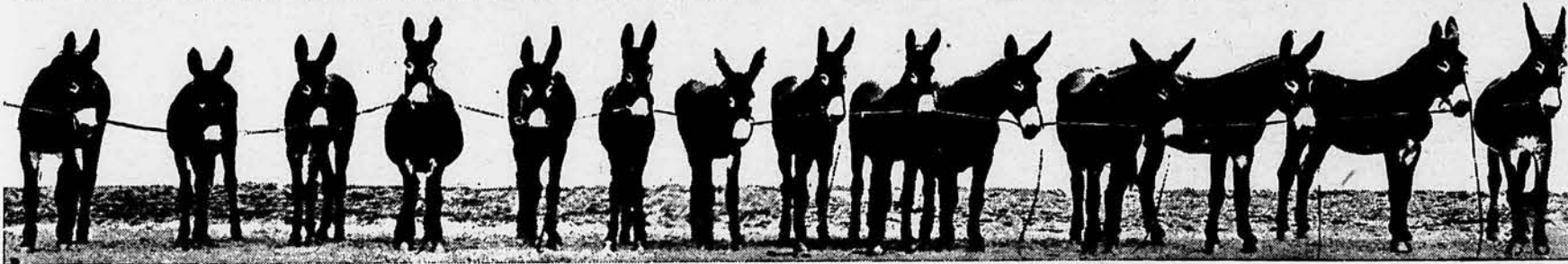
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The World's Premier Championship at the Panama-Pacific International Exposition, for Both Breeder and Exhibitor



OUR HERD HEADERS—WORLD'S FAIR AND STATE FAIR CHAMPIONS.

These being the award for the largest aggregate amount awarded to animals bred by any one breeder exhibiting, and the largest aggregate amount awarded to animals owned by one exhibitor.

These premiums included the following purple ribbons:

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In the classes we won: Second and fifth prizes on aged jack; first and second on jack 3 years old and under 4; first prize on jack 2 years old and under 3; first and second prizes on jennet 4 years old and over; third prize on jennet 3 years old and under 4; first and fourth prizes on jennet 2 years old and under 3; first, second and fifth prizes on jennet 1 year old and under 2.

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First and third prizes for produce of one jennet; first, third and fifth prizes for stud of jack and three jennets, and first prize for stud bred by exhibitor.

These winnings illustrate the constant advancement of the Limestone Valley Herd, which won the Premier Championships at the St. Louis Exposition in 1904, winning 72 ribbons with an exhibit of 30 head, for at San Francisco this year we won 66 ribbons on an exhibit of 14 head—and again annexed both Premier Championships.

**Forty Years Of Successful Breeding** ARE BACK OF OUR INVITATION TO YOU TO ATTEND OUR **37th Annual Sale, March 7 and 8, 1916**

We will sell in this great two days' sale 100 head of High Class Registered Mammoth Jacks and Jennets, including most of our Panama-Pacific Show Herd. High class herd headers; jennets bred to Our Champion Jacks, Orphan Boy 10743; 696, and Limestone Monarch 8563; 3254.

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AT MY FARM NEAR

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**TWENTY MATURE JACKS**, three yearling jacks, seven jack colts, a number sired by Dr. McCord.

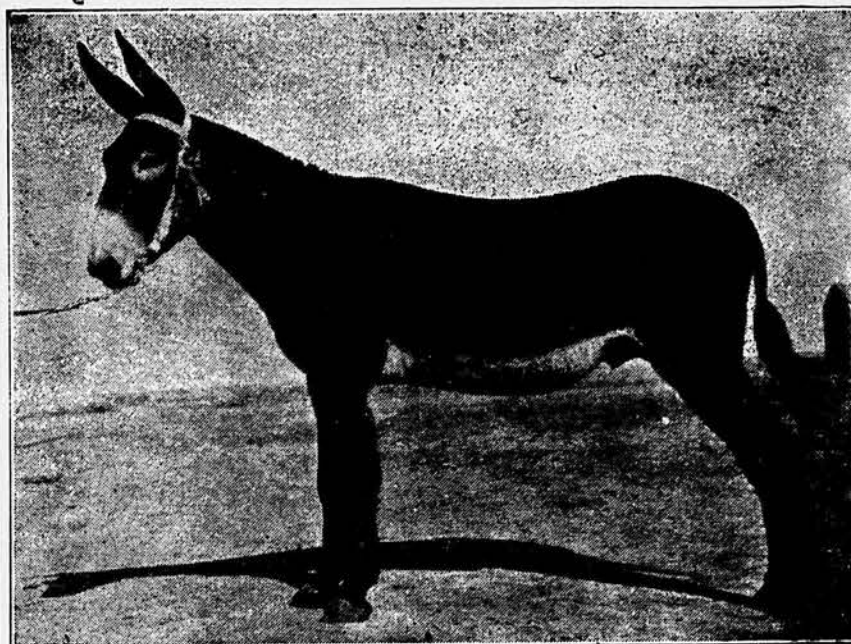
**THIRTY JENNETS**—A number of these jennets are sired by Dr. McCord and bred to my herd jack, Great Eastern, and Dr. McCord 3d, the best jack Dr. McCord ever sired. This is the best lot I have ever offered for sale.

Send for catalog and come to sale. Remember the date is Monday, March 6.

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**T**HE firm of Saunders & Maggard, Poplar Plains, Ky., has shipped twenty head of jacks to Newton, Kansas, and they will be for sale privately at Welsh's Transfer Barn. This is a well bred load of jacks, including one imported jack, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. We will make prices reasonable, as we want to close them out in the next thirty days. Anyone wanting a good jack will do well to call and see them. Barn two blocks from Santa Fe Depot, one block from Interurban. Come and see us.

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ONE day last Autumn, eighty stock Maxwell automobiles left Buffalo, N.Y., for as many points along the Atlantic Coast, from Portland, Me., to Baltimore, Md.

Every item of expense of these eighty Maxwells—for gasoline, oil, tires, and repairs—was carefully checked and recorded.

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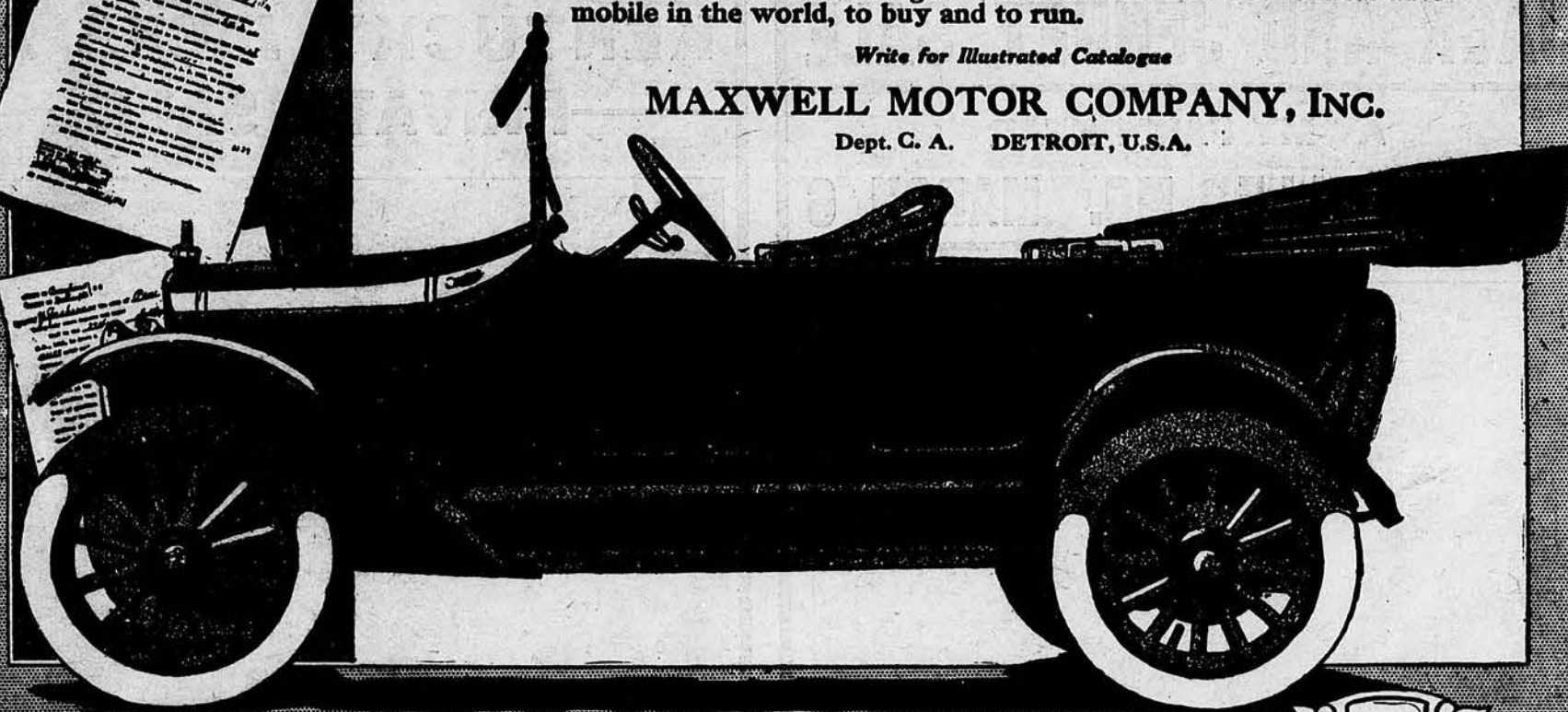
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**ELECTRIC**—Starter and Electric Lights.  
**MOTOR**—Four-cylinder, L-head type, cast in bloc. Bore 3½ in.; stroke 4½ in.  
**MAGNETO**—Simms high tension.  
**CLUTCH**—Cone, faced with multibestos lining, runs in oil.  
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**WHEEL BASE**—103 inches; tread 56 in.; 60 in. optional for the South.  
**WHEELS**—Artillery, of best grade hickory; with demountable rims.  
**TIRES**—36x3½ in., front and rear. Famous make of anti-skid tires in rear.  
**SPRINGS**—Front, semi-elliptic. 32 in. long. Rear ¼-elliptic, lower half 40 in. long.  
**AXLES**—Front, drop-forged, I-beam section, complete with spring seats. Rear, floating type.

**BRAKES**—Internal and external, actuated on 12½ in. drums on rear wheels.  
**EQUIPMENT**—Two electric head lights with dimmer, electric tail light, generator, storage battery, electric horn, speedometer, "one-man" mohair top with envelope and quick adjustable storm curtains, double ventilating rain-vision windshield, improved instrument board with all instruments set flush, spare tire carrier with extra demountable rim, jack and tools.

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