

# KANSAS FARMER

For the improvement

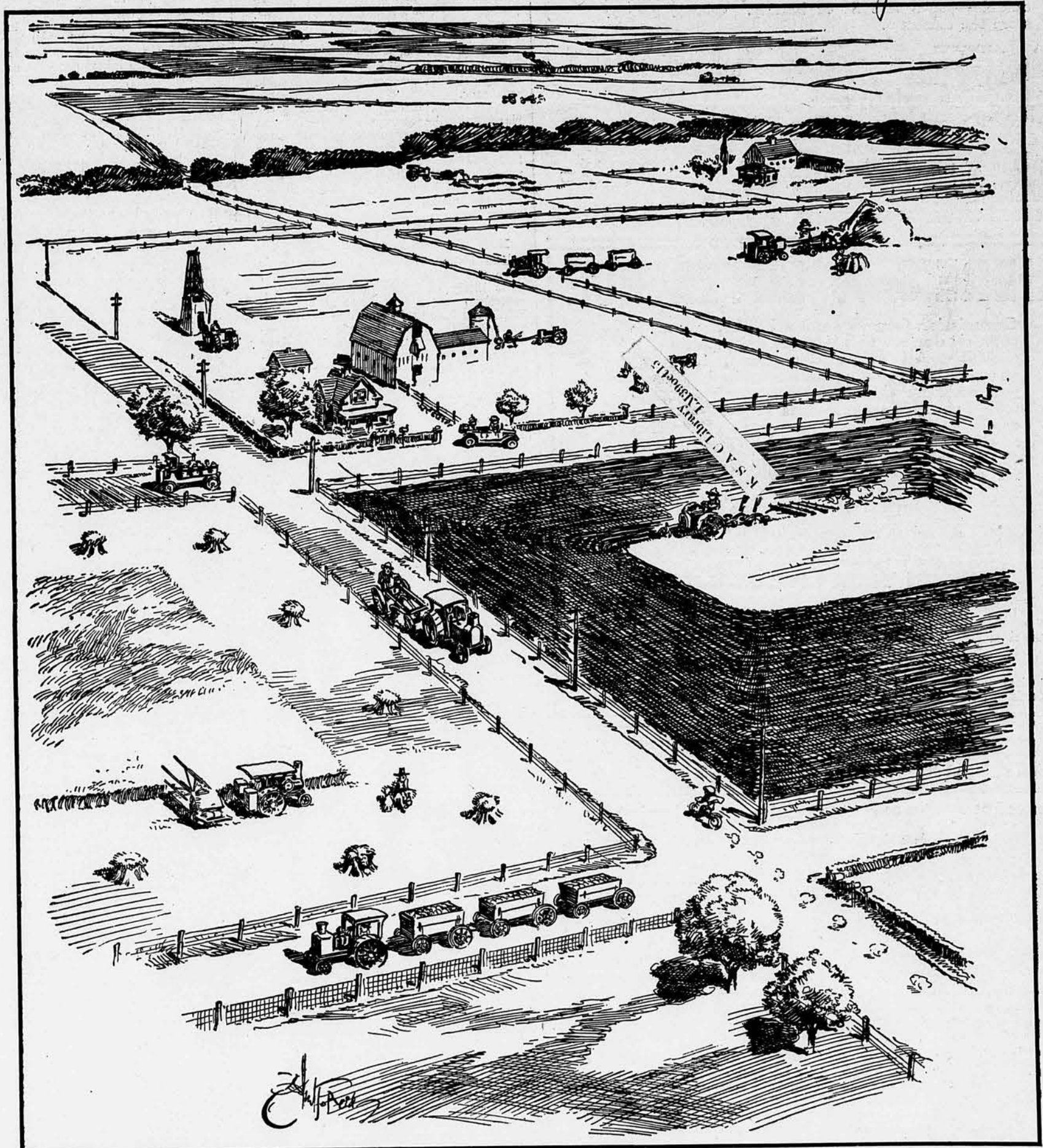


of the Farm and Home

Volume 54, Number 7.

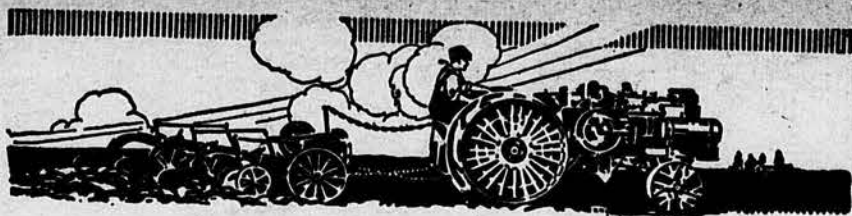
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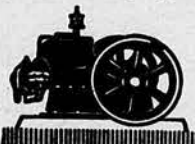
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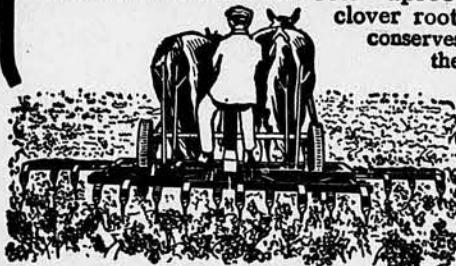
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## BRAKE AND CLUTCH

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

**I**N an internal combustion engine of the gasoline motor type, the source of power is the explosion of a volume of gas compressed between the top of the cylinder and the head of the piston. Proper compression is therefore essential to the full and sustained production of the power called for in the design of the motor, and to secure it is a matter of extreme niceness in adjustment.

The piston head must be free to move rapidly within the cylinder and to do so it must be allowed some play. It can not, therefore, be required to obtain a bearing on the internal surface of the cylinder walls as well, for the purpose of preventing the escape of the gas which it compresses on the up-stroke. To take care of this feature light, springy metal rings are fitted into grooves around the piston head. These secure the necessary tension on the cylinder walls and serve to hold back the gas without affecting or retarding the piston's free movement.

Where gas leakage occurs around the piston compression is reduced, the explosion of the gas is weakened in force and the motor begins to labor and stall over work that once caused it no trouble whatever.

Whenever this condition develops the rings should be inspected. Tinkering and overhauling is expensive in both time and money, and if the piston rings are left out of consideration, may often prove ineffective and wasteful. No overhauling can be considered thorough unless the piston rings come in for examination.

### More Tractors More Human Food.

The automobile and the motorcycle have not brought a horseless age, nor is it likely that the farm tractor will entirely put the horse out of business. While the horse will continue to furnish power on the farm, there is every reason to believe that motors of various kinds, and tractors will decrease the proportion of labor done by horses and so reduce their number as compared with the acres cultivated.

With the more general use of tractors, less of the land cultivated will be needed to supply feed for horses. Where horses are used entirely it requires quite a large amount of land simply to grow feed for them. This is going around in a circle. As it becomes possible to turn more of the feed crops grown to such live stock as are converted into meat and return milk or other products, a larger amount of the feed will be turned to the supplying of human needs. It is certain that more productive live stock can be kept on a farm where one team and a tractor do the work, than on a farm where three or four teams do the same work. This gradual shifting of the various crops now used to feed horses, to the maintenance of cattle, sheep and hogs, may be looked for as one of the results of the increasing use of tractors for farm work. The horse will be relieved of his heaviest burdens and at the same time thousands of acres of land now used for the production of power will be turned to the production of human food.

### Safety Rules in Car Driving.

Always turn to the right in meeting vehicles in the road. In cities, always drive to the right side of the street as near the curb as possible for convenience.

Always turn to the left in passing other vehicles and do not again turn to the right until clear of such vehicle or vehicles.

In making turns or changing the course of your machine in any way, always signal and give drivers behind you some indication of what your intention is. Never swing sharply to either side without signalling to drivers behind you.

In turning corners to the right, turn as near the right side of the road or street as possible. In turning to the left, always pass the center of the road or street before turning.

In crossing to the other side of roads and streets, always turn your machine so you head in the way other cars are going. In cities, never turn around in the middle of the street. Always go to the corners to turn around.

In cities, never stop your machine unless you are headed to the right of the street. Never pass other cars at the intersections of streets in the business districts. Take your turn.

The fellow turning to the right always has the right of way at the corners. Don't cut in ahead of him. If you do, you are guilty of negligence.

Never leave your machine standing in

the street with the motor running, when there is no one in it. It is negligent to do so.

Never stop your machine at the corners of a street when in the cities. Never stop your machine in front of a fire plug.

Always stop your machine close to the curb on the right hand side of streets when in the cities.

### High Tension Magnetos.

High tension magnetos are made in a variety of forms. Any of them do their appointed work if properly adjusted and cared for. Some have a rotating armature with only a primary winding. This armature generates two waves of electric energy every revolution. Such a magneto is capable of making two sparks, provided a circuit breaker interrupts each wave near its maximum force, and the current is caused to pass through a coil mounted as an integral part of the magneto. The coil is of the transformer type with two windings. Usually but two layers next the core are used for the primary current from the magneto armature. These two layers are fairly heavy copper wire, well insulated from the core of the coil, and each turn of itself. The secondary current is generated in the outer coil of very fine insulated wire. One end of this secondary coil is grounded to the magneto frame, the other end is led to the center of the distributor, and from there sent to the proper plug on the firing cylinder. From the plug the return circuit to the coil is the frame of the engine and the frame of the magneto.

Some other makes of high tension magnetos do not have a rotating armature with a winding of wire on it for generating the primary current. Instead, there is a primary winding around the helix, through which passes the rotor of soft iron. On each side of the primary helix, the rotor has a head shaped somewhat like a parallelogram. These heads are set at right angles to each other and rotate as a single part. As this rotor is turned, one end is in a neutral magnetic position at the time the other end is most strongly affected by the magnets. A little thought will serve to show one that for each complete turn of the rotor, each head will be in position to be magnetized twice, and four magnetic impulses will be created in the rotor which can react on the primary winding of the helix, and four waves of electricity be generated. As the primary winding on the helix does not revolve, there is nothing to prevent the secondary coil being built directly around it. A simplified instrument is the result, which has nothing to get out of order but the bearings of the rotor, and the contact points in the breaker box.

The second type of magneto can furnish proper ignition for a four-cylinder engine, when running at cam shaft speed. It is easy to start an engine direct from the magneto with but a quarter turn of the engine.

An excess of carbon in a lubricating oil causes heavy deposits in the cylinders and on the pistons and rings. This causes friction—and the power required to overcome this friction reduces the available horsepower of your motor. Moreover, whenever there is friction in an auto engine, the bearing surfaces are being worn away unnecessarily. This means expensive repair bills, and, ultimately, requires the replacing of the entire motor—years before that would be necessary had the cylinders been lubricated properly.

Keep your tires blown up all the time. Don't be afraid to put more air in them than you think necessary. There is no other way by which you can so surely make your tires deliver extra mileage. When a tire blows out, don't look for the cause at the time of the blowout. Look months and months back, to the time when you ran your car with the tire very much under-inflated. Automobile owners who live in the country do not, as a rule, need a word of warning which must be given the city man. That is, not to run in car tracks. A tire which is run in car tracks cannot deliver its normal mileage. An automobile tire will stand a tremendous amount of abuse, but the man who does not abuse his tires but gives them a chance to deliver the mileage which they will if given a chance, saves himself a good deal of money, and the exasperation which results from roadway delays.





# KANSAS FARMER

The Standard Farm Paper of Kansas

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## REAL ESTATE TITLES.

We wonder how long owners of real estate in Kansas will put up with our present cumbersome and expensive system of handling land titles. Transfers of ownership of stocks and bonds and properties of similar nature can be quickly and cheaply made. Why make such exception in the case of land, which is the true basis of all wealth? The man holding land should have a title defensible against the world.

The simplifying of the system of handling titles in land is one of the ways for making money cheaper for the farmer. Any system that facilitates and encourages the merchantability of land, whether for purposes of sale or as security for loans, is a money-saver. Simple systems of handling land titles have been worked out and are in operation. What is known as the "Torrens System" of land registration is in use in a good many states and no state as yet has discarded it. Where the Torrens system of land titles is in operation, loans have been made on real estate the same day on which the application was filed. Whoever heard of such a thing happening here in Kansas where we still tolerate the expensive and time-consuming system of land transfers with which all who have had anything to do with buying or selling land, are familiar? A man in a state using the Torrens system can sell a farm and instead of executing the usual contract and then waiting for weeks for the title to be examined and deficiencies made good, can make out a deed at once, surrender to the registrar his duplicate certificate of title and have a new one issued at once to the buyer. The transaction can be completed in a few hours. The title is indefeasible for it is backed by the state and an assurance fund is in the state treasury as an additional guarantee.

Some such simplified system of titles is a serious need in our state. The Torrens system or some modification of it has been adopted in a number of states. A fruitless effort was made in Kansas at the last session of the legislature, to pass a law that would give us a less complicated and less expensive method of recording and transferring land titles. The State Grange has this matter under advisement and it will be through some such organized effort that results will finally be secured. This is one of the many questions of importance to the farmer, which the grange might well take up and push to its accomplishment. Kansas need not necessarily adopt some other system such as the Torrens. We have ability enough in the state to work out a distinctly Kansas system adapted to our conditions.

Nothing but self-interest and ignorance can be held responsible for any efforts that may be made to perpetuate the present obsolete system. Farmers have a right to demand that their assets in the form of real estate be made as merchantable as bonds or notes or cattle or any other property.

## POWER OF SISAL MONOPOLY.

There can be no question as to the complete power of the sisal monopoly to which we referred in KANSAS FARMER last week. There is no such thing as competitive buying of fiber in Yucatan. There is no selling of sisal except by the "regulating committee," as it is called. The inability to get any other form of fiber at the present time has made this monopoly possible, but without the support of the American financiers it would be powerless. That it has cornered the supply is evident from the fact that the price of fiber has been steadily advanced from 6½ cents a pound in November to 7½ cents in January. In an interview printed in the New York Times, December 30, 1915, the representative of this regulating committee in the United States said:

"The price is now 7½ cents per pound and we could raise it to 10 cents a pound if we chose."

Meanwhile Yucatan planters are getting only 4 cents a pound for the product. There is no shortage in the supply, for the 1915 production was the largest on record. It is evident that the added expense to the farmers for twine this

year cannot be laid to American manufacturers, but to the Pan-American Commission Corporation, which is the name of the million-dollar concern financing this monopoly. They will make a double profit, namely, 6 per cent interest on the money loaned, which is said to be ten million dollars, and in addition a commission or bonus of 5 per cent on all fiber sold in this country. This alone will amount, on the basis of average American consumption of sisal, to a million dollars this year, or 100 per cent dividend on the capital stock of the corporation. Is it any wonder that a storm of protest has been called forth? The McCumber resolution in the Senate, and the Cox resolution in the House, called for the appointment of special committees to investigate this sisal fiber trust. The farmers who are to be bled by this merciless trust should not let up on their congressmen until definite action has been taken.

Seed corn should have been selected and stored last fall, but there are probably some who failed to do this. They must either buy their seed or get it from the crib. Germinable seed of the well adapted varieties is absolutely necessary for best results in corn growing. If seed must be selected from the crib, the sooner it is done the better. Going to the crib at planting time for seed corn is a poor practice. After the rush of spring work begins, there is little time to spend sorting over corn for suitable seed. The only way to be sure that the corn will grow is to test it, and this takes a little time and effort. By doing these things now, more and better corn will be raised, and at practically no extra expense. It costs just as much in labor to prepare the land and cultivate poor corn as it does to grow good corn. If no provision has been made for seed corn, it would be money well spent to buy some seed from a man who has made some special effort to select and care for it properly.

## THAT EXTRA DAY.

We have an extra day handed to us this month. Once in four years we have this extra time to be wasted or used. Is there not some special way in which the extra time can be employed, or shall we let it slip by unnoticed, as usual? Something might be started on that day that would stay with us through the whole year. On many a farm people have had visions of something they wished to do, but somehow the time to get the thing actually started never seems to come. Well, here it is this year—an extra day. Perhaps we have wanted to have a general cleaning-up about the place. If the extra day should be put to this use it would most assuredly be kept in mind for a long time. Perhaps getting started at the beginning of the season's work with things about the farmstead in a more tidy condition, will be all that will be needed to keep the interest up the whole year and as a result a habit of orderliness will be formed.

There may be other important projects that have been indefinitely postponed because of lack of time to get them started. Some such use of the extra day will make it a real addition to the year's opportunities.

## TREATING SEED OATS FOR SMUT.

Again we would remind our readers of the ease with which smut in small grain can be prevented. So simple a remedy as the formalin treatment of the seed is a sure cure. Every year smut in oats causes heavy losses. The spores of this smut pass the winter on the seed and if it is planted without treatment these spores will grow and the smut plant will develop within the oat plant. When the grain begins to form the smut will replace the kernel and the dust-like spores are ready to be scattered broadcast and contaminate the grain from which the next year's seed will be selected.

A pint of formalin in forty or fifty gallons of water, should be used in treating seed. The formalin can be purchased from any druggist. The oats should be sacked and dipped in this solu-

tion, or piled on the granary floor and thoroughly wet with it. The grain should be covered with blankets for four or five hours or the formalin will evaporate too quickly. The seed should be stirred frequently while drying to prevent heating. The grain should not be placed in contaminated bins or sacks or it will become re-infected with the spores of the smut and the work will have been useless.

## WHY NEGLECT THE ORCHARD?

Fruit may well be considered as one of the necessities of life. "An apple a day will keep the doctor away," is an adage with much truth in it. We fear, however, there are many boys and girls in Kansas who are not getting the apple a day. From orchards everywhere are greatly neglected. The old idea that simply setting out some trees was all that was necessary to insure a supply of fruit in due time, will not hold good now. There are numerous insect enemies and plant diseases that were not known in the early days. The neglected orchard will produce in about the same proportion as will a neglected milk cow or a neglected flock of poultry.

In Northeastern Kansas some seven or eight years ago, large commercial orchards were being grubbed out because the land was considered worth more for growing corn than for the fruit that was being produced. That has all been changed. Fruit growers awoke to the situation, and through a well organized and systematic campaign, fruit growing in that section has again become a most profitable enterprise.

On the small farm it would be far better to cut out half of the orchard and give real orchard care to a few trees than to permit a larger number of trees to go without care. Many do not know how to properly prune and spray, but it is not a difficult matter to secure this information. In most neighborhoods there is at least one man who does understand orchard care, and those who do not can learn from him. A well-cared-for farm orchard will add quite a substantial amount to the farm income. Some may say that they can buy fruit cheaper than they can produce it, but when it comes to an actual test we fear that in many cases the fruit will not be purchased.

## BREAK UP ICE CRUST.

A sheet of ice such as has covered much of the ground in Kansas the past two weeks, can do great damage to such crops as wheat and alfalfa. In the season of 1909-10 a great deal of wheat and alfalfa was killed by such a covering of ice. The present conditions are not identical with those of that season, as then the ice sheet was formed on unfrozen ground after the plants had made some fresh growth. This year the ground was frozen when the sleet fell and the damage is not likely to be as great. If the ice continues it would be a wise precautionary measure to run a heavily weighted disk over wheat and alfalfa fields. This will break up the crust and permit air to reach the plants. The disks should be set nearly straight. Alfalfa renovators and rollers filled with spikes have been tried, but have proven no more satisfactory than the disk.

Today we do honor to Abraham Lincoln. There are few now living who knew him personally, but his deeds in the darkest hours that ever came to this nation, insure him a place in the heart of every true American. The traits of character that made him great may well be held up before the youth of our land for emulation.

No business can run itself. The more thought and care given it, the more satisfactory it will be. Of no business is this more true than of farming.

Most vegetables need rich, well-worked soil. Having this, and adding thorough cultivation and care, anyone can have a number-one garden.

Dairying produces a human food for which there is no substitute and for which there will always be a constant demand and an opportunity to supply at reasonable prices.

## ENGINE SAVES HUMAN ENERGY.

From an economic standpoint the gasoline engine has revolutionized the work of the farm. There are countless jobs about the house and farm buildings that call for the expenditure of tedious, back-breaking labor. Not only this, but they require a great deal of time in proportion to the results. The turning of the grindstone to grind the sections of the sickle, seems almost an endless job to the boy who turns the crank. With the same grindstone hooked up to a gasoline engine, the sickle is ground in almost no time and the job is better done than when the power was furnished by hand. The pumping of water is another back-breaking job, and where this has been done by hand many an animal has not received as much water as it wanted because the human engine got tired before it was satisfied. Then there is the shelling of corn, the turning of the separator, the working of the washing machine—all of these requiring but a small amount of power, but when furnished by hand it is most exhausting and seems endless.

It is now practical to perform every one of these operations with a gasoline engine. An almost endless amount of human energy is saved, and a great deal of time as well. In addition to performing such operations, the house may be equipped with electric lights operated by gasoline engine. The men can saw wood with the same engine, and power can be furnished to operate a vacuum cleaning outfit. The more jobs you can hitch up to the gasoline engine, the more profitable it becomes. On some farms even the cows are milked by gasoline power, and any one who has milked ten or twelve cows twice a day will appreciate what it means to be able to do the same work by power in half the time.

Gasoline engines are not to be considered as luxuries. An increasingly large number of farmers use them each year because they are real money-makers. In fact, on many farms they are being considered as absolute necessities. Any farmer who will take time to study his farm needs, look about for ways in which he can help the women of his household to do their work with greater convenience and less drudgery, will find so many ways that he can profitably use such power that he can hardly afford to do otherwise than invest the necessary money in the power needed to accomplish these purposes. There is a limit to human energy and this wonderful labor-saver will not only lighten the drudgery of the farm but will make it possible to do many things that have previously been left undone.

The gasoline engine is truly a conservator of time and energy and no other piece of modern equipment will return a greater income on the investment.

## FARM CONGRESS AT EMPORIA.

At the close of the Fourth District Farm Congress held at the State Normal School at Emporia, a year ago, a unanimous request was made by the farmers present for an agricultural short course to be given in 1916 at the normal. It has just been announced that this course will be given February 14 to 18 inclusive. For four years the progressive farmers of this district have been trying to organize their interests and help one another in their many problems through this annual conference.

Two days of the meeting this year—February 16 and 17—will be given to the farm women. The discussions will pertain to the social and economic needs of the farm home and the rural community.

On Friday, February 18, there will be a rural life conference where some of the best authorities in the country will discuss rural life problems. The day will close with a play, "Back to the Farm," given by the students of the normal.

This short course and conference promises to be exceptionally helpful this year and should be well attended by the farmers of Lyon and neighboring counties.

Do not try to grow plants without giving them fresh air—not cold. This should be remembered in connection with the house boxes, and the hotbeds should be ventilated on warm, bright days.



# POWER OF GAS TRACTOR

*Compare Actual Work Done Rather Than Horse-Power Ratings*

**T**HE rapid progress which has been occurring in the development of the farm gas tractor and the constantly increasing number of men who are purchasing or contemplating the purchase of one of these outfits seem to warrant the issuing of some information with regard to a feature concerning which there is considerable confusion, i. e., the power ratings of tractors.

Nearly everyone knows the definition of a "horsepower" as given in school arithmetics, etc., namely, "the power required to raise a weight of 33,000 pounds to a height of 1 foot in one minute." As this is a definite, fixed unit of power, one would naturally suppose that the horsepower ratings of two tractors would be a logical and reliable means of comparing their ability to perform work; that a tractor rated at 30 horsepower on the drawbar would be twice as powerful and capable of doing twice as much work as one rated at 15 horsepower on the drawbar, for example. This supposition would be correct but for the fact that there has been no definite standard used in ascertaining the horsepower developed by tractors and the percentage of the power actually developed, which should be taken for their catalogue rating. The various manufacturers have followed their own judgment in the matter, and as a result several methods of rating are being used, with a consequent lack of uniformity.

#### CATALOGUE RATINGS DIFFER.

It is because of this fact that at the present time it is quite common to find two tractors doing practically the same amount of work and clearly of about equal power although with widely different catalogue ratings. It is obvious that either the outfit with a low catalogue rating has been underrated by its manufacturer or that the second machine has been overrated, or perhaps both have occurred. It would seem advisable, therefore, that steps be taken to bring about a standard rule for ascertaining and designating the horsepower of tractors. It is not so important, perhaps, what particular method is followed so long as the same method is used by all manufacturers, thus avoiding having machines of the same power given such varying ratings.

A movement is already on foot in the department to bring about the adoption of some standard. Until one has been decided upon and adopted, it is suggested that farmers, in comparing different makes of tractors, should give particular attention to the number of plows pulled and the amount of work done by the various machines, and that less attention be paid to catalogue ratings.

#### FARMERS SHOULD COMPARE WORK.

When outfits can be seen working side by side, as at the tractor demonstrations which are being held throughout the country, the amount of work done is of more value in comparing the relative power than are the manufacturers' ratings, unless exactly the same method has been used in each case.

It is obvious that two tractors—each pulling the same number of plows of equal size, at equal depth, in the same soil, and each moving at the same speed—are exerting practically equal amounts of power on the drawbar. In such case, if each is pulling its normal load, they should have the same drawbar rating. It is not at all uncommon, however, as previously stated, to find tractors under such conditions with widely different ratings. By using as a standard the amount of work done by different tractors, therefore, a very fair comparison of the drawbar horsepower can be obtained. With this known, a good idea of the power of the motor can be gained. If, in the case just mentioned, one of the machines was considerably heavier than the other, it is apparent that it would require more power to move its own weight and that it would therefore not be capable of exerting on the drawbar as large a percentage of the motor's total power as would the other machine, assuming that the loss of power through gears, etc., in the transmission was the same. It naturally follows that the motor on the heaviest machine would develop more power on the belt than would the one on the lighter outfit.

#### ESTIMATING BELT POWER.

The terms "brake" or "belt" horsepower mean exactly the same thing and are used to denote the amount of power which the engine will develop and transmit to a belt for stationary work, such as threshing. This amount of power may be computed by different formulas

or may be ascertained definitely by actual measurement with a proper apparatus. This accounts for some of the lack of uniformity in ratings. Some companies carefully measure the amount of power developed by each engine before it leaves the factory and then give their engine a catalogue rating equivalent to its maximum power output; others will deduct a certain amount from the maximum horsepower as ascertained and rate their engine at various percentages of this figure in order to be on the safe side, and to underrate their outfit rather than overrate it, while some companies do not measure the amount of power the engine actually develops, but compute it. With the diameter of cylinder, the length of stroke, and the number of revolutions per minute known, the horsepower which will be developed by an engine can be computed with a fair degree of accuracy, although there are a number of formulas used, several of which give somewhat different results.

#### RATE OF MOVEMENT A FACTOR.

In comparing the power of two tractors the speed at which they are moving must always be considered. A tractor pulling two plows at two miles an hour

conditions should strike a particularly hard spot where the draft was doubled for a few minutes it would stall; while 10 horses under similar conditions could readily increase their pull sufficiently to meet the increased draft.

From this it will be seen that in cases where the draft will vary (and this occurs in practically all kinds of farm work because of grades, soil variation, etc.), the load which a tractor will handle satisfactorily is that which it can pull up the steepest grade or through the toughest soil in the field. This load may be only half of what it can pull under more favorable conditions in the same field. It will also be apparent that the working load of a tractor under ordinary farm conditions is considerably less than the normal load for its drawbar equivalent in horses, that is, a tractor of 10 horsepower on the drawbar will not pull, except under constantly favorable conditions, the load which a 10-horse team would normally pull. The difference might be said to be entirely in the overload capacity of these two prime movers. With a tractor, its maximum power is practically its normal power, because it is capable of pulling this load continu-

In connection with road work, traction engines have been utilized for pulling graders, scrapers, road plows, drags, and other road implements as well as road materials.

About 75 manufacturers are building traction engines in the United States. The designs differ greatly. Some have engines with horizontal cylinders, others with vertical cylinders. In some cases the power of the engine is given to one wheel, in others to two, while still others pull with all four wheels. Several makes are of the so-called 'creeping grip' types.

#### BEST MAKES ARE SIMILAR.

The diversity of styles is very great, but after all, a careful examination will reveal the fact that the best makes of traction engines are very similar. In fact, the whole traction engine industry is undergoing a standardization process. Freak designs are being weeded out and only types in accordance with the best mechanical engineering practice are retained. Before long the standard type of traction engine will be available, and like the standard type of automobile, will give satisfaction in every detail.

Low first cost of any machine should not be made the dominant feature. A high grade traction engine must be the product of the best engineering talent, which means brains and money, and this must be included in the price of the machine.

The backing of a company whose financial standing is an assurance that the company will remain in business for many years is an important consideration. Expert service and repair parts may be needed at any time. A high grade manufacturing company is usually careful about maintaining its reputation and will see to it that it delivers the goods.

#### ANALYZE WORK ON FARM.

Before making up his mind to purchase a traction engine, the farmer must analyze carefully his farm and the work of the traction engine.

In analyzing the farmer must decide whether he can plan his work so as to keep the traction engine busy. The average person spends too much time in working and too little time in planning his work. Can the farmer lay out the work of his farm so that the traction engine can be used for belt work and for hauling as well as for field work?

Proper tillage is a very important factor in farming, if good crops and big crops are expected. The traction engine will probably never entirely replace the horse, but will replace many horses on large farms, and especially in connection with the heavy farm work. The traction engine has advantages over the horse in that it is not affected by the heat, can be used for deep plowing, eliminates to a considerable extent the hired man troubles, can work continuously day and night, and can be used to advantage at all seasons of the year.

#### DON'T OVERLOAD AN ENGINE.

Like horses, traction engines are liable to internal disorder on account of overwork. Some farmers overload their animals and use the same practices when dealing with traction engines. They get by with it for a time, but all at once when least expected and most needed, the engine breaks down and who is held responsible? Almost invariably under these circumstances the engine and the manufacturer are charged with the failure.—By A. A. POTTER, K. S. A. C.

#### Farmers' Elevator in Minnesota.

One farmer out of every five in Minnesota belongs to a farmers' elevator company, says L. D. H. Weld, in Minnesota Experiment Station Bulletin No. 152, on "Farmers' Elevators in Minnesota," published at St. Paul. One farmers' elevator company has a membership of 600, one has a membership of 500, two of 400, and four of from 300 to 400. The business done by all the farmers' elevators of the state in 1912-1913 was \$24,000,000; in 1913-1914, \$30,000,000. Of the \$24,000,000 business in 1912-1913, \$22,000,000 was for grain marketed, and \$2,000,000 for supplies of various kinds purchased for members of the company. A map of Minnesota, published in the bulletin, shows the entire grain area of the state dotted with elevators.

The bulletin gives a historical sketch of the growth of farmers' elevators in Minnesota; the present status of the movement; features of organization, and instructions as to how to organize; and an outline of the Minnesota laws relating to co-operative associations.



PLOWING A SOIL LIKE THIS REQUIRES AMPLE POWER.—THIS TRACTOR IS DOING THE WORK AS IT SHOULD BE DONE

will do the same amount of work as one pulling one plow and traveling at four miles an hour, other conditions being equal, and the horsepower developed at the drawbar is the same, because the element of time enters into the determination of horsepower. The slower any given tractor is geared to move the greater will be the load which it can pull at the drawbar, as it pulls it less rapidly. The amount of work done and the total amount of power exerted will remain practically the same.

It is obvious that in the case mentioned the tractor pulling one plow and running twice as fast as the one pulling two plows must move its own weight over the ground twice as many times as will the other tractor. If the weight of the two tractors is the same, it will be seen that twice as much power has been expended in moving the weight of the high-speed tractor as has been used by the one with slow speed.

#### COMPARING HORSE AND TRACTOR POWER.

A great many farmers find it difficult to understand why a tractor of, say 10 horsepower at the drawbar will not pull as heavy a load as will 10 horses. This is not because a mechanical horsepower is less than the amount of power developed by a horse, but is because of the fact that a horse has an enormous overload capacity—that is, he is capable of exerting for a short time a great deal stronger pull than he should normally maintain hour after hour.

A tractor, however, has very little overload capacity when pulling its normal load. Thus, if a tractor with a drawbar rating of 10 horsepower pulling its normal load of plows under average con-

ously, but cannot carry anything in excess of this. On the other hand, the horse's normal load is much less than what he can do in an emergency.

Until a definite authoritative standard of rating tractors has been adopted, the better plan for farmers comparing different makes of tractors, would be to pay more attention to the amount of work actually done under like conditions and with practically the same fuel consumption, than to make comparisons of the catalogue ratings.—United States Department of Agriculture.

#### Keep Tractor Busy.

A farmer who can find many uses for a traction engine and who can make use of this form of power the whole year around will find the traction engine a profitable investment. Modern farming is to a considerable extent an engineering problem, and offers an excellent field and market for engineering ability and for machinery developed and built.

The traction engine will replace many of the horses on the farm of the future, but it probably will never replace them all.

#### MANY USES FOR ENGINE.

The traction engine is suited for heavy belt work, such as hay baling, corn shelling, pumping water for irrigation and for other purposes, grinding feed, silage cutting, sawing wood, threshing, husking, hulling, shredding, filling silos, crushing rock, and elevating grain. The traction engine can be used for hauling grain and other farm produce to the shipping point or to the market, and also for hauling fertilizer and other material to the farm.



# TRACTOR USERS EXPERIENCE

*Farmers are Learning to Use Engine Power More Profitably*

**T**HE fact that seventy-five different companies are manufacturing engines for traction and other purposes, is evidence of the increasing demand for more power on the farm. So rapid has been the development of these engines that it has been difficult to keep pace with the progress that has been made. Farmers are anxious to learn all they can of these various outfits, and thousands went to the plowing demonstrations last summer to see them at work in the field.

This demand for more power is a natural consequence of advancing civilization. Men have ever been looking for means of multiplying their capacity for work. Farmers are finding it more and more difficult to hire satisfactory farm labor. Their only hope seems to be in the introduction of labor-saving machinery.

In recent years manufacturing companies have been giving serious attention to the designing of tractors that would successfully meet the conditions of the farm. Recognition is being given to the fact that tractors, like other machinery, must conform to certain well established engineering principles. Companies that are working out the problem along practical lines, giving due consideration to the essential mechanical principles involved, are doing much to standardize the farm tractor. It is unfortunate that in some instances farmers have been compelled to do the testing and experimental work at their own expense. No outfit should be sold until the makers have given it as thorough a test as they are able. On the other hand, farmers who buy tractors should make it their business to learn all they can of the machine and its operation. The knowledge and skill of the operator will have much to do with the successful use of the farm engine.

Some of our readers have written us of their experiences in using engines. These have been varied and we are giving both the successes and the failures. On the whole it would seem that tractors are to have a recognized place on many farms, and this is by no means predicting a horseless age. As one of our correspondents writes, they are not using less horses and mules, but are doing more and better farming because of the capacity of the tractor for doing extremely heavy work. The necessity for keeping the tractor busy with belt work of various kinds when there is no field or road work to do, is an important point brought out by those who write of their experiences.

## Will Keep Engine Busy.

The first of September, last year, I purchased a tractor having a capacity of 35 horse power on belt and 20 horse power on draw bar. This was equipped with five 14-inch plow bottoms with power lift. So far this outfit has done very satisfactory work. Last fall we plowed 150 acres, 65 acres of which was land that had not been farmed for four years and the sunflowers had made it a regular thicket, these weeds standing four to eight feet high. These were so thick the ground could hardly have been plowed with horses, but the tractor did a fine job, hiding practically all the weeds. The fuel and lubricating oil cost for doing this work was forty cents an acre.

So far we have not used the tractor for anything but plowing, but in the spring we expect to pull a tandem disk, drill and packer at the same time, thus making the seed bed and doing the seeding in one operation. We will also pull two double-row listers in listing crop, will use it some in running a centrifugal pump for irrigation during the summer.

The two greatest advantages of a tractor, in my estimation, are: Making it possible to work the ground rapidly when it is in proper condition, and do it with less hired labor. My son, eighteen years old, runs the engine as well as I can operate it. We have never hired an engineer. Hired help is the highest-priced commodity I buy.

The use of the tractor has not reduced the number of horses and mules we use, as we will do more farming. We do the work largely with brood mares as we raise horses for market.—E. J. G., Wallace County.

## Small Tractor for Average Farm.

My first tractor was a 30-60 horse power, but I found it too big and clumsy and it also packed the ground. I later bought a small tractor and I find it is

much easier to get over the ground with this and it does not pack the soil. It also requires less fuel, this expense for a tractor having a capacity of 12 to 15 horse power at the draw bar, being about 25 cents an acre, while for the big tractor the cost is about 60 to 70 cents an acre. The larger machine requires an extra man and on an average it will not do twice as much work as the small machine, and the difference in cost between the large and the small machine, and the difference in fuel and labor cost, the farmer will be ahead by using the small tractor. The cost of repairs for the small machine is only about one-fourth that charged for repairs on the large tractor. The small tractor wears equally as well as the larger one and seems to be built even stronger for their size and the work they do, and have an added advantage in less weight to drag around.

With the small tractor one can do more work than with horses or mules and the job will be better and more evenly done. That is, for wheat, such as plowing and harrowing and drilling. One man with the use of a 15 horse power tractor can plow and harrow at the same time, 15 acres in ten hours; two

months at 6 per cent, \$8.71; repairs, freight, and express, \$106.57; 685 gallons of gasoline, \$87.25; 77 gallons of lubricating oil, \$39.75; or a total cost of \$823.56 charged against the tractor for the first eighteen months. I estimate its value today at \$250, and to this should be added a refund from the company of \$43.41 on account of defective parts. This makes the total to the credit of the tractor at the present time, \$293.41. I have plowed a total of 230 acres and have done a little disking and feed grinding. The gasoline and oil charged in the above account were used exclusively for the plowing. The use of the tractor for disking and feed grinding was more than offset by the time spent in repairing and overhauling. From these figures I estimate the plowing of the 230 acres has cost me the difference between \$293.41 and \$823.56, or \$530.15, a fraction over \$2.30 an acre, not counting the operator's time."

It is evident that this correspondent is not lacking in ability to handle machinery as he has operated an automobile for four and a half years, having run it 17,746 miles, during which time no garage man or other expert has done

etc. It is not my intention, however, to convey the idea that I think no one is operating or can operate a tractor profitably. I merely wish to emphasize the fact that there is a tendency to overlook or at least minimize some of the most vital factors that should enter into the computation.

"I am convinced that generally speaking, a tractor which is used principally for belt work, such as threshing, silo filling, feed grinding, etc., will prove more profitable than one used for traction work. The reason is very apparent. The motor develops twice the power on the belt that it does on the draw bar and is not wearing the gears and shaking the machine to pieces."

## Success Depends on Operator.

Six years ago I bought a 45 horse power gasoline engine for plowing and threshing and am still using it. It is a splendid engine on the belt but has not been so successful as a plowing engine. It is too large for the ordinary farmer. Two years ago I converted this engine into a kerosene burner with good success. I broke prairie sod with it at a cost of 42 cents an acre, counting all expense. This was one of the first of the gasoline tractors put out and it was a little expensive in repairs, but is today a better engine than when I first bought it, and the engine made by this same company and sold now is much stronger and far superior to the one I bought. The success of an engine on the farm depends entirely on the operator, providing he has purchased a good standard machine. C. W. T., Dickinson County.

## Engine Relieves Horses.

In our two years' use of the tractor our repair bills have been hardly worth mentioning and our gears are in good shape. So far, I am satisfied with my purchase, but in order to give the most valuable experience we should have used the tractor about two years longer, which would enable us to give an idea as to the life of a tractor and which we cannot now do.

I am still a friend of the horse. We must have horses on the farm, but their burden can be lightened by using a tractor in plowing and disking, which work alone in this part of the country is a horse-killing proposition in fly time after the horses have finished the heavy harvest work.—J. L. K., Ellis County.

## Good Tractor Advice.

Speaking of tractors a farm adviser of the Federal Department of Agriculture who has made a study of tractors recently said to an audience of Pennsylvania farmers:

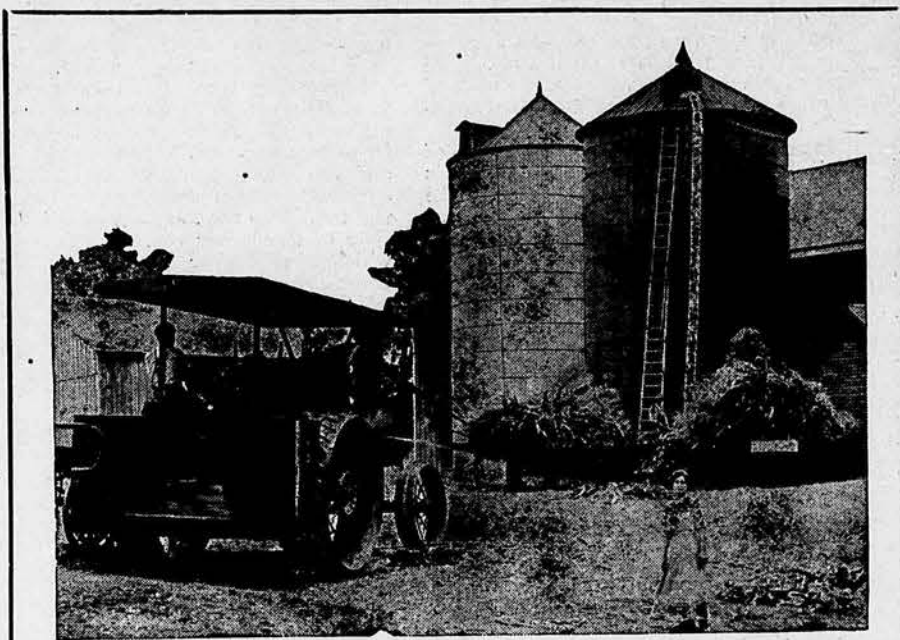
"The large number of farmers I find in Pennsylvania who are interested in the gas tractor as a supplement to the horse power of the farm indicates that there is a rapidly growing demand for a light weight efficient machine of that kind. I have been making a special study of the problem involved for more than a year and it was my pleasure to attend one of the big power farming demonstrations in the Middle West last summer. There I saw something of the work of most of the tractors now offered the trade.

"I am sure many farmers are going to lose money by making unwise purchases of machines which are now only in the experimental stages or not adopted to the work they are expected to perform.

"There are some good tractors on the market, but the wise farmer will thoughtfully study his needs and the ability of the machine to fill that need. The tractor to be economic ought to give about ten years' service in farm work, with no large outlay for repairs. It must be well constructed because it will be subjected to the severest test any machine can be put to. The gears should all be enclosed in dust proof cases. Light weight, high power, strength and reliability are needed and are a combination that not all manufacturers have yet been able to combine in one machine.

"The tractor is coming to Pennsylvania farms and coming rapidly. The farm must be put in condition for their use. The coming of the tractor will mean a new and better agriculture for our state, for land that can be worked with a tractor will appreciate in value."

The regular income from the sale of dairy products and stock enables the farmer to keep up permanent improvements and to take pride in the possession of a farm home.



IN FILLING THE SILOS A GOOD ENGINE IS NECESSARY.—THIS IS ONE OF THE NUMEROUS BELT JOBS THAT HELP MAKE TRACTOR MORE PROFITABLE

dollars can be hitched on behind and 40 or 50 acres of wheat can be seeded in a day's time. The saving of time and saving of labor are important items in considering the purchase of a tractor. The last two falls my tractor has saved the labor of three men and my work was done much quicker and better and at a time when the ground was in good shape. It was possible for me to get into the field immediately after harvest and in time for it to settle before seeding time. My tractor travels at about two and a half to three miles an hour and at this speed does not use any more fuel nor is the wear on the machinery any greater than at slower speed.—H. V., S., Comanche County.

## Study Adaptation and Upkeep.

J. H. C., Butler County, writes that in 1914 he purchased one of the smaller types of tractors. He says that with all conditions favorable he can plow seven inches deep with two 14-inch bottoms, but it uses the tractor's power to the limit. Under ordinary conditions, about five or five and a half inches in depth is the limit.

Relative to the cost of plowing, this man says: "I find there are about as many estimates on plowing cost as there are people running tractors. Some count the cost of fuel only, and often make a bad guess at that. Others admit that lubricating oil should be included, and some, like myself, actually believe that a machine should pay for its own repairs, a reasonable rate of interest on the investment, a fair depreciation charge, and decent wages for the operator. On this basis the cost an acre figures up about as follows, and these figures are obtained by actual systematic bookkeeping and are not mere guesses: Cost of tractor, \$400; interest on this investment for 18 months at 6 per cent, \$36; exchanging motors with company the second year, \$145.28; interest on this amount for six

any repair work on it and the total cost of repairs to date is \$34.55, exclusive of tire replacements.

"While my experience as shown have been discouraging," he says, "I do not wish to discredit power farming in the least. On the contrary I am looking hopefully forward to the time when a real economical farm power machine will be developed. Such machine, however, must not be of too high initial cost, be reasonable in upkeep and fuel cost, and last, but not least, must more nearly perform such work as is now done by horses. Otherwise it will not displace a great number of them on the average small farm.

"I would sound a note of warning to my brother farmers relative to the testimonies given by tractor users. They are likely to be overwhelmingly in favor of the tractor but will they reflect the true situation? The over-enthusiastic tractor user is more apt to write his experiences than is the fellow who has to admit failure and who knows in advance that he will be considered a back-number unless he joins in the chorus. Cost figures should be closely scrutinized. Note how many omit interest and depreciation charges entirely, and where depreciation is given, note carefully its amount, and then see whether the tractors in your own neighborhood can be sold as near their original cost as the admitted depreciation would indicate. The fact that the tractor business is yet in such a state of development that the tractor of today is out of date and a back-number next year, is generally not given sufficient consideration when figuring the acre cost of tractor farming. Note, too, how many will submit in their reports actual figures in regard to repairs, fuel, and lubricant consumption, or will dismiss the subject by such statements as 'repair cost has been trifling,' 'use about two gallons of gasoline an acre,' 'machine not worn the least bit,'



# PRUNING THE ORCHARD

Proper Pruning Induces Vigorous Growth and Increases Fruit Production

By GEO. O. GREENE, K. S. A. C.



TWO-YEAR-OLD PEACH TREE  
PRUNED TO DEVELOP LOW HEAD

**T**HE Missouri Valley territory in general, and Kansas in particular, has grubbed out a good many unpruned fruit trees. In our enthusiasm to live next to Nature, we have argued, until recently, that pruning is not a natural process, forgetting the countless number of buds that have been crowded out and left dormant by their more vigorous companions. Only a small percentage of the buds formed ever develop into branches. Nature prunes severely, allowing only the branches most favored by sunlight and air, to develop. Large numbers of buds are formed only for the purpose of guarding against possible injury to parts of the plant.

Nature is interested only in seed production. A very small amount of flesh is sufficient, just so there is enough to assure her that man and other animals will prize these fruits enough to carry them away and thus scatter the seeds. Man, on the contrary, is not particularly interested in the seeds of fruit trees. He realizes that the fleshy part of the fruits consists largely of flavor, sunshine and water, and that the production of seeds is the greater drain on the stores of plant food in the soil as well as on that which is more immediately available stored within the tissues of his orchard trees. The problem, then, with the fruit grower, is to produce as much as possible of the juicy flesh with as few seeds as possible. This is done by decreasing the number of fruits and by increasing their size. Desiring high colors, he thins out twigs and branches until the sunlight will strike every fruit sometime during the day. The commercial grower of fruit also feels the necessity of economy in time and labor in all of his orchard operations, such as spraying, picking, and pruning, and accordingly trains the tree to some form that will give him the best returns for money and labor and so that each part of the tree can be reached with the least outlay of time and labor.

#### SYSTEMS OF PRUNING.

There are two general ideas in pruning for the formation of the top of the trees, and both have their adherents. These two methods may be called the Eastern and the Western methods of pruning. The Eastern method, which is becoming less general, is to train the fruit trees to a central leader. The more recent method, more generally practiced in the West, is to prune to an open head or the "inverted umbrella" form. The adherents of the central leader type of pruning, argue that the limbs coming out in whorls from a central trunk are less apt to break down with a heavy load of fruit. Those fruit growers who argue for the open head type of pruning, say that the central leader allows the tree to grow too high for economic operations, and that it is impossible to secure the proper amount of sunlight to all parts of the tree. Also, that the fruit spurs cannot be so well developed throughout the tree. In the central leader method the whorls or branches must be considerable distances apart, and there is considerable effort lost in developing post timber in the center of the tree that should be spent in the production of fruit-bearing wood where fruit is to be produced. In the open-headed or vase form of pruning, a single whorl of from three to five limbs, known as the "scaffold limbs," is developed and the

future growth is carried by these scaffold limbs. By this method, fruit spurs may be developed throughout the top of the tree and if the scaffold limbs are not allowed to develop opposite each other, there is no more danger of breaking down than there is where the central leader type of top is produced. At the present time, most of the successful fruit growers seem to accept the Western ideas of pruning and are pruning young orchards with this type in mind.

#### OBJECTS OF PRUNING.

Pruning encourages vigorous growth. There is an exact balance between root and top. When a portion of the top is removed, Nature attempts to restore the balance by an increase in the growth in some other part of the tree or plant. This explains the formation of watersprouts after severe pruning. Their number is an indication of the amount of pruning and the vigor of the tree pruned, as these affect the number of these sprouts more than does the season at which the pruning is done. Trees that have for several years failed to make a satisfactory growth, especially those in sod, may be induced to make a more vigorous growth by heavy pruning followed by clean culture and the application of plant food to the soil and a good system of cover crops. This same method is often used in old and neglected orchards to rejuvenate them.

Pruning increases the production of fruit. Checking vigorous growth tends to throw the trees into bearing. The continual cutting back of leaders or growing points, tends to throw the plant food and subsequent growth into the development of lateral buds and fruit spurs. Root pruning, which tends to check growth, has the same effect. This easily explains the time-worn joke of planting old irons, tin cans, and the like about the old family pear tree. Burying tin cans is more artistic than ditch digging, though both have the same effect. Driving spike into the body of the tree is a barbarous method of checking growth. The continual cutting back of the tree tends to dwarf it to a certain extent, especially if the work is done in the summer time, and also tends to the production of more regular crops of fruit because the tendency to overbear is reduced.

Pruning helps to control diseases. In Kansas, we have considerable trouble with blister canker. This disease is a wound parasite and is caused by the growth of a microscopic plant within the tissues of the apple tree. As is the case with other plants, moisture is one of the necessities for proper development of this fungous plant. The unpruned tree, full of brush and watersprouts, will have sufficient shade to keep the interior of the tree moist for a longer time than will a tree that has been pruned to let in a greater amount of sunlight and air. This disease is a wound parasite. The unpruned tree yearly crowds out by shade, many small and large branches. These on dying break off and furnish an excellent soil in which the fungus will grow. Here we might also say that wounds made by the axe, by broken limbs, marks of shoe heels, or carelessly handled ladders and by hares during fly time; all such wounds unless properly dressed, are quite sure to make a very good seed bed for the spores of the blister canker as well as other canker-producing diseases. Yearly pruning to prevent the formation of these cankers and to remove any suspicions of canker, and carefully covering all wounds with paint, will do much to keep the orchard in health.

The spores of apple blotch are also carried over winter on watersprouts and other young growth. More of the small cankers of this disease will usually be found within the center of unpruned trees, than on the young growth farther out where sunlight and air tend to prevent germination and growth of the spores. Good pruning is one of the first essentials in the control of this disease.

Pruning is necessary to train and form the plant. Low-headed, spreading trees are desirable in economizing in the management of the orchard. In pruning, from the start, one must bear in mind that every foot above the average man's reach, adds proportionally to the cost of operation. Pruning, spraying, and picking are more efficiently done and the results spell better profits if the trees are kept as close as possible to the ground. Our winds do not have the opportunity

to injure the trees or fruit if they are low-headed, nor are "all the good apples in the top of the tree." The trees heading close to the ground furnish shade to the trunk, keep the ground cool, conserve moisture and prevent the growth of weeds under the tree. To those who object to the low-headed, spreading type of tree, on the grounds that it is difficult to cultivate, we would say that the removal of the lower whorl of limbs will reduce the bearing surface from one-third to one-half on the same age trees, and to those who object to a few limbs touching the ground, we might suggest that Mother Earth is able to bear up under quite a load of fruit.

While all varieties cannot be pruned alike, nor all varieties be made to spread low over the ground to the same extent as such varieties as the Winesap, yet by continually cutting back the leaders and training each upright tree to outside buds, much can be done to change the general habit of those varieties like the Yellow Transparent which persist in growing upright after the form of many varieties of years. Cutting back the leaders tends to develop the lateral buds, and the painstaking orchardist produces a tree much after his ideal.

#### PRUNING YOUNG TREES.

The young tree should have its first pruning when it is transplanted in the orchard. Where it grew in the nursery there was an exact balance between root and top. In digging, most of the root system has been destroyed and none of the top. The root system of a tree consists of the larger roots the function of which is to anchor the tree to the soil, the fibrous roots and the root hairs which absorb soil moisture and the materials in solution in that soil water that are later to be made into plant food in the leaves. In digging the young trees, all of the root hairs, most of the fibrous roots, and a large percentage of the anchor roots, are destroyed. It is obvious that unless we prune the top proportionately, evaporation of moisture from the top may seriously injure our prospects of a stand. The young tree is cut back to head at from 20 to 25 inches from the ground, and short spurs with only two or three vigorous buds where we expect to develop our scaffold limbs. During the first summer, not much pruning will be required, though the young trees should be gone over and suckers from the root cut out, run-away growths cut back and undesirable branches cut off in order that the development may be where most desired.

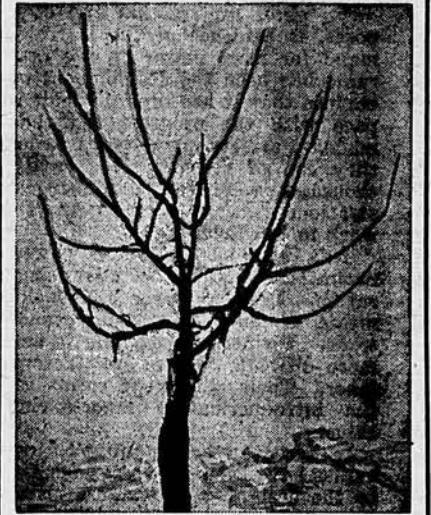
During the winter or spring following the first season's growth, the young tree is rather heavily pruned. From one-third to one-half of all of the growth is cut back. This induces a vigorous growth from a root system fairly well established. If the small scaffold limbs can be cut back to a lateral already formed, much of the work necessary to keep the water sprouts and undesirable limbs cut out, will be avoided.

During the second summer, pruning to direct the growth of scaffold limbs only, is all that will be required, and much of this work will be simply cutting out the growth that will start in the center of the tree.

After this work is done, the removal of undesirable laterals and the encouragement of desirable branches as well as a continual effort to keep the tree from growing too rapidly on the north and east sides as a result of prevailing winds during the growing season, will be the extent of operations until such time as it is considered that the tree has reached sufficient height, when the work of topping will begin. This consists of heading back the over-ambitious limbs, cutting them close to a thrifty outside lateral to prevent, as far as possible, the production of undesirable sprouts and the leaving of stubs to die back and make a desirable soil for the growth of fungous diseases.

#### PRUNING OLDER TREES.

It is impossible to make an ideally shaped tree out of one long neglected. If the pruning had been of more constant character, bad forks would have been avoided. It is usually not best to cut off large limbs. About all that can be done is to thin out as far as possible, open up the top, cut back the top to thrifty lateral limbs, and shorten in watersprouts to two or three buds to later develop into fruit spurs to take the place of those that have been removed by the ardent orchardist who



FOUR-YEAR-OLD APPLE TREE SHOWING  
WELL BALANCED SCAFFOLD BRANCHES

thought he was opening up the top, when, in fact, he was ruining his investment. A fruit spur should be considered as a valuable part of the tree never to be removed unless it interferes in some way with another more valuable part or with economical management. Climbing in the tree to prune it or to pick the fruit is to be discouraged. The picker who brings in fruit buds in his sack should not be tolerated. Ladders that are supposed to lean against the tree should be thrown away and the step-ladder and tripod ladder used in their stead.

#### PRUNING THE PEACH.

The fruit of the peach, unlike that of the apple which is borne on spurs from the mature wood of several seasons' growth, is borne on wood of the past season's growth. The pruning of the peach then has to do with the production of new wood. While the same rules for open top, and low, spreading growth would apply, in order to produce best and for the greatest number of years the peach tree should not be allowed to grow limbs that produce fruit at so great a distance from the main trunk of the tree. Peach wood is never tough and hard winters are almost sure to cause a breaking down of the fibres to such extent that peach wood is known to break more easily than almost any other timber that we have. If the limbs are allowed to grow at will, as is too often the case, they are apt to break down with the first heavy load of fruit and the tree be ruined for further usefulness.

This breaking down of old and neglected peach trees is often circumvented by the process known as "dehorning" which consists in cutting back all of the main limbs and allowing dormant buds to develop and form a new top. This work is done in the spring just before the growth starts and following a severe winter when there is little hope of a crop of peaches.

But better than dehorning is the practice of cutting back the trees each year. From one-third to one-half of the past season's growth is cut back. When a heavy crop is assured and when the crop has been entirely destroyed the tops are severely shortened into lateral branches which are also cut back to some extent. By giving the trees some attention yearly and taking out a portion of the top, the trees can be made to last many more years and produce crops of larger and better quality fruit. The peach tree should last from 18 to 25 years instead of 8 to 12 years as is the case where it is allowed to grow at will.

#### PRUNING THE CHERRY AND PLUM.

The pruning of cherry and plum trees during the first few years, is not unlike that required for the apple tree. The fruit spurs of these trees do not live as long as do those of the apple, nor are they as easily reproduced from watersprouts. After the tree becomes old, about all that can be done is to keep the head of the tree cut well back so that breaking down will not be caused by weight of fruit and limbs.

One noticeable exception to the above rule is the Japanese species of plums which require almost as heavy pruning as the peach for the best results, though this pruning must not be at any one time be severe enough to remove all of the fruit spurs from mature wood.

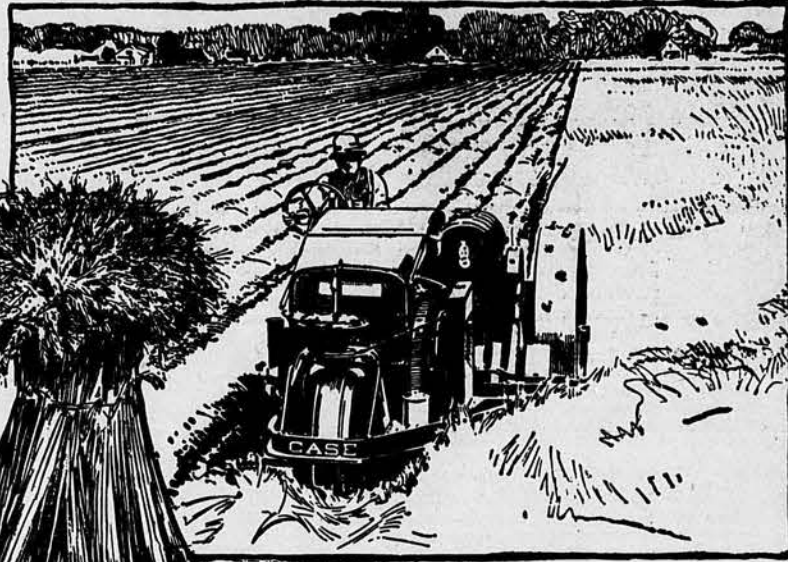


**NOTE:** Even after its experience of nearly a century, Case is not content to publish advertisements unless based on the very latest authoritative information. This is one of a series of messages to farmers prepared after visiting tractor demonstrations, talking to hundreds of farmers and carrying on a national investigation through our sales organization and by mail to find the gas tractor needs of the farmers.

# This or This?



From an actual photograph



From an actual photograph of a Case 10-20

## Hard Work and Average Crops

## Easier Work and Larger Yields?

'One of the most important reasons for a greater use of farm tractors,' says R. C. Nichol, of Kansas, in *The American Thresherman*, 'is the increased yield that may be obtained by their use. This is, unfortunately, a point that is too often overlooked by farmers who are considering the purchase of an engine.' To get away from the puzzling help question and to adopt a cheaper method of field preparation than by animals, is all right. But it is only one angle. Increased yields is what makes money. Deep plowing at the exact time is necessary—as is possible with a Case tractor. With horses and men, a farmer is too dependent on physical capacity. But with a Case tractor, fewer men are needed, and deeper plowing can be done. This tends largely to increase crop yields. All the foremost experts, such as Prof. L. E. Call, of Kansas, have proved it. Most farmers want to plow deeply and at the right time. Yet so far it has been nearly impossible.

### How to Increase Your Profits

With the Case tractor—there's one for different sized farms—farmers can now make their farms pay more. Wages for men can be lessened. Fewer hungry horses are needed. More work can be done at any given time than ever before—for a Case tractor never wears out. It can be kept at work continuously, without sleeping or resting or eating. When idle in the winter it costs neither care nor money.

### Not a Tin Animal

Case tractors are real units of resourceful power, adaptable to all kinds of farm work. Their motors, as well as every other part, are made by Case trained workmen at the Case plants. So Case tractors are not bought piece by piece on the outside. Back of Case tractors is an experience in the farm field of 74 years. This is not a new concern with a new-fangled tractor. Like other Case machinery, our tractors are designed with the utmost simplicity and freedom from complicated parts. Every part is accessible. Our new gas tractors are enjoying the same enviable reputation that has always belonged to Case steam rigs.

### Why be Satisfied with Lesser Quality?

Case does no experimenting at the cost of its customers. As early as 1892—over 20 years ago—Case Engineers built the pioneer gas tractor in America. Since then, this Company has expended hundreds of thousands of its own dollars in experimental work, so that we can come to you now, as we have in the past, with a proven, dependable machine. Our chief tractor engineer contributes to this advertisement the following:

#### Ten Construction Details in the Case 10-20

1. Larger shafts—all high carbon steel, heat treated. Also larger bearings.
2. Steel channel frame specially braced and stayed to prevent deflection.
3. Ample cooling for motor by same type radiator as used on heavy-duty trucks.
4. Transmission gearing completely housed and runs in an oil bath.
5. Bull pinion of steel, case hardened.
6. Next to bull pinion is a high-duty Hyatt Roller Bearing.
7. Rear axle carried in cannon bearing provided with 3 Hyatt Roller Bearings, 1 of them being on each side of the drive wheel.
8. Extra bearing provided and located next to the belt pulley and clutch, which takes the strain due to pull of belt away from engine bearings.
9. Only one clutch is used for both operating in the belt or for traction.
10. Hitch is so arranged as to do away with all side draft.

Each Case tractor in its class has its own special features.

### "Not Too Small, Too Light, Too Cheap"



The sign of mechanical excellence the world over.

Whichever size of Case tractors is suitable for your farm, you can bank on its being the best of its kind in the market, made honestly and conscientiously, to uphold our name and fame. In the field and in our laboratories we have carried on tests, and we know from experience what is best to incorporate in a tractor. In

its class, each Case tractor is a masterpiece, embodying all the best features. Why be satisfied, then, with lesser quality? Why choose as your investment a tractor that has fewer years of experience behind it? Why buy a tractor except from a company long engaged in making agricultural machinery? To do otherwise is to take an unnecessary risk.

### Where Case Triumphs

The Case 10-20 will replace more than five horses and handle three plows with ease under ordinary conditions. It is adapted to all kinds of farm work—besides field work, it drives an 18-inch Case separator, operates a silo filler, hauls to market, etc. Then remember, above all things, that the motor is a special Case design, built entirely by Case, not assembled. All parts of the motor are easily accessible, so no dismantling is necessary for any adjustment. When, for instance, you have to take up main bearings or crank pin bearings, you do not have to remove the magneto or the camshaft or the oil pump. Access is obtained by removing a simple cover to which nothing is attached. Remember, too, that all the working parts are enclosed or fully protected. Consider weight, and do not forget that the Case 10-20 weighs less than any other tractor of equal capacity.

Reckon the value of the drive wheel traveling on unplowed land instead of down in the furrow. If the wheel travels in the furrow a comparatively narrow wheel would have to be used. In our design we use a wheel 22 inches in width. If we used a wheel to travel in the furrow it would have to be only 14 inches. So our wheel is nearly 60% wider, which gives additional traction and decreases the pressure on the ground.

Furthermore, with the wheel traveling on the land, as ours does, it is possible to begin plowing operations after a rain sooner than if the wheel was in the furrow, as the water stays in the furrow longer after a rain than it does on the unplowed land. Then, when you hear of some farmer who has had trouble getting over soft spots or extra hard pulls, remember that the idler wheel on this Case tractor can be clutched in from the operator's seat and used as a driver for such emergencies.

Consider all these things, make comparisons, and you are bound to decide that the Case 10-20 at \$890, f. o. b. Racine, is cheaper than those costing less. Especially when you remember the reputation of the company, our 44 branch houses and 9000 dealers. Write today for more information about the 10-20 and other Case tractors, including the 12-25, 20-40 and 30-60, one of which will suit your needs.

### Leaders in Other Lines of Agricultural Machinery

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

**SEND TO DAY**  
For the  
**CASE Catalog**  
Your Name on a  
Postal Will Do

**J. I. CASE THRESHING MACHINE COMPANY, Inc., 711 Erie Street, RACINE, WIS.**

Founded 1842



# THE SANDUSKY TRACTOR

THE LITTLE FELLOW WITH THE BIG PULL

15 Draw Bar H. P.—35 Bk H. P.

In daily use on hundreds of farms throughout the country. Satisfied users everywhere are proving its ability to reduce operating costs and increase profits.

Has sufficient reliable power available to properly prepare the seed bed, drill, harvest, thresh, fill the silo, pump water, haul, or do practically any of the many power requirements in and about the 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.

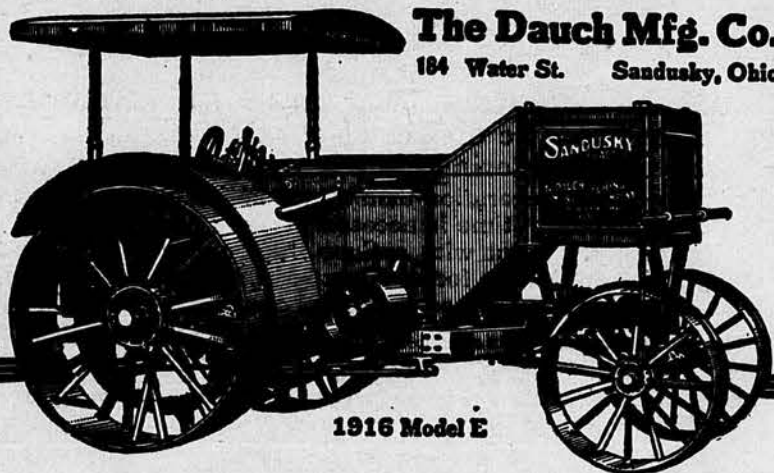
The Sandusky Tractor, its motor, and transmission were each awarded the Gold Medal at the Panama-California Exposition. Also highest award Silver Medal at Society for Improvement of Agriculture Exposition, Lancaster, England.

## 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.

184 Water St. Sandusky, Ohio



1916 Model E

FREE

Reproduced  
**\$500.**  
PAINTING,  
**14**

BEAUTIFUL  
COLORS.

SIZE—22 by 28  
This Splendid PIC-  
TURE is Free of  
Advertising and is  
Worthy to Hang in  
Any Home or Office

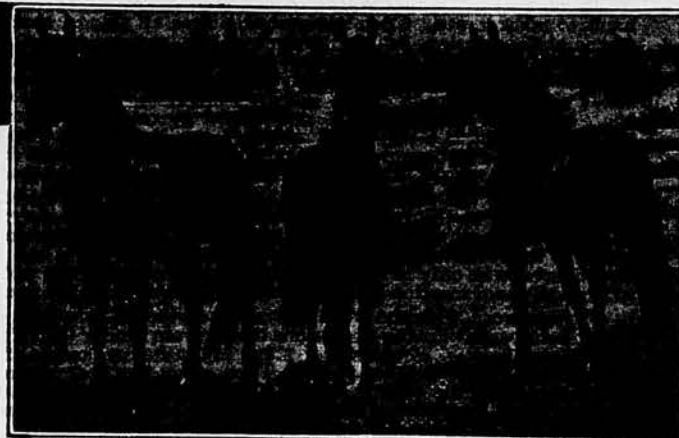
FREE IF You  
Are Over 21 Years  
and Answer these  
Three Questions.

1.—In What Paper  
did you read this  
Free Offer?

2.—How Many  
Horses, Cattle,  
Sheep, Pigs do  
you own?

3.—Did you Ever  
use International  
Stock Feed Tonic,  
Dependable Tonic,  
Blood Purifier and  
Grain Saver?

3 FEEDS FOR ONE CENT.



**JUST MADE FROM MY BIG, \$500. PAINTING.**

M. W. Savage wants to Give You his Latest and Finest and Most Beautiful—  
Champion Stallion Picture, ABSOLUTELY FREE, POSTAGE PREPAID.  
Painted in Aug. 1915. Extra Heavy Superfine Enamel Stock. Big Size 22 by 28.  
Reproduced in 14 Artistic Colors. Mailed in Extra Heavy Mailing Tube. M. W. Savage  
believes this to be one of the Finest Horse Pictures in the World and you will be  
delighted with it. You Don't Have to Buy Any Goods. M. W. Savage owns these  
Champion Stallions, Dan Patch also Champion Team, Winner Hail and George  
Game, Team Record 2:02, about 250 Brood Mares and Colts, and Personally  
Guarantees this Splendid Color Picture, as Described and True to Life. Art Pictures  
from Original and Exclusively Owned Paintings—often retail at from \$3.00 to \$5.00  
each. Write at once, you will be Sure of the Finest Horse Picture you ever saw.

**\$12.75** A BIG SET OF 72 LA FRANCAISE DISHES  
In Writing for Picture, be Sure and Ask Me  
to send you my Color, Description Blank of  
Beautiful, \$12.75 Dish, or 25 Piece Set of Community Reliance Silverware.  
Also Biggest, Free Premium Offer, in the World, My Special \$27.75 Free.

FOR FREE PICTURE, WRITE TO M. W. SAVAGE, MINNEAPOLIS, MINN.

# CANADA SEED OATS

ALBERTA, Canada, OATS: Biggest, heaviest yielding oats in the world. Everywhere tried have revolutionized oat growing. It is as easy to grow 100 bushels per acre, as 30, 40 and 50 bushels of common varieties. Sample sent FREE on request. We grow and handle all the best varieties of American grown Oats. Write today for our big Seed Catalog of all farm, garden and flower seeds, also Nursery stock. We can save you money. Tell us what you want. Mention this paper when writing.  
Address, RATEKIN'S SEED HOUSE, Shenandoah, Iowa.

READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS

## Honors Won at Hays Station

By G. K. HELDER

THE champion grade steer at the National Western Stock Show, of 1916, recently held in Denver, was a two-year-old Hereford bred and raised at the Fort Hays Experiment Station and finished for the show ring at the Agricultural College. He was calved in April, 1913, a product of Camperdown 285916, his dam being one of the high-grade Hereford cows, a herd of which is owned and maintained at the experiment station.

His winnings at the American Royal of 1915 gave him championship of the grade Herefords, and a place in the grade herd which took first honors. In a showing where pure-breds and grades were in competition, this steer won third, being placed below a pure-bred shown by the college. Then, in the finals, he was made champion of the grade steers.

Hays K, a junior yearling shown in the accompanying cut, was sired by Beau Kansas 399547, a bull now at the Hays Experiment Station, one of the high-grade Hereford cows at the farm being his dam. This steer won first in his

and Sudan grass roughage, with silage of kafir or feterita, and alfalfa and wheat straw. Four lots are in corrals with sheds, the fifth being fed on range. This allows of further comparisons in the matter of yard and open lot feeding versus range conditions.

The results of this work will be demonstrated at the annual stockmen's "round-up" in April, to which the public will be welcomed.

## Greenwood County Progress.

Last spring we told of how four men in Greenwood County had solved the problem of securing the use of a sire of known producing power to build up their dairy herds. This was done by leasing for one year, a tried and tested bull owned by H. B. Cowles, Shawnee County. None of these men was able to own such a bull alone, and the four decided that it would be better from a money standpoint for them to lease this bull than to attempt to buy one of equal merit outright.

We have just heard from one of these



THESE DENVER STOCK SHOW CHAMPION STEERS WERE FITTED AND SHOWN BY KANSAS AGRICULTURAL COLLEGE.—BRED AT HAYS EXPERIMENT STATION

class at the American Royal in the fall of 1915, and again was first at the National Western Show in January, at Denver. He was also one of the herd which received first honors.

Probably no other experiment station has better facilities to work out questions of growing beef cattle than the Fort Hays Station of Kansas. With 4,000 acres of land of the old Fort Hays Military Reserve, this station is handling large problems of adapting live stock and grain farming to a practical basis, suited to the agricultural conditions of a vast and at present unprofitably managed farming region. There are now 540 cattle on the station farm, among them 230 high-grade Hereford cows of various ages. These are maintained upon forage crops grown under dry land conditions, converted into good fodder and silage and fed in varying combinations to discover the most practical rations for maintaining breeding cattle.

In April of each year a "round-up" is held on the farm, when the cattle are shown, and records of winter's feeding and the deportment of the stock fed different rations, discussed. The station will soon have so developed its grade herd that it will be able to supply high-class feeders for experimental work at other state institutions, especially the Agricultural College, where animal husbandry is one of the leading activities and which college in recent years has become nationally known by its important and practical work for the advancement of the live stock business.

On the farm at Hays there is being conducted this winter an experiment in the growing of breeding heifers which are to be used to determine the value of good feeding the first year, as compared with normal wintering of heifers according to accepted ranching methods. The effect of this care will be noted in the development of the cows during five years, and the character of offspring each successive year. One-half of the two lots being differently maintained will be bred to calve as two-year-olds; the other half of the herd will not calve until they are three-year-olds.

Another demonstration in maintenance of breeding cattle is being conducted with 100 cows divided into five lots. Each lot is receiving a different combination of rations made up of kafir, feterita,

men who reports that the bull has been doing well and that they are so far fully satisfied. They have 100 cows safe in calf and a few are to freshen in the next few months. They are now beginning to consider another progressive step for a dairy community, namely, that of organizing a testing association. They realize that they are not in a position to advance rapidly in the dairy business until they have some means of knowing whether the cows they are milking are all returning profits. It will be two or three years before they can expect to begin to test out the heifers from this tested sire, but it is not too soon to begin to make plans for putting their dairy operations on a business basis.

The only thing necessary in organizing a testing association is to have enough men interested so that a man can be hired to do the testing work. There ought to be enough men in the association so that the tester by spending one day with each member will use up the working days of a month. A smaller number can have an association, but it will cost more per member. The details or organizing and conducting such association can be secured, from Professor O. E. Reed of the agricultural college at Manhattan.

## How They Agreed.

William had just returned from college, resplendent in peg trousers, silk hosiery, fancy waistcoat and a tie that spoke for itself. He entered the library where his father sat reading. The old gentleman surveyed his son.

"Son," he finally remarked, "you look the part of a fool."

Later the old major who lived next door, came in and greeted the boy. "William," he said, with undisguised admiration, "You look exactly like your father did thirty years ago when he came back from school."

"Yes," replied William, with a smile, "so father was just telling me."

Have you ever tried putting the responsibility of the garden on the boys and girls? Perhaps by letting them plan the beds, order the seeds, and do the garden work, buying the vegetables from them, a lasting interest in the farm and its opportunities might be created.



## Indexing Customers' Names

**S**UBSCRIBER F. J. N., Republic County, writes that he received a lot of inquiries last spring as a result of poultry advertising, and asks how he can classify and handle these names so he can get at them conveniently and quickly. This reader evidently appreciates the value of having a big list of customers but does not know how to use them to the best advantage.

The easiest and simplest way to handle such list is by means of an alphabetical card index system. Each name with the correct address can be placed on one of the record cards and filed in its proper place back of the alphabetical guide card. Every new name that comes in which it is desired to add to the list, can be placed on a new card and put in place. If at any time it is found that some breeder or prospective customer who is on this list has moved away or has gone out of business, the card can be taken out and destroyed. In this way the list can be kept alive.

Our correspondent speaks of wishing to send out circulars to various people whose names he has secured. In going through such list and sending literature of this kind, a note could be made indicating that printed matter has been sent. If any correspondence starts up with any of these parties, brief notations relative to this correspondence should likewise be made on the record card.

A set of cards kept in this way is a wonderful help in handling a list of names. Many who receive replies to advertising make no effort to preserve the name of the inquirer. Those who fail to preserve these names are not realizing full value on their advertising.

Cards of suitable size for a record of this kind can be secured at almost any printing office. Boxes or cases can also be purchased, but such cards can be kept in almost any sort of cheap box.

### Be a Good Manager.

In the management of the farm, as in any other industries, there are two grades of labor which are paid for in respect to their productive capacity; first, supervisory, and second, manual or ordinary labor. The superintendent receives the higher wages because he directs and guides efficiently the finances at his disposal. A poor laborer under proper supervision generally earns approximately all of his \$1.50 a day. The actual difference between a poor laborer and a good man amounts to only a few cents, but the difference in the profit to the business between a good and a poor superintendent, amounts to hundreds of times the difference between the good and the poor laborer.

So on the farm, many men who are capable of developing within themselves executive ability that would enable them to greatly increase their productive capacity never devote a single minute to this other than that necessary to perform each day's work. They never develop within themselves the ability to produce other than ordinary labor. For this reason, many farmers are saving day laborer's wages and losing superintendent's wages.

Proper supervision depends on an intimate knowledge of the business and such can only be obtained by keeping more or less complete records.

A due amount of time spent in such work will pay more than that spent in any other manner on any farm; the time that can profitably be given depends on the size of the business, and such time should be a part of the working day. If done at odd hours it will be neglected. Give this work a regular hour in every day and consider it the most important work of your day. As superintendent your salary will be higher than that of one of your hands.—P. E. McNALL, Extension Division, K. S. A. C.

### Keeping Hog Accounts.

On a farm where the growing of pure bred breeding hogs is the principal enterprise, a special hog account should by all means be kept. Of course, it is necessary to keep pedigree records, but on many pure bred hog farms the owner is not able to say at the end of the year just what his hogs cost him. A business account should be kept as well as pedigree records.

We were recently talking with a hog raiser who can tell to a cent what his hogs have cost him each year. He has a feed book in which he records all purchased feeds. The corn grown on the farm is all charged to the hogs. When any corn is taken for any other stock a note is made on a card tacked up at the crib door. The hogs are then given credit for corn transferred to other uses. A man who will not make these records cannot hold a job long on this farm.

Oats are charged to the horses, but when a few are taken from the bin for the brood sows, a note is made of the amount on a card in the bin. It takes some time to make these notes, but with such system there can be no doubt as to what the hogs have cost. It is simply a matter of good business to keep such records. A complete record is kept on this farm of all sales, and at the end of the year it is possible to strike a balance that will show at a glance just what the profit has been from the hogs.

### Large Crops and Farm Profits.

Crop yields are of outstanding importance in their effect on farm profits. Records show that farms with poor crops generally give low labor incomes, and that farms with good crops usually give high labor incomes. A labor income is the amount a farmer earns in excess of farm expenses, interest on the farm investment at 5 per cent, and the value of the farm produce used in the household.

Records from 400 farms in a Minnesota county show that the farms with

crop yields of less than 70 per cent of the average for the 400 gave an average labor income of \$202 less than nothing. In other words, the farmer had to take \$202 from the interest on his farm investment in order to pay the farm expenses. Those farms having average crop yields gave a labor income of \$319, and those with crops more than 20 per cent better than the average gave a labor income of \$503.

Large crops fed to unprofitable live stock, or large crops produced at excessive cost, however, often cause losses. Most of the 400 farms in this county, which showed good corn crops but low labor incomes, had one or both of these causes to blame. Large crops alone do not assure farm profits.

### Disadvantages of Big-Farms.

In manufacturing industries it has been found that big scale production is more economical than small scale production. Thousands of men often work in one plant under the direction of a single superintendent and a few foremen. Such a centralization of business does not, however, prove the most profitable in farming, for the following reasons: It is difficult to handle farm labor in gangs, as the work is scattered over a considerable area. Difficulty is ex-

perienced in providing work for a large number of farm laborers during bad weather. Much time is lost in getting to and from work.

All farm management surveys of the College of Agriculture of Nebraska have shown that the family-sized farm is more profitable than either the large or the very small farm.

### Kafir Stands Test of Years.

Nine years' experience with the sorghums in Oklahoma has taught us that the black-hulled kafir is the best of all—both for grain and feed. It will give us a better profit than any other variety. It has been for a long time on trial and is growing more and more in favor. It has the most favorable characteristics, and fewer weak ones than any other variety. Just like other folks, we keep trying other varieties to see if we can find something that will suit our needs better. When we find anything better it will be by improvement of the standard or dwarf black-hulled kafir. We need purer and better seed and better cultural methods.—"BERMUDA" MITCHELL, Chandler, Okla.

Between the war and the automobile the unhappy horse is kept continually sidestepping sudden death.

## When Detroit, the city

that produces more than three-fourths of the cars manufactured in the United States, shows by official figures for the entire year of 1915 MORE Studebakers in use on Detroit streets than any other car selling at more than \$500

## —what surer judgment can you follow in buying a car?

Think for a minute—think what that Studebaker Leadership in Detroit means to YOU. If a friend of yours has a car, you'd take his advice on buying a car in a minute—figure in your own mind that he ought to KNOW. Here's a whole city that KNOWS cars—and knows them better than any other city on the face of the earth. For Detroit's BIG industry is making cars. And so many people in Detroit are either directly engaged in the industry or else come into daily touch with others who are, that knowledge of cars is far more general and EXACT than in any other community.

And so when Detroit makes Studebaker its own Preference in cars—no man can overlook that judgment, whether he's running a farm in Illinois, a ranch in Colorado or a fruit orchard in California. For it means that in the judgment of the city that knows cars BEST, Studebaker gives the top VALUE of the market.

See the Car that Detroit PREFERS. See this new FORTY Horse Power, SEVEN passenger, SERIES 17 Studebaker at \$845—the GREAT 4-cylinder Value of the year.

## STUDEBAKER

South Bend, Ind. Detroit, Mich. Walkerville, Ont.  
Address all correspondence to Detroit, Dept. F. 7

More than 214,000 Studebaker Cars now in use



### SERIES 17 FOUR

40 horse power  
7 passenger

\$845

#### Four Cylinder Models

Touring Car, 7-passenger . . .	\$ 845
Roadster, 3-passenger . . .	825
Landau-Roadster, 3-pass. . .	1145

#### Six Cylinder Models

Touring Car, 7-passenger . . .	\$1050
Roadster, 3-passenger . . .	1025
Landau-Roadster 3-pass. . .	1350
Coupe, 4-passenger . . .	1600
Sedan, 7-passenger . . .	1675
Limousine, 7-passenger . . .	2500

#### Half-Ton Commercial Cars

Panel Delivery Car . . .	\$875
Express Body . . .	850
Station and Baggage Wagon . .	875

#### One-Ton Commercial Trucks

Open Express, complete . . .	\$1200
Stake Body, complete . . .	1250
Bus, 16-pass., full equipment . .	1400

F. O. B. Detroit



# WAITE TRACTOR

## \$750.

Here's the tractor you've been looking for—the one you will eventually buy. An 8 H. P. machine in the field with 16 H. P. on the belt. Four cylinder Waukesha, cast in block motor; high tension, dust and waterproof magnet; burns gasoline or distillate; working speed 3½ miles an hour; road speed, 10 to 12 miles.

F. O. B. Waukesha



### Abundance of Power---Perfect Utility--- Low Operation Cost

The Waite is the simplest, handiest, most practical farm tractor on the market. Does any farm-field or stationary farm-power job better and cheaper than horses; specially equipped for road and city hauling. Write today for illustrated folder with complete specifications.

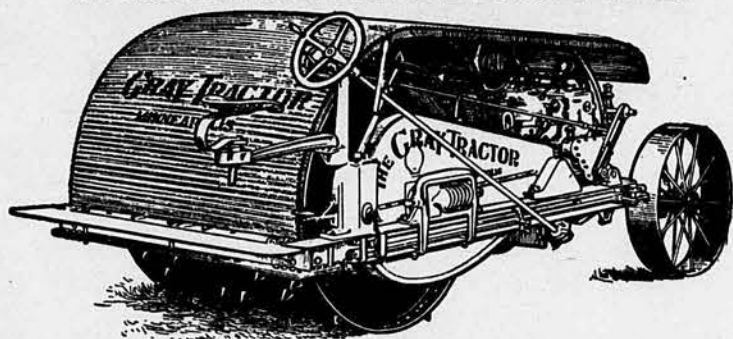
LIVE DEALERS WANTED in unoccupied territory in Oklahoma, Kansas and Texas.

### JACK JONES, Distributor

525-26 LEE BUILDING, OKLAHOMA CITY, OKLA.  
SEE THIS TRACTOR AT WICHITA SHOW, FEBRUARY 24, 25, 26, 1916

# The GRAY TRACTOR

## With the Wide Drive Drum



1916 Model A 20-30, 8,000 Lbs.  
Price \$2,150

1916 Model B 15-25, 5,500 Lbs.  
Price \$1,650

DOES not quit work when plowing is done. The Wide Drive Drum and light weight enable it to roll, disc or harrow your fields without packing the soil. Waukesha motor, simple transmission without bevel gears or differential. All gears run in oil in dust-tight cases. Hyatt heavy duty roller bearings. Built for the man who wants good farm machinery.

Sold On Approval—Catalog On Request.

GRAY TRACTOR MFG. CO.

POWER FARMING ENGINEERS  
1034 Marshall St., Minneapolis, Minn.

# RATEKIN'S 100 BU. OATS

Ratekin's Big Banner 100 Bushel White Oats—The biggest, prettiest, plumpest oat in existence. Side by side with common sorts they yield 100 bushels per acre where other sorts make but 25 to 35 bushels. Strong stiff straw; sprangled heads; ripens early; never rusts, blights or lodges. There is none like them, and when our stock is exhausted there is no more to be had. Samples Mailed Free. Also our Big Illustrated Catalog of farm, field, grass and garden seeds. A postal card will bring them to your door.

RATEKIN'S SEED HOUSE, Shenandoah, Iowa.

ADVERTISING PAGE FOR READY BARGAINS  
READ KANSAS FARMER'S CLASSIFIED

## Why Keep Milk Records

By C. O. LEVINE, Marshall County

THE average Kansas cow produces 140 pounds of butter a year. Some give as high as 700, many give from three to four hundred, but there are far too many that do not come up to the average of 140 pounds.

The average is far too low. In order to pay for her feed and care a cow must produce at least 140 pounds of butter for each lactation period, besides giving birth to a good calf once a year.

This being true, there are hundreds of cows in Kansas that are kept at a loss. It does not mean that the average farmer who milks cows is losing money through his cows, for probably but two or three unprofitable cows are in any one herd, and the remainder of the cows may be good producers. It does mean, however, that the farmer's profit from his cows could be materially increased if he had some accurate means of discovering the unprofitable cows in his herd. The only sure method of discovering unprofitable cows is by keeping proper records of the amount of milk produced by each cow and using the Babcock tester.

The outward appearance of a cow cannot always be depended on as indicating her value as a milker. It does not require keen judgment to select 140 from 150-pound cows by appearance alone, but when it comes to sorting those giving 140 from those giving 300 pounds, even the best judges of dairy cows frequently fail.

We have one cow in our herd which gave 9,000 pounds of milk during her last lactation period. Another gave 6,000 pounds. The amount of feed consumed was apparently the same for both cows. If we were to judge the value of the two cows by the amount of milk they produced, the cow which gave 9,000 pounds would be one-third more profitable than the other, and without testing the milk that would have been our conclusion. However, the milk from the cow producing 9,000 pounds tested but 3 per cent while the other tested 4 per cent, making a difference of only thirty pounds butter fat for the year. If both tests had been 3 per cent the difference would be ninety pounds fat.

We keep our milk scales hanging on a wire in a handy place in our dairy barn, so that it takes but a few seconds to weigh and record each cow's milk on a record sheet tacked to the wall near the scales. Once a month we test a day's sample of each cow's milk and record it on the sheet. The dairy department at Manhattan furnishes record sheets for this purpose free of charge.

It is not necessary to weigh the milk at every milking in order to get the total weight for a lactation period; practically as accurate results will be obtained from weighing a day's milk once a month. However, we find that it pays to keep daily records of each cow for several reasons. The daily milk flow is very susceptible to a variation in amount due to various conditions. By keeping records, many of these conditions can be adjusted so as to induce the greatest flow of milk at all times.

Besides assisting in weeding out unprofitable cows, daily weighing of the milk shows us what feeds return the most profit in milk and fat.

Daily records show the importance of an equal number of hours between each milking. During the short days and cold mornings in severe winter weather one is tempted to do the milking earlier than usual and to sleep until late in the morning. This makes the one period between milking hours too short, and the other too long. The total of two consecutive

milking never is equal to the total of two milkings twelve hours apart, other conditions being equal. This has been proven very definitely in our herd. When we milk at 5 o'clock in the evening and 7 in the morning, the average loss is four pounds for each cow. This amounts to a considerable loss in a herd of several cows.

Irregularity in the time of milking not only causes a loss of milk for the day, but if kept up from day to day will greatly reduce the flow and shorten the period of lactation.

### Dairy Cow Ration.

One of our Reno County readers writes us that he is more than pleased with the results he is getting from the feeding of silage. He has a silo of 216 tons capacity, and filled it with twenty-five acres of kafir last fall. He is milking twenty cows and they are receiving about 30 pounds of silage daily, as additional roughage a little kafir fodder and a small amount of alfalfa. For grain, he is feeding a pound of linseed oil meal and four pounds of a mixture consisting of one part bran and three parts corn chop. About 50 head of short yearling steers are also being fed silage at the rate of 20 pounds a head daily.

This correspondent states that if he feeds the steers very much more silage than this amount, they will eat little other rough feed of any kind. He lets the stock run to the straw stacks, these furnishing them a dry, comfortable bed, and they eat some of the straw. He figures the silage cost him only \$1.50 a ton this year and is easily worth \$4.50 a ton.

### Orchard Pruning Demonstrations.

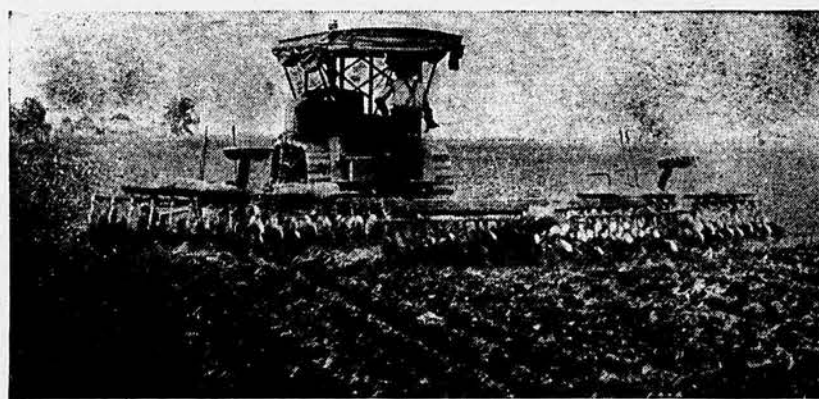
C. C., Nemaha County reader, asks how he can secure the information and help offered by means of the public pruning demonstrations concerning which he has read in KANSAS FARMER. He has quite a large orchard and is anxious to learn how to handle it to better advantage.

For several years George O. Greene of the extension division of the Kansas Agricultural College, has been conducting field demonstrations and a great many farmers have received valuable lessons in the care of orchards. It is only where several in the same neighborhood are interested that these demonstrations are conducted. The purpose is, of course, to teach as many as possible how to proceed in order to put their orchards in good bearing condition. Mr. Greene has just spent three days in Cowley County. There is so great a demand for this kind of work that it can only be secured by writing to him at Manhattan and arranging for it in advance.

We print in this issue of KANSAS FARMER an article telling in detail how to proceed in the pruning of fruit trees. Those who cannot have this kind of work demonstrated to them, can learn how it is done by carefully reading this article.

### Engine Wears Well.

Our engine develops 60 horse power on the belt. Although an old engine, it gives good satisfaction everywhere except in mud. We are now starting in on our fifth year with it, and it was used as a demonstration engine four years before we bought it. We use it principally for threshing, shredding, and sawing wood. For plowing, it is rather large for our farm. For plowing it has cost us about 75 cents an acre for oil, kerosene, repairs, and labor. The repair bill has averaged about \$50 a year.—J. R. R., Riley County.



GROUND MUST BE STIRRED AT THE RIGHT TIME TO CONSERVE MOISTURE.—THIS OUTFIT IS DOING RAPID WORK



# GENERAL FARM ITEMS

## Buy Orchard Trees Early.

Nursery stock should be ordered now if you want to get the best trees for your orchard. Winter is the time to buy but the delivery may be made later. Nurserymen have limited stocks of many kinds of fruits and the desired kind may run out after the book orders are filled. Many of the big commercial orchard planters order one-year "whips." Practically none buy trees over two years old. The older or larger tree loses more roots in digging and it takes a longer time for it to recover after transplanting. One-year trees may be headed exactly where desired while older trees are already headed and must lose their buds if they are cut back to the lower heads. As to the grade or size of the tree, avoid the very large and over-sized ones and also the small sizes. Best results will come from the well developed, stocky trees.

## Local Tests of Corn Varieties.

We believe that in many counties there are a great many more varieties of corn being planted than there should be in order to get the best results. Not enough attention is given to the selection of adapted varieties. Quite often there are farmers living in the same neighborhood growing different varieties, who should all be growing the same variety. Where many varieties are being grown some of them are certain to be better suited to the conditions than are others. The logical thing to do would be to find out which are best and then discard the inferior varieties.

Such testing of varieties cannot be done at an experiment station. It must be done under the conditions where the corn is to be grown. The kind of corn that would fit Jewell County might give most unsatisfactory results in Atchison County. We believe much good will come from the variety tests that are being made locally in various parts of the state. We have just been looking over the report of a series of tests made in some of the counties and find the results especially interesting. On some eight or ten farms in Jewell County this variety testing has been going on for four years. Of course, its value is increasing each year. In the test last year Freed's White Dent stands at the top, the average being 57 bushels an acre. Carefully selected local varieties stand second, the average yield being 60 bushels an acre. Pride of Saline and Commercial White stand next, each with an average yield on eight farms, of 54 bushels an acre. Other good yielding varieties were Reid's Yellow Dent, Boone County White, Iowa Silvermine, and Kansas Sunflower.

In Leavenworth County similar tests have been made. Last year Kimmel White, Shawnee County White, and Boone County White stood at the head of the list in the order named. In 1913 Boone County White was the best yielder of the varieties tested. In this county, averaging the tests of two years, shows that four out of five of the best yielding varieties are of a large white type.

Work of this kind in every community would be of great advantage in determining the best and most profitable varieties to grow.

## Simplifying Land Titles.

The Torrens system of land titles is no longer a foreigner in the United States. It has been domesticated and tested in whole, or in part, in eleven states. As first adopted in some of them, the law proved unconstitutional and was revised, but is at present apparently on a firm foundation in Massachusetts, where it was adopted in 1898 and amended four times. In this state the law has been very successful. Some of the other states which have passed similar legislation are Illinois, Ohio, Oregon, Washington, Minnesota, New York, North Carolina, Mississippi, Colorado, and California. The plan was adopted in the Philippine Islands in 1902 and in Hawaii in 1903.

In many cases the system is made optional, but in other cases registration under it is required in court proceedings. In adapting this system to conditions in the United States, there have been many repeals and amendments, but no country or state has ever abolished the system when it was once adopted. It has often been adopted in imperfect form and improved later, but has never been discontinued. Our Canadian cousins seem to be getting along well with the Torrens system, as it was introduced in Vancouver in 1861, in British Columbia 1870-71, in Ontario and Manitoba in 1885 and in Alberta and Saskatchewan in 1906.

The Torrens or a similar system of land title registration would greatly reduce the expense of obtaining land

mortgage loans. After all possible help has been secured by other means, there will still be the possibility of obtaining further relief by this system if it has not been adopted. Under this system the expense of abstract of title and of the inspection of titles by lawyers when land is sold, or a loan is secured by a mortgage, are avoided. Only the recorder's fee is paid and there would be no occasion for securing an abstract of title, having the lawyer inspect the title, or having a title guarantee company insure your title.

Every land owner would be practically in the position of holding an original patent from the government, and there would be no possibility that he would lose his title through any earlier faulty transfer as in case of failure to secure the proper written consent of the heirs of the estate. In case the government has made a mistake which deprives the heirs or others of land which rightfully belongs to them, it makes good the loss from a fund obtained by levying a very small tax at the time of registration. In Australia, where the Torrens system was instituted in 1857, a tax of about

one-fifth of one per cent of the value of the land has taken care of this part of the work. In other words, it would seem that mistakes were made which necessitated such a payment for about one for every 500 farms registered. Naturally, there will be fewer compensations of this kind to be paid after the system has been thoroughly established than at the first.

Anything which will simplify, cheapen, and make more secure the handling of titles to the vast wealth represented by real estate, will be a great blessing. The Torrens system, and similar systems are practically as cheap as those whereby stocks and bonds are registered on the books of the company issuing them and regarded as the property of those in whose names they are registered.

## Keep Hogs Free From Lice.

During the winter season hog lice are sure to increase unless a special effort is made to keep them checked. The hogs pile up in their houses and conditions generally are favorable to the rapid increase of the lice. Hogs cannot be dipped in the winter time, but there are other successful methods of treatment. Equal parts of kerosene and machine oil can be mixed and applied with an oil can or swab. Crude oil, thinned with

kerosene if necessary, can be applied as a spray or with a brush or swab. These remedies are simple and inexpensive. Where crude oil is cheap, there is little excuse for not keeping a small bunch of hogs absolutely free from lice during the winter season. It costs money to maintain a myriad of such vermin. If the hogs are gone over frequently and the beds cleaned and thoroughly sprayed with the oil, this source of loss can be stopped.

Dairying offers a most suitable environment for the development of high standards of living both for a family and a community.

## 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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I am perfectly contented. My livestock investment is safe because my livestock is protected in a responsible company. I found out about their responsibility by investigating this company. I found the officers of the company to be well known and thorough livestock and insurance men, who have lived in Kansas all their lives. They have a record of twenty years' clean business methods behind them. I found their company to be clean, safe, reliable and well managed. Their method of doing business is open and above board. I found the company conservative, and honest, and then

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Mr. Farmer, remember that this company is in business to stay. We have never had a complaint registered against us. Now, as a matter of good business judgment, don't we deserve your business? We invite the most complete investigation of our company and methods. It costs you nothing. Will you do this now? If you will investigate us, we know that you will place your policy with us. You cannot afford to be without livestock insurance. It is too big a risk for you to take. We know that you don't want to assume this risk. Then why not take out a policy in a company that you can be satisfied with, a company that your investment is secure with? A policy with this company means that you do not have to worry. You are secure from financial losses on your horses, mules, cattle and sheep. When you insure with us, your livestock is already paid for. Think this over, because you cannot afford to delay one minute on making your decision. Remember this, that tomorrow it may go ten to twenty degrees below zero. Storms may rage over this country. Cows and cattle may die in the fields. You cannot afford to risk the heavy drain that may come upon you if you lose any of your stock. Let us assume this risk.

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**SQUARE DEAL FENCE**

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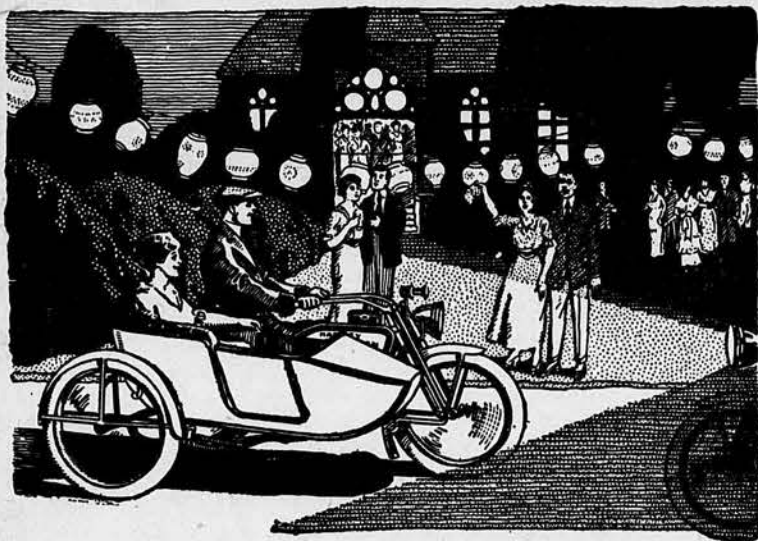
Be square with yourself when you buy fencing. You can't afford to put up a short-lived fence. You can't afford to make the mistake of buying any wire fence on "price" alone. Look out for light, imperfect, brittle wire; thin uneven galvanizing; weak, flimsy, half-tied knots, and out-of-date, clumsily woven, hard-to-put-up fencing. Buy the fence you KNOW you can depend on—one that will stand up tight and trim the whole year 'round—one that will give and take with sudden strains and season's changes—one that will last more years, cost less for repairs, require fewer fence posts, turn all kinds of stock better, hold its shape and resist rust longest—in short, give you most for your money in real fence service and satisfaction. See

## SQUARE DEAL FENCE

before you buy. See the famous SQUARE DEAL LOCK—the double grip that will not slip. See the one-piece stay wires, the wavy, springy, strand wires, the perfect weaving, the heavy even galvanizing, the strong, flexible quality of square deal wire made in our own mills, not bought in the open market.

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WHEN there's an entertainment at the church—or a good show in town, or a dance, or a party at the home of a distant neighbor—then you will be glad you own a Harley-Davidson. You'll find a dozen good uses for it during the day, of course, but when the day's task is done and you are too tired to enjoy walking or driving, then you really enjoy your

## Harley-Davidson

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READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS

## Farm Bureaus Stand for Purposes

THAT the farm bureau and county agent movement in Kansas is an attempt to place a "farm adviser" in the county for the purpose of advising farmers regarding their farming operations is still the belief of some people. This impression is rapidly disappearing, however, as it becomes generally known that the farm bureau composed of a large number of farmers is as important as the county agent, if not more so, and the greatest work that the agent can do in a county is to secure the hearty co-operation of the farm bureau members so that they will work together for the purpose of securing and applying on their farms the best information concerning farming problems in that county.

In every county in the state there is a vast amount of practical knowledge that will assist in solving the agricultural problems present. If this can be organized and placed in a readily available form, it will be the most valuable information that can be secured from any source. Such practical information is the first essential in successful farming, but every thinking farmer will admit that it is necessary to keep well informed also upon the so-called "scientific farming," which is merely the application of the best known principles of agriculture to the every-day farming operations. A farm bureau giving continuous attention to agriculture will help to organize available information and to keep one well informed.

Great progress is constantly being made in agricultural methods as in all other lines of business, due largely to the necessity of producing as economically and profitably as possible. Many methods in vogue fifteen years ago would be ruinous from a financial standpoint if followed today, and constant attention to up-to-date agriculture is necessary in order that success may come. The most practical farming is the result of the application of sound information to every-day practice. The farm bureau directs attention to those farms where sound information is used in a practical way.

Knowledge of the principles underlying the practice of farming is essential in order that one may adapt himself to changing conditions from year to year. For instance, it is not only necessary to know that deep plowing early in the season usually results in increased yields of wheat, but also to know why such results are obtained in order that different methods may be adopted as needed when conditions are different. A farm bureau has as one of its principal aims the systematizing of the practical information of the farmer and the information secured by careful experimentation by the experiment stations and the Department of Agriculture and the dissemination of such information among the farmers of the county. Some farmers who keep abreast of the times in crop production, live stock production, farm management, and marketing, are always found in every county, and usually also men who are specialists in some line of agriculture. In some counties also there are many progressive farmers of this type, while in other counties their number is comparatively small.

The farm bureau helps to make public the results obtained by these various types of farmers and through demonstrations and meetings to call specific attention to the most successful methods practiced in the county. The general application of the lessons taught by these demonstrations helps to keep the agriculture of the county fully abreast of that of any other section of the state.

An agricultural agent working without the hearty support of the farmers in a county could accomplish little; and for that reason a farm bureau composed of a large membership which would help in calling attention to what should be done to improve the agriculture in a county and in definitely planning how this may be done would produce remarkable results. The greatest work of any county agent is to develop a working farm bureau, which will be the engine whereby results are obtained, the executive committee of the bureau and the county agent being the directive force.

### HOW FARM BUREAUS WORK.

Farm bureaus conduct their work by means of demonstrations, demonstration meetings, publications, through committees and by personal visits of the agricultural agent. The farm bureau members conduct the demonstration under the supervision of the agricultural agent. They advertise the meetings which are held where demonstrations are located and where these demonstrations are discussed. The demonstrations are conducted not primarily for the purpose of securing the greatest yield per acre, but

for the purpose of securing the greatest profit. It should always be remembered that while the area used for a demonstration in a locality may be small and therefore seem insignificant, it is a part of the larger regularly organized demonstration plan in the county. On many farms also demonstrations of good practices are found even though these have not been placed there by the farm bureau. An effort is made to study systematically these demonstrations in connection with those specifically planned.

Farm tours are conducted according to regular schedules which have been advertised for a considerable time in advance. These tours are made to farms where specific information may be obtained and the farmer himself describes to the visitors the methods by which he has attained success along some particular line; for example, during the first two weeks in September last year the Atchison County Farm Bureau conducted a farm tour known as a "See Atchison County First" tour. The schedule was widely advertised throughout the county for a considerable time and meetings were held on the various farms, the farmers from one section visiting those from another section. Each day three types of farms were visited and each day the following subjects were discussed, usually with illustrative material present: Judging, feeding and care of horses, hogs, beef and dairy cattle, sheep and chickens; the raising of corn, wheat, clover, alfalfa, sweet clover, and Sudan grass; the care of orchards, including pruning, cultivation, and spraying; tile drainage, silos and silage, and home conveniences. Discussions of contagious abortion, tuberculosis, hog cholera, and soil fertility were also given each day by the county agent or the farmer specialists, the subjects for discussion being so arranged that no subject was taken up that had previously been handled at a meeting within several miles of the place. During the two weeks' tour thirty-six farms were visited with 548 people in attendance.

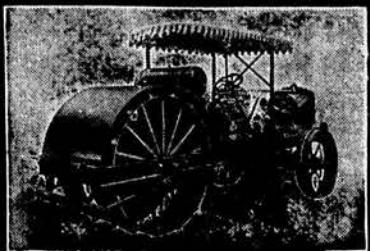
Another example of farm bureau work is the demonstration tour conducted in Jewell County for the inspection of demonstrations. Two hundred men and women in automobiles in one day viewed twenty-four different demonstrations for the purpose of learning a lesson from each. Every little factory sends representatives to other establishments to get new schemes; a farmer cannot help picking up ideas on such a tour which will be helpful in the management of his factory, the farm.

Farm bureaus have rendered and can render enormous help in the control of hog cholera. This can be done by bureau members reporting all hog cholera outbreaks to the central farm bureau office so that the county agent may see that a competent veterinarian is immediately secured to quarantine the place where outbreaks have occurred, vaccinate the hogs, and clean up thoroughly so as to prevent further spread of the disease. In Linn County alone during the year 1915, as a result of the farm bureau activities for hog cholera prevention, 3,822 hogs were vaccinated and the farms cleaned up, while in Cowley County, by the co-operation of the farm bureau and the state sanitary live stock commissioner, centers of infection have been removed wherever found, through systematic clean-up work.

Similar campaigns are conducted by farm bureaus in the control of Hessian fly, army worm, the chinch bug, and other crop insects, while orchard demonstrations, farm management surveys in which the business side of farming is checked up, and other demonstrations are conducted in large numbers.

POPULAR WHERE GIVEN FAIR TRIAL.  
"The proof of the pudding is in the eating," and the true test of farm bureau work is to determine its standing in those counties where it has been in progress for some time. Since its inception in 1912, eleven counties have been organized, ten of them having had county agents for from one to three-year periods. Ten of these counties were organized before the farm bureau law went into effect, with a membership of between seventy-five and two hundred people. Three of these, namely Leavenworth, Jewell, and Harvey counties, have increased their membership in order to take advantage of the new law permitting county appropriations and the commissioners of each of these counties have appropriated \$1,200 a year for the farm bureau work. During the membership campaigns conducted by these bureaus it was noticeable that rarely if ever did an old member refuse to continue his membership. While no statistics are available, it is a safe estimate that less





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Get my new fruit book, which is ready to show you how I can save you forty cents on every dollar's worth of trees you buy.

For nearly forty years I have been in the Nursery business right here in the Southwest. I was probably the first nurseryman in this section to sell direct to my customers and save them the tree peddler's commissions. What I have done for others, I will do for you.

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### Our Special Offer

We want every person who uses seeds to see our 1916 Seed Book and try this Giant Climbing Tomato. We will send a sample packet in a 10c coupon envelope for trial, with Seed Book Free. This Book describes the best Vegetables, Fruits and Flowers. Send your address today.

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than 5 per cent of the old members failed to continue their membership. Even better than this, in every township where there had been a considerable membership before there never was any difficulty in securing more than the quota of membership allowed to that township. These facts better than any others, perhaps, illustrate that the farm bureau movement in very popular among those who have given it a fair trial.

### HOW TO ORGANIZE FARM BUREAU.

Within the last few months three new bureaus, each with a membership of more than 250 farmers, have been organized and other counties have central committees appointed and working to secure a full membership. It is the common observation of those who have undertaken this work that when once there is a desire for a farm bureau in a county and when the campaign is properly conducted there is no difficulty in securing members. Those who have participated in these campaigns say that at least eight out of every ten farmers asked to join will become members as soon as the purpose of the movement is explained to them.

In order to secure a farm bureau in any county the first thing necessary is properly to organize a membership committee composed of some of the leading influential farmers and townspeople in the county, and the second is to be certain that these people will solicit memberships. It is common information that people do not readily join any organization when solicited by mail. They should be interviewed personally. The soliciting for membership also should be done by people who are thoroughly informed as to the purpose and methods of work of a farm bureau and the results that may be expected when a bureau has been secured. When a group of people interested in securing a bureau will get together and constitute a central committee to promote bureau organization, the State Leader of Agricultural Agent Work at the Agricultural College, Manhattan, Kan., is always willing to come to the county and meet with this group and explain fully how the membership campaign should be conducted and the farm bureau secured.

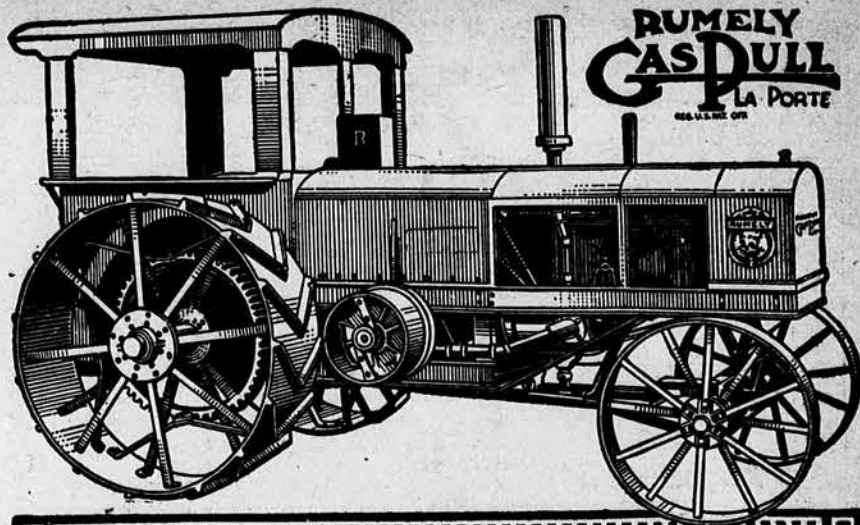
### Plant the Early Garden Early.

Plant the early garden early—which means as soon after the first of the year as you can get the ground in condition to plant safely. As spring draws near we are very anxious to have the early garden starting, and there are so many things to prevent our getting the garden in when the spring opens up and when every day counts, that we are later than we expected more years than we want to acknowledge.

Probably the main cause for our being late is the unworkable condition of the soil when the season for gardening arrives. Spring rains come and when the warm days follow, the soil is waterlogged, and to work it then would be to invite failure. We will be compelled to wait until it dries. I have known such conditions to last for two or three weeks, until patience gave out and the garden was muddled in, with the result that when the drying weather did come, it made bricks of the garden beds. The worst feature of such condition is that it cannot be remedied to any great extent. If the garden is in before the spring rains come, they will bring the seeds up, and when the soil dries out so it can be cultivated, the plants are ready, fully two or three weeks before they would have been had they been sown after the rains.

Hardy vegetables, only, should be sown so early. All the vegetables that will stand frost will grow if sown any time from fall to spring. I have sown vegetables in the fall, but there are so many things that might happen to the garden between fall and spring that I prefer to sow in the very early spring or late winter. Spinach, mustard, lettuce, radishes, and onion sets are the vegetables I usually plant in winter. Peas can be sown very early if the smooth sorts are chosen, but the sugar or wrinkled sorts will rot in the soil if it is wet or cold when they should be germinating. Tom Thumb, Alaska, and First and Best are good smooth sorts, but I am partial to the First and Best. It is a heavy yielder, and is good quality. The seeds germinate readily, so a good stand is usually obtained, which is not always the case with the wrinkled kinds, especially when planted early in the spring.

There is little advantage in planting any crop early that is apt to be checked in growth by the cold nights. Such crops will make just as much growth in the shorter time after the soil becomes warm as they will if planted so early that they are checked. The later plants will be much more thrifty, too, and will stand a better chance to yield a good crop.—L. H. COBB.



## Money Saved Is Money Earned

THE Rumely GasPull tractor commences to cut down farm costs the first day you put it on the pay roll. The "many job" tractor it has come to be called and it lives up to its name.

Probably the first thing that will appeal to you in the GasPull is its light weight and extreme ease of handling. It weighs only 11,000 pounds and you can turn it on a 15-ft. circle. The convenience of levers, a safety cranking device and dependable foot brake help make operating easy.

The GasPull is equipped with a smooth-running, powerful motor, all working parts are efficiently lubricated and fully protected from dirt and the weather.

The GasPull is as handy, powerful and efficient on the belt as at the draw-bar. It easily handles a thirty-inch separator to its full capacity. There is, of course, absolute freedom from sparks.

You will find that the GasPull completely fills the bill wherever there is plowing to be done, crops to plant and harvest, loads to haul, grain to thresh, roads to build, or wherever power is required to cut down farm expenses and increase farm profits.

Then, there's the price. Without making comparisons here, we can safely say that there is no better tractor value on the market. You may be sure that a GasPull costs much less than the horses or mules it will displace, can be maintained at much less cost and will do more work. Made in one size—15-30 horsepower.

Ask our nearest branch for a catalog and full information.

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La Porte (Incorporated) Indiana

Wichita, Kan.

Kansas City, Mo.



## WITTE ENGINES

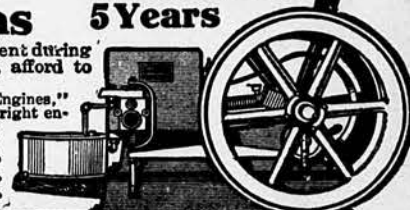
BEFORE you buy any kind of a gasoline or kerosene engine, write for my offer, under which I send an engine to earn its own cost while you pay for it. Stationary Engines at less than \$17.50 per horse-power—2 H.P. \$34.95; 3 H.P. \$52.45; 4 H.P. \$69.75; 6 H.P. \$97.75; 8 H.P. \$139.65; 12 H.P. \$197.00; 16 H.P. \$279.70; 22 H.P. \$359.80. (F. O. B. Factory). Portable Engines and Saw-Rig outfits proportionally low. Guaranteed high quality—thoroughly proven during 29 years by many thousands in use at all kinds of work in every state.

### Cash or Easy Terms 5 Years

For my low prices, and under my easy terms of payment during a whole year, you can now, more easily, and better, afford to own an engine, than to do without one.

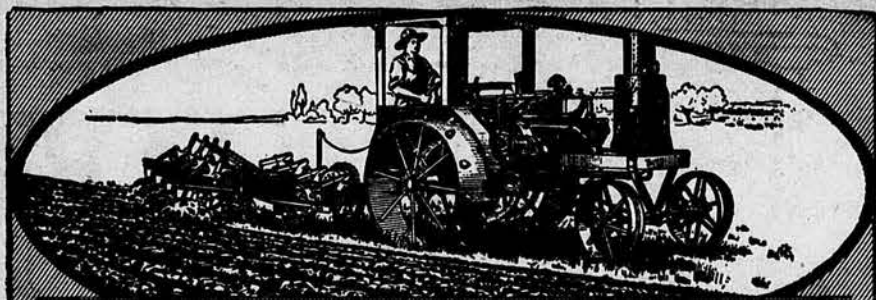
**Fine Book Free** My free book, "How to Judge Engines," will show you how to select the right engine, and it will save you money that you want to save, whether you buy now or later. Write me, now.

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ADVERTISING PAGE FOR READY BARGAINS





## No Other Tractor Has Met Such Tests

**T**HERE are more acres plowed every year by Avery Tractors and Plows than by any other make. They have met the test of *actual field use* in the hands of owners so successfully that we were never able to build them fast enough last year to keep up with the orders. Avery Tractors and Plows have also met the test of *competitive contests and public demonstrations*. They have been entered in every important contest and demonstration ever held. They took part in all six of the 1915 Tractor Plowing Demonstrations at Enid, Hutchinson, Fremont, Sioux Falls, Champaign and Bloomington and in every case proved that they would do all we claim for them. Avery Tractors and Plows have also met the hardest test of all—that of being introduced by a sold on approval policy to be paid for only after they had made good in the field and had been accepted by the purchaser.

No other make of Tractors and Plows have met such tests. Avery Tractors and Plows stand today as the most thoroughly tested out and proved successful make of Tractors and Plows built.

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**First**—Avery Tractors have a special sliding frame on which the entire power plant is mounted. This sliding frame makes possible the elimination of the intermediate gear, shaft and boxings. Engineering authorities say that each gear contact means a loss of from eight to ten per cent of the power in the transmission, all of which is saved for use at the drawbar in an Avery Tractor. Because of this sliding frame an Avery Tractor has the least gears, the least shafting and the least bearings of any two-speed double-drive tractors built—which means more power and longer life.

**Second**—All Avery Tractors have two rear drive wheels—no single drive-wheel construction is used on any Avery Tractor. Furthermore, all Avery Tractors are regularly equipped with two speeds—a great convenience over a one-speed tractor—a slow speed for plowing and other heavy work and a fast speed for light loads and traveling on the road.

**Third**—Avery Tractors have slow speed, heavy duty opposed motors—not high speed light automobile motors.

**Fourth**—Avery crankshafts are one-half or more than the diameter of the cylinder. There has never been a broken Avery crankshaft.

**Fifth**—Avery motors have removable inner cylinder walls. This makes it possible to replace the part which is most subject to wear in a motor without the expense of having to buy an entire new cylinder.

**Sixth**—Avery Tractors are entirely free from all pumps and fans. All such easily broken and troublesome parts are done away with in the construction of an Avery Tractor.

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Another big advantage in getting an Avery Outfit is that the entire outfit is built by one company—the plow as well as the tractor. We also build the "Yellow Fellow—Grain Saver" Separator in sizes to fit each size Tractor.

### Learn All the Facts About the Avery

Avery Tractors are built in sizes to fit any size farm. They make Tractor Farming successful on any size farm—large, medium or small. They are the best power for threshing and road building as well as for farming. They are sold at low prices—3-plow Tractor, \$760 cash; 4-plow Tractor, \$1120 cash; 5-plow, \$1680; 6-plow, \$2145; 8-10-plow \$2475. We also build a special smaller size tractor for \$235. All built and backed by a company having a large factory and many branch houses, which insure prompt and permanent service.

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### AVERY COMPANY

1423 Iowa St., Peoria, Ill.

Ask for address of nearest Branch House or Jobber

# AVERY

"One Man Outfits" 6 Sizes Fit Any Size Farm.

## PEORIA TRACTOR

**\$685.00 Unequalled VALUE**  
BURNS CHEAP KEROSENE AT ALL LOADS—



The 1916 "PEORIA"

"WHEN I DON'T WORK, I DON'T EAT"

### WHAT IT DOES

Hauls plows, seeders, harrows, drills, discs and grinds feed, saws wood or does any stationary belt work on the farm. No new equipment or extra hitch necessary.

The "PEORIA" Tractor has been sold and successfully used for the past two years in practically every state in the Union. Tractor Farming has been demonstrated a big success with the "PEORIA" Tractor. Many new and attractive features added to the 1916 model. It takes every place of farm horses. You'll be interested.

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## Handling Summer Fallow

**O**NE of our Kiowa County readers is considering the advisability of summer tilling 100 acres of land the coming season. This field was in wheat in 1915 and he wishes to put it into wheat again next fall. He asks whether it would be the better plan to put this land into some crop and cultivate it well this spring, or leave it fallow through the summer, giving it such work through the season as would be necessary to have it in condition for wheat next fall.

In Western Kansas moisture is the all-important factor in the growing of wheat. All farming methods should be such as are adapted to storing and conserving as much moisture in the soil as possible, until the growing crop can use it to the best advantage. The summer fallow when properly conducted, virtually stores one year's rainfall and carries it over so that it can be used in growing the next year's crop. In regions of very light rainfall wheat cannot be successfully grown in average years by any other method. It is an expensive method of preparation and it would appear from our experiment station reports that a systematic following of a summer fallow for wheat production would not be as profitable for Western Kansas as a combination of summer fallow with live stock and general farming.

Unless the weeds can be kept down, allowing the land to lie idle will be of little avail in storing moisture.

Our correspondent has plenty of other plowed land and does not need this for spring crops, but he does not have very many horses and seems to fear that he might be unable to cultivate so much land as it should be done. He has an 18-36 tractor, however, and this should furnish the power necessary to get over land rapidly providing he has the proper implements for the necessary tillage work.

It would be our advice that this land be plowed as early in the spring as possible, not later than May. By plowing this early the work can be done in better shape than by waiting, and more moisture will be stored. In every trial that has been made, early preparation of the seed bed for wheat has resulted in increased yield. After the growing is well done, all that is necessary is to give the field such cultivation as will keep down weed growth.

A modification or substitute for summer fallow has been successfully practiced. In a recent issue of KANSAS FARMER we described this method which has been taken up in Russia and is known there as the American method. It simply consists in planting corn or kafir in wide rows and giving it thorough tillage. This tillage has the same effect in conserving and storing moisture as does the regular summer fallow. Of course, the crop grown uses some moisture, but in ordinary seasons where the weeds are kept down by thorough cultivation, the ground will be in excellent shape for wheat in the fall and the stalks or stubs of the crop will help to hold snow and prevent blowing during the winter.

We would suggest that our correspondent secure copies of the bulletins of the Kansas Experiment Station on growing wheat in Kansas.

### Bulletins on Farming.

O. R. B., Douglas County, asks how to obtain free bulletins pertaining to dairying and farming.

Every farmer in Kansas should be on the list to receive the bulletins published by the Kansas Experiment Station at Manhattan. A great many bulletins are

published by the Federal Department of Agriculture that can be studied to good advantage. The best way to get these bulletins is to write to the Secretary of Agriculture, asking that the monthly list of publications be regularly sent. Each month when this list is received those bulletins of special interest can be secured by writing to the department giving the names and numbers desired. There are a great many back numbers of bulletins that our correspondent might find of interest, and a list of all such bulletins available for free distribution will be sent on request by the secretary of agriculture.

Many of the large manufacturing concerns publish bulletins on farming subjects that contain much valuable information. A request sent to any of these large machinery companies will bring such bulletins as they are publishing.

### Secure Good Seed Oats.

From many localities comes the report that good seed oats will be scarce this spring. It does not pay to sow inferior seed of any kind. If seed oats must be shipped in, farmers can co-operate to good advantage in securing such seed as is needed. In some counties local exchanges are being established so that seed grown near home can be used if it is to be had. There should be no delay in making arrangements for seed oats. Oat-seeding time will soon be here. Usually those sown early are the most sure of making a good crop.

### Threshed Kafir Heads for Feed.

C. S. B., Reno County, writes that he has just finished threshing his 1915 kafir crop. He says the pile of threshed heads looks like good feed, but two of his neighbors tell him that it will make the stock sick.

If the kafir was headed short and the grain was all taken out, this material has little feed value. We have never heard of stock being injured by eating such feed, but in our opinion, well fed animals would not consume much of it unless considerable grain has gone into it. There is always a possibility when such a job of threshing has been done, that there will be quite a pile of chaff mixed with cracked grain. If stock not accustomed to heavy grain feed, should be turned to such stack or pile, there is a possibility that the animals might overeat. Perhaps that was the experience of the two neighbors.

If any of our readers have had any experience in feeding this material, we would be glad to hear from them, as the results they have secured will be helpful to others.

### Machinery Cost.

Machines make money for you when they are in use; they cost you money when they stand idle.

A machine makes the greatest possible profit for its owner when it is used continuously in profitable work till it is worn out. Then it is really worn out—it does not rot or rust out.

The average farm implement is only about half worn out by use alone. The rest of the wear is due to rust and decay.

Acres count in the life of a machine—not years.

These are some of the striking facts about machinery emphasized by a recent study conducted by the Federal Department of Agriculture, the results of which have been published as Bulletin No. 338, "The Machinery Cost of Farm Operations in Western New York."

It was found that the cost per acre covered is the real measure of the value of the service given by an implement,



A SPECIALTY IS MADE OF GOOD DRAFT HORSES ON THIS WELL EQUIPPED ELLIS COUNTY FARM OF GEORGE PALMER



and that, on the average, the more acres covered each year, the more profitable it proves to its owner. For example, it was found that for the territory of Western New York surveyed, the mower that covers but fourteen acres a year cost its owner 36 cents per acre, while the mower that covers fifty-three acres annually cost but 10 cents an acre cut.

Of the implements studied, the walking plow shows the longest life in days of service, 224 days out of a total life of twelve years, while the two-row corn planter shows the shortest life in days of service, nine days out of eleven years, or about nine-tenths of a day a year. The cost of the walking plow was less than ten cents an acre, mostly for repairs, while the cost of the two-row corn planter was 80 cents an acre, mostly "replacement cost" — or the amount charged against the implement each year toward getting a new one when it is scrapped.

#### Plastered Cement Silo.

O. S. S., Kiowa County, asks if a satisfactory silo could be made by plastering ribbed steel material such as is used in making partition walls in fire-proof buildings. He speaks of running three-eighths-inch rods up and down and plastering the walls until they are four inches thick. He asks if this will be strong enough reinforcing for a silo 16 feet in diameter and 30 feet high, and also what would be the approximate cost of building such silo, the cement costing 50 cents a sack and sand \$1 a yard.

The silo suggested is of the type known as the plastered metal lath silo. In our opinion the special type of reinforcing suggested would be rather expensive, although no price is given on it. The building of a cement silo requires considerable knowledge as to the strength of materials and their proper placing. The three-eighths-inch rods suggested in all probability are not needed at all vertically. If extra reinforcing is needed it is much more likely to be horizontal. A silo of this type, using this patent material for reinforcing, would probably cost in excess of a good stave silo of similar size.

#### Silos in Seward County.

We are always interested in people who have the nerve to start something new after convincing themselves that it is a profitable and desirable project. When John L. Boles and three other farmers of Seward County gave their orders for silos five years ago, their neighbors thought they were throwing their money away. We were present when this order was given, there being a farmers' institute in session at the time. Many were the arguments presented for and against the silo at that time. These four men were all anxious to make live stock farming more certain, and in spite of the local sentiment against the silo, decided to give it a trial. We have watched the development of the silo in this county closely since that time. On our next visit we found four men living on adjoining farms had dug pit silos. They were too poor to buy silos but they were good workers and so at a cost of \$15 or \$20 they had a means of preserving feed that made it give the best returns in feeding their stock.

Mr. Boles writes us now that he is full-feeding a bunch of steers this winter, the ration being silage, ground milo, and oil cake, with some dry kafir fodder for extra roughage. Since starting in with the silo he has steadily increased his live stock production. In addition to the steers, he is wintering 140 head of other cattle and 180 sheep. He gives an interesting report of his silo filling experience last fall. He says:

"I used a brand new silage cutter of large size, and we rushed it through in short order. We kept the table piled four bundles deep all the time from morning until night, putting up 270 tons in two and one-fourth days without a break-down or stop. We started two binders the morning we began filling. It took 31 acres of kafir and was in just the right condition. The wagons followed the binder and there was no chance for it to lose any moisture, so we did not have to add any water. It took eight four-horse teams to do the hauling. I paid \$3 a day for single hands and had plenty of them, and \$5 a day for a man and four-horse team. In spite of the high cost of labor it cost me \$100 less to fill the silos this time than it had ever



SMALL TRACTOR IS THE KIND MOST NEEDED ON AVERAGE FARM

before. I attribute this saving in the cost of filling to several conditions. The kafir was in ideal shape for rapid work; the new cutter was a big improvement over the old one. We had carefully planned the work before it began and we had a good crew thoroughly well organized. My silage this year is better than any I have ever fed."

#### Top Dressing Wheat.

J. G. C., Cheyenne County, asks if we would advise spreading straw sparingly over fall wheat this spring, or as soon as the snow melts. He says he knows it should have been done last fall, but wants to know whether spreading it now will be better than to not do it at all. The wheat was not sown very early and consequently has not made a very big growth.

It will certainly do no harm to spread straw and may do a great deal of good. In some seasons considerable damage is done by blowing even in the spring, and the straw will most certainly help to prevent this in case conditions should be favorable for soil to drift. It would not be necessary, however, to wait until the snow melts. It is not the freezing that hurts wheat, but the alternate thawing and freezing, and a top dressing of straw will help to overcome this alternate freezing and thawing which frequently takes place the latter part of the winter. The straw will settle into the soil and such light snows as may come late in the spring will be caught and held and thus add to the soil moisture. There is really no better use to make of straw, where there is a surplus, than to spread it on the wheat fields.

A point well worth remembering in buying implements, is to purchase from a reliable firm—one that will be doing business still when you need repairs, and that will be interested in seeing that your machine is kept in such repair as will make maximum use and satisfaction possible.

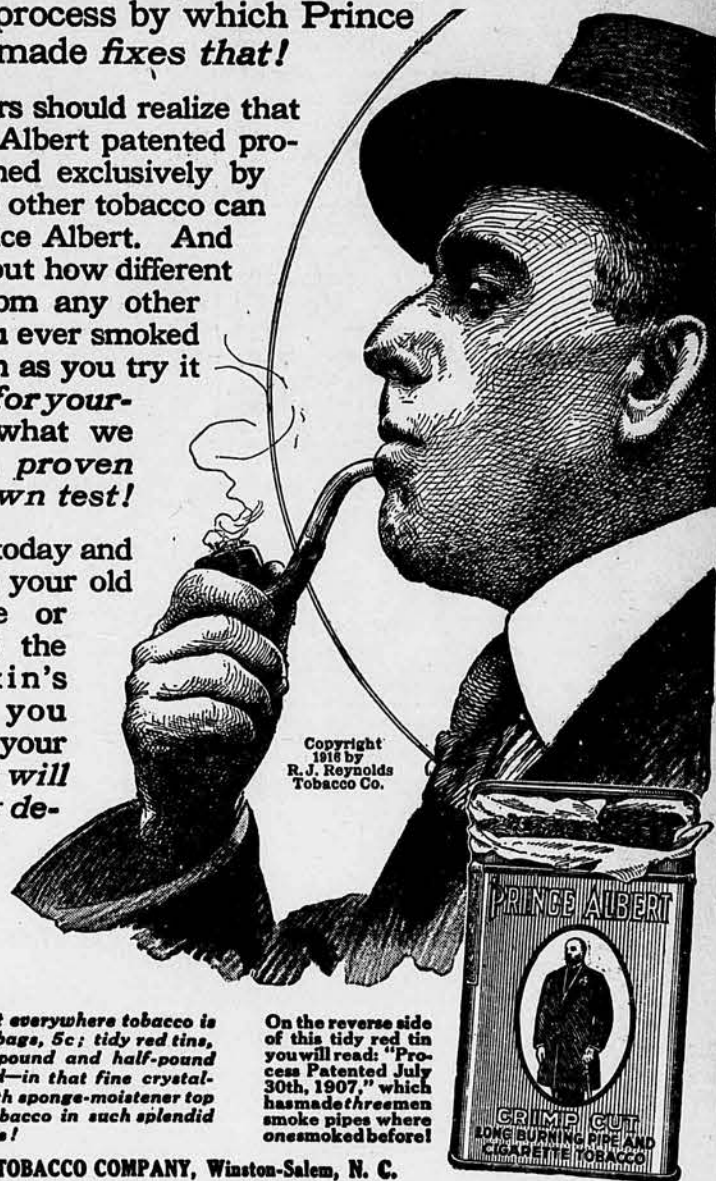
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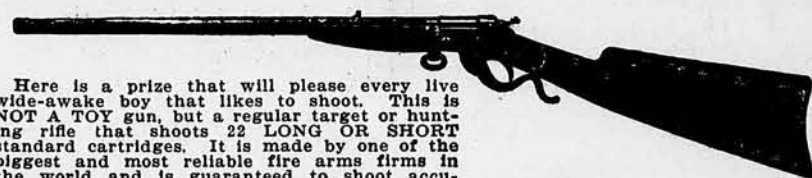


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On the reverse side of this tidy red tin you will read: "Process Patented July 30th, 1907," which has made three men smoke pipes where onesmoked before!

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Here is a prize that will please every live wide-awake boy that likes to shoot. This is NOT A TOY gun, but a regular target or hunting rifle that shoots 22 LONG OR SHORT standard cartridges. It is made by one of the biggest and most reliable fire arms firms in the world and is guaranteed to shoot accurately. We are going to give away several hundred of these fine guns to boys who will get only four one-year subscriptions to Kansas Farmer at \$1 each, the regular subscription price. You can get them in half an hour. We pay express charges, so the gun don't cost you a cent of your money. You can get two three-year subscriptions at \$2 each, just so you send a \$4 club. Address your order to

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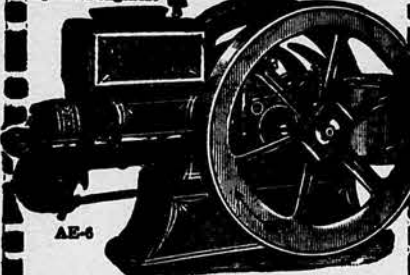
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## Milking Machine Requires Care

**W**E have taken every opportunity possible to investigate the results dairymen are getting with milking machines. It has seemed that the perfecting of the milking machine would give a big impetus to dairying farming. The complaint is constantly made that suitable hand labor cannot be employed at any price. Dairymen tell of men who will milk cows when no other work is to be had, but just as soon as there comes a chance to get a job on a general farm or work in the harvest field, they are up and off, frequently leaving the job at a most inopportune time.

On many a farm the milking of cows would be conducted on a larger scale if the labor end could be satisfactorily handled. We once heard a man say at the State Board of Agriculture meeting, that the only farmer who could hope to make a success of dairying was the one with a large family. His idea apparently was that where there is a number of children the labor question is solved. However, children do not always take kindly to milking and many a boy has been discouraged over farm work because of the drudgery of doing such work without any of the conveniences.

In view of these conditions, the milking machine question is certainly a live one. Any one who has milked cows twice a day year in and year out, for any considerable period, is interested in finding out just what a machine can do in the way of handling this operation. Now that there are hundreds of men using machines it is possible to get some idea as to how they are accomplishing the desired results. We find that in most instances the machine makes it possible to get along with one or two less hands in the stable, and in addition cut the milking time in two. Most of those using machines find it desirable to strip their cows by hand. There are herds, however, where young heifers have been broken to milk with the machine and have never been milked by hand. It has even been reported that in such herds hand-milking was tried on some of the heifers by way of a test, and they immediately became nervous and fell off in milk just as milk cows will sometimes do when a change is made in hand-milkers. This shows that the cows like the mechanical milker when they have become accustomed to it.

We have found, in the course of our investigations, that practically all the successful users of machines agree that their operation requires intelligent management. In this the milking machine does not differ from any other machine used on the farm. Those who succeed with the milker must be on the job, even though they are not sitting under the cows and pulling teats as they did formerly. In other words, the machine will not run itself. There will be little individual peculiarities of the different cows that must be kept in mind—just as in hand-milking. While the machine will relieve its owner from the tiresome task of hand-milking, he cannot neglect it while in operation. The various parts of the outfit must be kept clean and in good condition. No machine of any kind has ever been invented that would do satisfactory work in the hands of a lazy or incompetent man.

### Western Kansas Dairy Success.

On a Seward County farm \$360 worth of milk from eight cows, was sold during the period October 15, 1915, to January

15, 1916. These cows belong to O. L. Cain, and his boys bottled and sold the milk before and after school, selling it at the rate of seven and one-seventh cents a quart. These cows have been fed silage made from milo, stored in a pit silo 12 feet wide and 19 feet deep. In addition to all the silage they would eat, they were given five pounds of alfalfa hay daily, this hay costing at the rate of \$15 a ton. This was a splendid profit from this silage and hay. No such results would have been secured if the milo had been handled as dry fodder. The silo in which it was stored represented practically no expense outside of labor. Such silo could be dug on every farm in that part of the state and used with profit.

### Holstein Breeders to Organize.

A state Holstein breeders' association is the next move in the direction of organizing the improved live stock interests of Kansas. The number of men breeding this kind of dairy cattle has increased rapidly during the past few years. Several comparatively new breeders have just gotten to the point where they are able to make sales of surplus stock of their own breeding. Sales of Kansas-bred Holsteins will increase rapidly from now on. Nearly all these men who have been selling surplus stock started in simply as dairy farmers, but a well managed herd increases rapidly and many of them realized the need for better bred cattle as their ability increased and secured a few pure-breds. Even a few pure bred cows will grow into a herd in a comparatively short time. As the production of good Holstein cattle increases, the need is felt for such organization as is proposed.

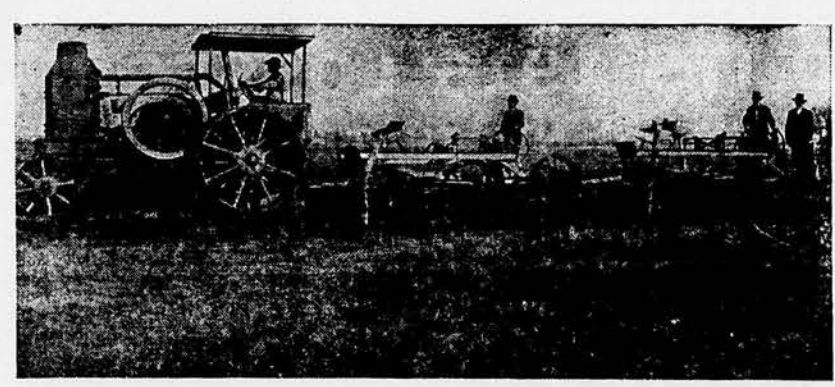
We have been buying large numbers of dairy cattle of all kinds from older dairy states, but this will not continue indefinitely. Our own breeders who have built up good herds will soon be in direct competition with outside breeders in supplying the demand for better dairy stock coming from even newer states to the west and southwest. Numbers of buyers of dairy cattle from these sections are passing through Kansas. Many letters are received at KANSAS FARMER office asking us to help locate good dairy stock.

This getting together of the Holstein breeders of Kansas is most timely. We should not let trade go by our doors if we can handle it. The organization of such association will help to secure this trade and will also be of great assistance in supplying the demands of our own state for better dairy stock. A number of the Holstein breeders of Kansas have been talking this matter over and have finally decided that their own breed interests and likewise the dairy industry in general would be benefited by forming a State Holstein-Friesian association.

On March 1, the Herington Business Men's Association will entertain the Holstein breeders of the state. A banquet will be given at which talks will be made by vigorous speakers who will have something of interest to offer relative to the advantages of such united effort.

### Sires With Records Sought.

Dairymen are more and more learning to appreciate the fact that capacity for production is an inherited characteristic. Breeders who would meet the demands of their customers must be able to give production records when offering young bulls for sale. We had this brought to



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Model L  
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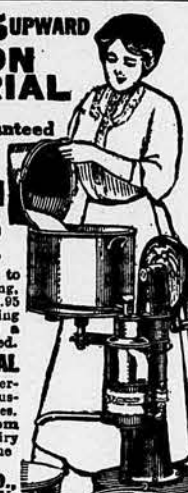
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Made Easy with the common sense of the **Emerson Farm Ditcher & Road Grader**. All Steel—Simple—Practical. Price only one-fourth of big machines. Does same work. Soon pays for itself. Ask your dealer or write for full information and introductory proposition. **Owensboro Ditcher & Grader Co. Inc.** Box 825, Owensboro, Ky.





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You let implements and machines do the work of men in planting and harvesting simply because you make a greater profit by the machine method. Why continue to have your milking done by hand when other dairymen all around you—thousands of them—are cutting down expenses by using the Hinman Milker?

They no longer worry about getting good milkers or of "being short of milkers."

Let us send you a list of the Hinman users living nearest you so that you may call on them, write or telephone them and find out definitely the increased profits you will receive if you invest in a Hinman.

You will find that a Hinman outfit saves enough in work and time to save from 75 per cent to 150 per cent yearly interest on the investment.

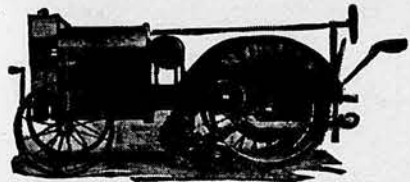
Some of the advantages of the Hinman are milking one cow at a time with each unit; the original Hinman drive rod system; the rapid pail changing idea; visible milk flow and the simple method of keeping a record of each cow's yield. There is no piping, just a simple moving rod. The Hinman has only two moving parts.

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You will find it chock full of interesting information on cutting the expense of milking. Drop us a card now while it's fresh in your mind.

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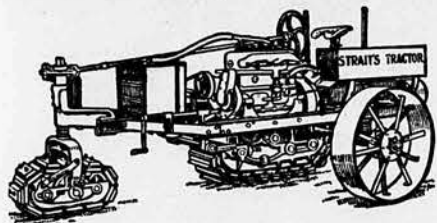
Write for interesting literature about this wonderfully low priced, efficient tractor.

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**30 H. P. Weight 5,700 lbs.**



Will pull two or three 14-inch plows. The long chain tread pulls on soft ground or mud where wheel machines fail. Straits' Tractor never slips—never skids—works in any place every day, rain or shine. Offering a few tractors only on quick orders at **\$795.00 TO ADVERTISE**; later the price will be \$995.00. Write for full information. **DO IT NOW.**

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Brooks' Appliance, the modern scientific invention, the wonderful new discovery that relieves rupture, will be sent on trial. No obnoxious springs or pads. Has automatic air cushions. Blinds and draws the broken parts together as you would a broken limb. No salves. No lies. Durable, cheap. Sent on trial to prove it. Pat. Sept. 10, '01. Catalogue and measure blanks mailed free. Send name and address today.

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Write at once for our offer showing six collections of trees and plants free, to introduce our great fruit magazine. Sample copy free. Address **THE FRUIT-GROWER**, Box 1185, St. Joseph, Mo.

### MONEY TO LOAN ON CATTLE

We make a specialty of buying stockers and feeders on the market. Write for information. This paper or any market paper sent free to customers.

**Lee Live Stock Commission Co.**  
Kansas City and All Markets.

mind only last week by a visitor who had just been looking at some bull calves in a breeder's herd. He did not know which calf to select. Individually there was very little difference. They were both by the same sire and this animal had good production records back of him, but it so happened that neither one of the calves had a mother with a production record, or at least the breeder was unable to furnish any reliable data on that point. This man remarked that it would be an easy matter to decide which calf he wanted if he could only be shown production records for their dams. Dairymen in Kansas are evidently getting past the point where all they demand in a dairy sire is a pedigree showing that he is a pure bred animal.

#### Only Good Cream Makes Good Butter.

The buttermaker at the creamery is usually thought of as the man responsible for the quality of the butter produced. The facts are, however, that the responsibility lies with the producer of the cream. The making of a careful creamery patron out of the average farmer, is one of the big questions that confronts the creameryman. The price at which butter sells depends upon its quality, and this quality depends almost entirely upon the cleanliness and quality of the cream when it reaches the buttermaker. The most skillful buttermaker cannot make good butter out of poor cream. It has been stated by Hoard's Dairyman that fully 90 per cent of the responsibility for poor butter can be checked back to the producer of the cream, and the worst of it is that millions of dollars are lost to the farmers of the United States through this source.

A teacher in a Nebraska district interested the boys and girls in keeping records of the milk produced by each cow on the farm. On regular days milk samples were brought to school and the teacher, by the use of a Babcock tester, tested for butter fat. As a result of this work most of the unprofitable cows of the district have been discarded. This has not only been valuable work in an educational way, but has actually resulted in profit to the school patrons.

#### Value of Official Testing.

Practical farmers everywhere are realizing that in poor years the cow has kept the wolf from the door, and in the good years she has furnished the family living. Like all other business interests the farmer is putting the dairy cow on a scientific basis.

Everywhere the question is, How much can a business produce? Today the farmers are putting that question to the dairy cow. For the ordinary herds, many farmers are weighing and testing their own milk. But with the pure-bred herds, matters are different. In these, the breeders are striving for high records. In order to be sure that bona fide records are made, the breed associations have asked the experiment stations to send out official testers. These official testers weigh and test the milk, and file official reports at the experiment station and with the breed associations.

The Holstein breeders try for high seven-day and thirty-day official records and semi-official yearly records. The semi-official record differs from the official in that the tester tests but two days during each month, instead of the seven or thirty day official period. All of the dairy breeds have the semi-official record system. The breeders consider that they are repaid many times over for taking the official tests, for the price of animals with good records behind them is remarkably increased. As the tests are made by absolutely impartial people, buyers are assured of the accuracy of the records.

During the past year the interest in official testing has shown a very marked increase. Last spring the work became so heavy in Nebraska that a special supervisor was appointed to take general charge of the official testing. Howard Colman, a last year's graduate of the state agricultural college, is now acting in that capacity.

Under him at present are three men. He also has three additional men receiving special training. All of the men are advanced students of dairying. It is the dairy department's policy to send out advanced students, so that they may acquire first-hand knowledge of breeding and feeding methods employed in the various dairy herds over the state.—J. H. FRANDSEN, Nebraska Agricultural College.

Dairying makes the farm permanently productive by the utilization of feeds on the farm and the use of farm manures.

#### Raise Calves at Half Cost

By using "Brooks Best" Calf Meal. 100 pounds, \$3.25; 500 pounds, \$15.00. Free directions. Brooks Wholesale Co., Ft. Scott, Kan.—[Adv.]



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But they soon find out that the last cost of a cream separator is what really counts, and when they realize that the De Laval gives the most and best service for the money they buy a De Laval.

Over 40,000 users of inferior machines discarded them for De Lavals during the past year in the United States and Canada alone.

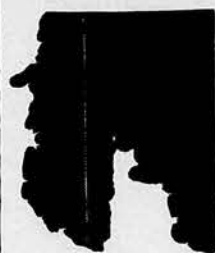
Better be right in the first place and start with a De Laval.

## THE DE LAVAL SEPARATOR CO.

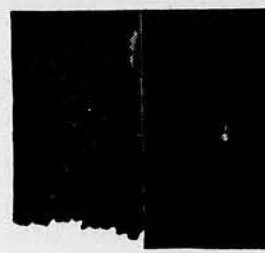
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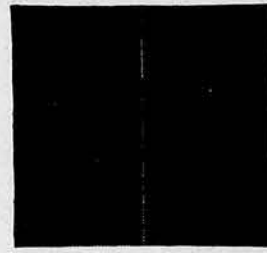
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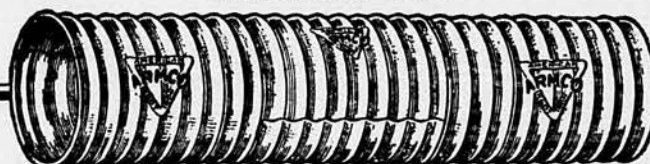
**T**HE above illustrations, reproduced from actual photographs, tell the story of rust resistance. When new all these pieces of metal looked about alike. After three years' exposure under identical conditions the steel was completely rusted out and the puddled iron seriously attacked. But the third was of the same pure iron from which are made

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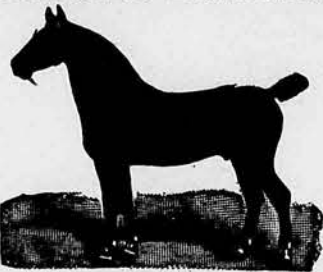
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will clean them off permanently,  
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Does not blister or remove the  
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Will tell you more if you write.  
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10 sizes 2 to 25 H. P., capacity 6 to  
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grinders—different from all  
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Write for Catalog that  
tells all about them, with free  
fold-out about values of differ-  
ent feeds and manures.  
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PATTERSON MACHINERY CO.,  
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A mulcher, smoothing barrow, cultivator,  
weeder and seeder—all in one. Forms dust mulch  
—a blanket of loose soil—preventing soil hardening  
and moisture escaping. Increases yield of corn,  
potatoes, oats, wheat, etc. Kills weeds. Flat teeth,  
especially adapted to form mulch. Lever and  
pressure spring control depth of teeth. Sold with  
or without seeding boxes for grass seed, alfalfa,  
oats, etc. Teeth cover the seed to depth desired.  
Adapted for a large variety of work. Four sizes, 3,  
5, 10 and 12 ft. Send for catalog.  
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Wagon, also steel or wood wheels to fit  
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gear. Send for  
it today.  
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**Pork Production Not Dependent On Corn**

**W**E wonder if the farmers of Kan-  
sas and adjoining states realize  
that a poor corn crop has far  
less influence on the pork production of  
a state, than formerly. The assessors'  
returns for the state of Kansas show a  
big increase in the number of hogs in  
the state as compared with the number  
following the dry year of 1913. Between  
the spring of 1913 and the spring of 1914  
the decrease as reported by assessors was  
176,921 head. The next year shows an  
increase of 357,019 head. Of course, it  
was to be expected that following so dry  
a year as 1913 there would be a big fall-  
ing off in hogs. That year farmers who  
had hogs were compelled to ship in feed  
from states as far north as Minnesota.  
This shrinkage of hogs in the state, how-  
ever, was not near as great as it was  
following the dry year of 1901. Follow-  
ing that year the state's hogs fell off  
from something over two million to less  
than a million and a half. The shrinkage  
following 1913 was only about one-  
fourth as great, and yet in the year 1901  
Kansas produced over 42 million bushels  
of corn, while in 1913 the production was  
less than eighteen and a half million.

It is evident that the capacity for  
pork production has been greatly en-  
larged as a result of the more general  
use of grain sorghums, barley, and  
alfalfa as hog feed. The hog has ever  
been one of our most profitable farm  
animals, but for a good many years it  
was assumed that only corn growers  
could make use of the hog as one of the  
farm profit-makers. This widening of  
the use of this most profitable animal  
has been one of the factors in making  
farming in the West and Southwest  
more permanent and profitable.

During the month of January a hun-  
dred carloads of hogs have gone into the  
Kansas City market from Colorado.  
None of these hogs has been fattened on  
corn and yet these animals have been  
money-makers. One shipment of 9-  
months-old pigs, averaging 241 pounds,  
brought \$7.55 a hundred. These had  
been fattened entirely on skim milk and  
ground kafir. They had been grown  
largely on alfalfa pasture. These West-  
ern farmers have the advantage of  
cheaper land, and now that they have  
learned that grain sorghums, especially  
when combined with skim milk, can be  
used as successfully in fattening hogs, as  
can corn, pork will become one of the  
staple products. That this is taking  
place is evidenced by the fact that the  
liquidation of hogs in the state follow-  
ing the dry year of 1913 was much less  
than following 1901.

The Western farmer who does not  
grow some hogs is missing one of his  
big opportunities. On too many of the  
farms of the West not even enough hogs  
are raised to supply the family with  
pork. Producing merely enough for the  
home supply would be a big source of  
economy as it would eliminate the neces-  
sity for paying the high prices that must  
be paid for the packing house product.

**Hog Prices High.**

Live stock producers should be able to  
take some consolation in the fact that  
packers have not been able to control the  
hog market as was so freely predicted  
they would do, last fall. There was  
every indication that the price of hogs  
would be hammered down until there  
would be little profit in them. The pack-  
ers take advantage of every opportunity  
to buy their product cheap and when  
the heavy run of light hogs was being  
made in the early fall, it looked as  
though they would accomplish their pur-  
pose. They evidently made a slip some-  
where in their plans and the winter  
market has steadily increased until hogs  
made a top of eight cents the latter part  
of January. Even with corn as high as  
it is now there is profit in selling hogs  
at these prices.

**Cattle Feeders Discouraged.**

There is usually more full feeding of  
cattle in Missouri than in Kansas. Dur-  
ing the recent Farmers' Week in that  
state, the general tone of the addresses  
given at the meeting of live stock feed-  
ers, indicated much discouragement.  
Feeders generally seem to be of the op-  
inion that their particular phase of the live  
stock industry is being unjustly op-  
pressed. The live stock industry, how-  
ever, is essential to the welfare of farm-  
ers in the Middle West, and it is hard to  
see how the feeder end of the business  
can be dropped out entirely without

reacting on the production of cattle. It  
is evident there will have to be some sort  
of readjustment both in the method of  
feeding and in system of marketing, that  
will give the feeder a fair deal. Feed-  
ers maintain that they have been making  
a desperate effort to keep down the cost  
of finishing their stock so that they  
could get out even with the narrow mar-  
gins that have prevailed and still have  
lost money. In common with feeders all  
over the country, this Missouri group  
feel that the most serious thing with  
which they have to contend is the matter  
of market prices. After a good deal of  
discussion the following resolutions were  
adopted and transmitted to similar or-  
ganizations in other states, to President  
Wilson and to members of congress:

"Whereas, The live stock industry of  
the corn belt is fundamental to the wel-  
fare of the people of the corn belt and  
to the consumers of meats in the United  
States;

Whereas, This great industry is suffer-  
ing from depression because of unsatis-  
factory market conditions;

"Be it resolved, That we favor early  
action by congress conferring upon the  
Office of Markets and Rural Organiza-  
tion of the Department of Agriculture  
the duty of enforcing a uniform system  
of accounting upon all corporations doing  
an interstate business in the manufac-  
turing, buying and selling of food prod-  
ucts, with a view to making more insis-  
tent a proper relation between demand,  
supply, and price;

"That we favor an early enactment by  
congress of a law providing for the stan-  
dardization of agricultural products;

"That the United States Department  
of Agriculture be respectfully asked to  
issue frequent public reports on the meat  
supply of the United States as it now  
does in the case of the grain supply;

"And that we favor the strictest en-  
forcement of the anti-trust laws."

**Giving Medicine to Live Stock.**

It requires considerable skill to prop-  
erly administer medicine to the domestic  
animals. Probably no other animal is  
more difficult to drench than is a hog.  
Many a hog has developed inflammation  
of the lungs because some of the medi-  
cine was taken into the lungs while the  
hog was struggling in its efforts to get  
away from the one administering the  
dose. In giving liquid medicine to ani-  
mals, it is a good plan to make a simple  
drenching tube by using a piece of half-  
inch rubber hose three or four feet long.  
To one end of this should be attached  
a tin funnel and to the other a piece of  
iron or brass tubing five or six inches  
long. In using this the metal tube is to  
be placed in the animal's mouth; the  
funnel should be elevated and the medi-  
cine poured into it. It is very important  
that the head of the animal be held as  
naturally as possible. If raised too high  
they are much more apt to be strangled.  
If the medicine flows too rapidly it can  
be checked by pinching the rubber tube.

We have seen experienced hog men  
drench a hog quite successfully by using  
an old boot with a hole cut in the toe.

**Breeding for Larger Litters.**

The charge has frequently been made  
that pure bred hogs do not produce as  
large litters of pigs as do grades or more  
common hogs. If this ever was true it  
is not so now. Breeders of pure bred  
hogs are appreciating the fact that good-  
sized litters are essential to profit in  
pork-making. There may have been  
some instances in which other points  
were developed to such an extent that  
prolificacy was reduced, but such condi-  
tion could not long exist. Where a sow  
raises but three pigs it has been figured  
out that they represent a cost of about  
five dollars each. If instead of raising  
three she raises five, the initial cost on  
the same basis would be approximately  
three dollars a head, and a very prolific  
sow capable of raising ten pigs in a lit-  
ter, might easily so reduce the initial  
cost that the pig would not cost to ex-  
ceed a dollar and a half. It is easy to  
see from this sort of reasoning why the  
small litters are unprofitable.

Just to show what has been done in  
recent years, some studies were made by  
some students at the University of Mis-  
souri, of the records of the National  
Duroc Jersey Association. The compila-  
tions made show that in the first four  
volumes the average size of litters was  
9.29. In Volume 44 which contains pedi-  
grees filed in 1913, twenty years later

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than the volumes first mentioned, the average size of the litter was found to be 9.43. This may seem to be a very small increase, but if this rate of increase in the size of litters prevailed all over the United States, it would bring about a great increase in the number of hogs produced from a given number of sows.

Studies into the records of other breeds—the Poland China, for example—has shown a similar tendency toward larger litters. The charge cannot be truthfully made that pure bred hogs are decreasing in prolificacy.

#### Silo Brings Comfort to the Stock.

One progressive step leads to another on the live stock farm. We had this brought to mind last week through the visit of a farmer from Barton County. This man is a graduate of the Kansas Agricultural College. He went back to the home farm and took up its management. We had the pleasure of visiting him and his family at their farm several years ago. This farm had been conducted mainly as a wheat farm. In the course of our recent conversation in the office we inquired as to the work of the farm and were informed that the most recent improvement that had been made was a cattle shed in which the stock could be fed silage. This brought to mind conditions as they were at the time of our visit. There were a few cattle to be fed and the first thing that had to be done after breakfast—and it was a cold, stormy day—was to go out the team, go out in the field and dig out some shocks of fodder for these cattle. We were told two pit silos have been dug since that time, thus doing away with the necessity for hauling fodder from the field.

Feeding silage even in the open yard is a big improvement over the old way, but having taken one step, this young farmer was not satisfied until he had provided a shed to shelter his cattle from the cold, stormy weather, while eating. He stated that he found it a great source of comfort to himself, to be able to feed the stock without getting out in the cold.

This is the way things usually work out on a live stock farm. To be profitable, stock must be fed and made as comfortable as possible. One improvement will lead to another and each time the capacity of the farm for handling stock profitably, will be increased.

This farmer is planning to build another pit silo the present year.

#### Wintering Horses on Roughage.

On most farms the idle work horses are fed quite largely on roughage during the winter season. This is in the interest of economy as the horses are doing no work and should be kept on the cheapest feed that will carry them through the winter in good condition. The rough feeds commonly used are comparatively low in nutrients, and the horses must necessarily eat quite large amounts. The horse is not as well adapted to the handling of bulky rations as are cattle, and when fed exclusively on these coarse feeds, such as straw and fodder, they are sometimes affected with what is called "straw colic." It is in reality a compaction resulting from eating so much bulky, dry feed. Where alfalfa or silage is a portion of this roughage ration there is not likely to be any trouble of this kind, since both the alfalfa and the silage is laxative enough in character to overcome any tendency to this compaction. Where these feeds are not fed it is a good plan to give as a substitute every few days, to overcome the constipation, a few quarts of bran, preferably in the form of a warm, wet mash. A handful of oil meal will have a similar effect.

#### Better Cattle for the Farms.

Probably no breed of cattle have been more generally grown on the farms the world over, than Shorthorns. Admirers of this breed are at the present time especially enthusiastic in putting forward their favorites as the real dual-purpose

cattle. The increasing interest in growing cattle more generally on the smaller farms, is creating a demand for better bred cattle of all kinds. The "scrub" cow, combined with lack of proper feeding, especially during the winter season, has been a serious drag on cattle improvement. We are glad to note the renewed activity in putting forward the merits of the well-bred animal as shown by such movements as the organization of the Kansas Angus Breeders' Association, the proposed publication of the Shorthorn Association quarterly, and others of like nature.

The Shorthorn Association in announcing the proposed publication, states that it will be devoted to furthering the interest of this breed in every way possible. It would appear that it is the intention to specially emphasize the dual-purpose character of the breed. The material which will appear will be gathered and edited by Frank D. Tomson, a member of the well known firm of Tomson Brothers.

#### Warming Feed for Hogs.

In addressing the members of the Improved Stock Breeders' Association, H. B. Walter, who is exceptionally successful in feeding hogs, emphasized the importance of warming the feed in cold weather. For this purpose a feed cooker is a useful piece of equipment on the hog farm. There is no merit attached to the actual cooking of feed and for this reason the feed cooker fell in disrepute. If used simply for warming the feed, however, profit will be derived from the cooker. Mr. Walter stated he always feeds warm feed to his hogs during the winter time, that there is no comparison between the results he secures from the warm and cold feeds. Any one who has seen a hog go shivering back to his nest after eating some cold slop, can appreciate the advantage of having the feed warmed. The animal will consume a larger amount, eat it with a keener relish, and instead of running back to the bed will take some exercise in the open. This, in itself, is an important point in keeping hogs in a thrifty condition. Lack of exercise is responsible for many ills.

A resourceful Minnesota farmer who did not have a feed cooker solved the problem of warming slop for his hogs by banking his feed barrels with fresh manure from the horse barn. The heating of this pile of manure accomplished the desired results.

#### Horse Still Staple Product.

The production of high class draft horses is distinctly a farmers' proposition. This type of horse is still a staple on the market and is likewise an efficient source of power on the farm. On a farm where big active drafters are grown and used for farm work, the cost of the power can be quite materially reduced by the sale of surplus animals. On such farms the geldings should all be sent to market when they reach the age of five or six years. They can be broken at the age of three years, and from that time until sold will more than pay for their keep.

There has been a feeling that the demand for horses would decline. The demand for inferior horses has declined and probably will continue to do so. The real drafter, however, has steadily held its own and has even advanced in value during the past eight or ten years. The value of the average Kansas horse on January 1, 1915, was estimated as \$110. This value is not equal to the cost of production. The value of the drafter such as is in demand for city use, is more than double that of the average Kansas horse. Farmers who grow horses should by all means use as brood mares animals of the drafty type and should mate them to good draft stallions. By following this practice and feeding the colts liberally, they will be able to produce a type of horse that will command a price on the market high enough to return a profit.



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## Incubators and Brooders

**A**S to the desirability of owning and running an incubator, there are hardly two opinions these days of progressive policies. If you desire early chicks, and all breeders of the large varieties want them, you must have an incubator, in order to have time enough to raise them to maturity by the time of the fall fairs and winter shows. If you want early broilers, and all who sell them want them early, for then is the time that they get a good price for them, then you must use an incubator.

The old hen won't sit and hatch eggs until she gets ready, and that is not until she has laid her clutch of eggs. If your hens are extra good layers it takes them all the longer time before they are ready to hatch chickens, and yet it is chicks from these good, persistent layers that you need to perpetuate your good-laying strain. But you can't hatch them without an incubator, for a good, persistent laying hen has no time to hatch chickens. With an incubator you are not forced to depend on the whims and caprices of a setting hen as to the time of incubating your chicks. You can start at your own time and quit when you get ready.

With a hen you must set her when she is broody, and she will often quit before the chick is out of the shell. You can set an incubator in real cold weather, for you can place it in the house or in the cellar; but the hen must necessarily be set in the poultry house or in the barn, and the eggs are often chilled and sometimes frozen under her. Great numbers of chicks at a time are impossible when depending on hens to hatch them, for when you call on the hen to do the hatching, you curtail the source of your egg supply. You need the layers to produce the eggs, and if some of them should get broody, you can soon break them up and get them to laying again. "But it takes money to buy an incubator," you say. So it does. It also takes money to buy and keep a dozen setting hens. Let us figure a little. It will take twelve hens to brood 150 eggs. They are worth from 50 cents to one dollar each, or say \$6 to \$12. A good, reliable 150-egg incubator can now be bought for about twelve dollars, and it will last with good care for twenty years. It costs less money for kerosene to run it, than it does to feed 12 setting hens. There is only one incubator to watch, and you can put it in the most convenient place for you, in the kitchen, dining room or spare bed room. Twelve hens to watch means twelve chores to attend to; twelve mouths to feed and watch; twelve nests to guard against rats, weasels, skunks and maybe egg-sucking dogs; and all this worry and bother must be away from the house, out somewhere that requires serious exposure at times to reach. The result of the work of twelve hens is always a matter of precarious question. The result of an incubator's work is practically certain. You can control the machine. You cannot very well control twelve hens, many of them cranky ones. The work is much less with an incubator and the expense is less. As to the advantages a brooder over a hen in raising chicks, nearly all those who have tried both methods will declare in favor of the brooder. One great advantage in a brooder is that you can have quite a large quantity of chicks, all of uniform size and age, whereas with hens the chicks are hatched at different dates and are of all sizes. With brooders you are not troubled with lice, as you are with hens, and the percentage of loss with brooders is much less, for you have the chicks under your control, than with hens when they are allowed to roam all over creation. We do not mean to imply that those who raise chicks in brooders have no trials or troubles to perplex them, for they have, and they must give the chicks extra good care and attention, but not as much as they would have to give in caring for a dozen hens and their broods. If you have never used an incubator or brooder, we would advise you to try one this season and see if you do not have better results than with the setting hen.

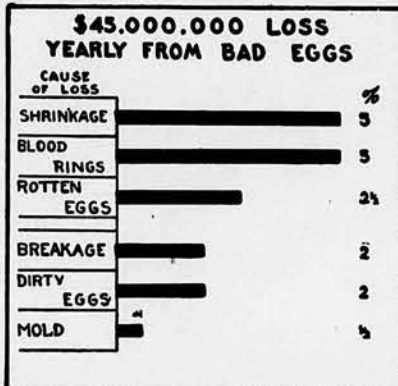
Eggs that are required for hatching purposes should be gathered several times a day during cold weather, otherwise they are apt to get chilled.

The egg-eating habit is often formed by eggs being left in the nests during cold weather till they crack open, when they are greedily devoured by the hens. The hens will then get to breaking other eggs as fast as laid, and keep it up all the season.

If you have any considerable quantity of eggs to market, it will pay to assort them as to size and color, for the market pays from two to eight cents per dozen more for eggs of uniform size, color and quality.

When fertile eggs are wanted in the winter, the hens should have plenty of oats, both dry and sprouted, with clover or alfalfa in abundance, either fed as hay, or cut fine and mixed in the mash.

Plenty of exercise is very essential in the poultry yard. If the fowls are forced to work for what they eat, there will be no danger of them getting over fat. The laying hen is not the fat one, but the one that is converting the surplus food into material for eggs. It is not often that a hen gets fat in the busy yard where there is plenty of litter and grain hidden beneath. Keep them working and they will lay plenty of eggs, and at the same time keep in the best possible physical condition.



Careful breeding is sure to count in poultry raising. At the hatching time it is demonstrated by the uniformity of the chicks in color, shape and markings. Later on when the birds are nearly mature this same thing will hold true. With poorly bred birds there is a wide difference in the offspring and one can place no dependence on the result of a mating. If you wish to secure birds that will produce their like, you must get those that have been bred along right lines for several generations. You cannot build up a strain in one season, or a poultry reputation in one year.

It is better for the beginner to sell his surplus birds, even those which are first class, for what he can get, than to put a fancy price on them that he cannot get, and then finally sell at market price. A beginner was once offered a fair price for some cockerels, but refused the offer, only to keep them for a long time, and he finally sold them to the butcher for market fowls. The beginner without an advertising reputation can never command the prices for birds that the breeders of repute can. This means that the beginner should start an advertising campaign and grow into prominence. He cannot do it by hiding his light under a bushel.

If you have something to sell, you must let the public know about it. Eggs for table use, and ordinary fowls for the market, can be sold in the immediate neighborhood, but eggs for hatching and fancy breeding stock can only be disposed of by advertising them. It is true that sometimes there is a demand for such stock around home, but the prices are generally very poor, as your stock is not appreciated at home so much as it is elsewhere. There is no better medium for advertising your surplus stock and eggs for hatching than in the classified columns of the KANSAS FARMER, for it goes into the hands of people who know the need of new blood for their stock, and who are always on the lookout for opportunities to buy what they need. You may have the best fowls in the world for sale, but if those who want to buy such do not know that fact, how are you or they to profit? The only way to

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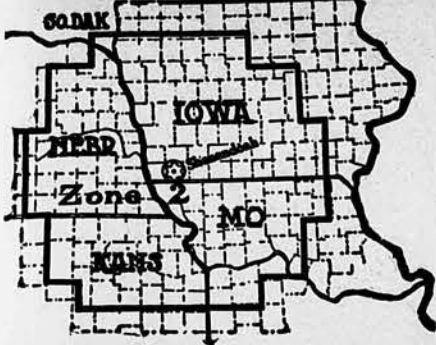
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The people that we can do the most good, and the country that is easiest for us to reach, is Zone 2, shown on the map above.

We can do the rest of the country a lot of good and we want their business, but you people in Zone 2, live in the best part of the world, and we can serve you quick-est, have the best success with our seeds.

We want your seed business, and are going to make it so easy for you to trade with us that you can't stay away.

## Field Pays the Freight on All Kinds of Seeds

to any point in Zone 2. Or if it's small enough, we send by parcel post or express prepaid. I want you to spread the word, that "Field Pays the Freight." If the R. R. agent collects charges we will refund it to you.

We sell all kinds of seeds, plants, and bulbs. Here are a few you may want:

Seed Corn Sweet Clover Sweet Potatoes  
Alfalfa Seed Sudan Grass Garden Seeds  
Clover Seed Flower Seed Everbearing Berries

## Our Catalog Is Free

Write for one at once, and I'll send you also a free sample copy of *Seed Sense*, the best little magazine on earth. Seed samples are also free, and advice, such as it is. Tell me your troubles. Write for catalog anyway.

Henry Field Seed Company

Box 55 Shenandoah, Iowa  
P. S. By a Special Dispensation the rest of Iowa has been admitted to the special privileges of Zone 2. H. F.

## Cushman Light Weight Four Farmers' Handy Truck

Cushman Light Weight Engines are the most useful for farm work. Built to run without trouble and to do things no other engines do. Throttle Governed, quiet and steady. Schebler Carburetor and Friction Clutch Pulley. May be run at any speed—speed changed while running. Perfectly balanced—almost no friction. Very light weight, and easy to move around.



## The Chinese Woolflower

Introduced by us last year has proved a great success everywhere and a most wonderful floral novelty. It is a *Celosia* of new form and easy growth. Plants throw out scores of branches bearing balls of crimson wool nearly a foot thick. Also many laterals with smaller heads, and fresh green foliage. Flowers form in June but none fade before frost, continuing to expand and glow with its wonderful crimson-scarlet color, very showy and succeeds anywhere.

Seed per pkt. 10c. 3 for 25c. together with new TRAILING PETUNIA and ANNUAL SWEET WILLIAM (fine novelty) free.

Our Big Catalog of Flower and Veg. Seeds, Bulbs, Plants and rare new Fruits free. Write for it.

JOHN LEWIS CHILDS, Inc., Floral Park, N. Y.

## The Winfield Raspberry



Now being planted by the thousands commercially... because it lives and thrives AND PAYS through every western condition and in all soils... does not winter-kill, and yields big crops in as little as 60 days... original patch has produced nine crops without a failure. You can do as well... easily. Send today for full particulars. Field, Garden and Big Fruit Book telling all about this wonderful berry—how to raise it—how it's larger, finer, better fruit. Net you \$1 to \$1.50 more per crate. No charge. Just send your name.

The Winfield Nurseries 402 Court St. Winfield Kan.

## SWEET CLOVER

Big money in sweet clover. Enriches your ground. A money-maker. Also Tested Alfalfa, Clover, Alkali, and other seeds. Our cheap wholesale prices, free samples, and 110-page, 4-color Seed Book of every kind of seed, garden, field, etc. Callaway Bros. & Co., Dept. 217 Waterloo, Iowa

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

## White Plymouth Rocks

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

THOMAS OWEN, Route 7, TOPEKA, KAN.

do is to advertise the fact. Advertising is a necessity, and can be made to pay large profits; so do not hesitate to let the public know what you have for sale.

The problem of providing pure drinking water for the chickens during very cold weather is a hard one to solve. Few poultry houses are so warm as to prevent water from freezing in them, hence it is necessary to renew the water several times during the day. It would be a good idea to warm the water a little, so as to keep it from freezing as long as possible. As the weather gets warmer the main requisite is to keep the drinking water pure, and to do this the drinking pan should be so placed as to preclude the hens from scratching any filth into it. The pan should be placed on a box some six or eight inches high, in the alleyway of the poultry house so the hens can reach the water through the slats of the pen. When the question of pure water is settled, the question of disease will also be settled to a great extent, for the germs of disease are propagated more by impure water than by anything else.

It pays to get the best kerosene oil for use in incubators. Prices do not always govern quality in oils, and an inferior article is sometimes foisted upon one before he knows it. When an oil smokes in an incubator lamp it becomes a nuisance, but it can be treated so as to give little trouble. Half a cupful of fine salt put into each quart of oil, allowing it to settle for a day or more, is the simple recipe. Allow the oil to remain quiet for the time mentioned and then pour off into the lamp. Then put a small piece of gum camphor in the lamp, allowing it to remain there. Sometimes certain brands of oil will give more or less trouble. Treated as above you will be well pleased with the results. This smoking of the oil is a different proposition from the smoking of the lamp by the wick being too high or too uneven. That can only be remedied by the lowering of the wick, and that must be done as soon as discovered, or there is danger of soot collecting to such an extent as to cause an explosion of the lamp or to set the incubator on fire.

## Importance of Size and Shape of an Egg.

Much has been said about high records made by hens in the egg laying contests as well as records made by hens in the yards of poultry breeders. The number of eggs produced is not all that should be considered, for an egg to be of value should be of good size and shape, and be covered with a sound, smooth shell.

It is indeed very fortunate for the poultry industry that hens' eggs are all so near the same size. The eggs of the different breeds in the contest at this place varied in weight from 2.03 ounces to 2.29 ounces, while the hens themselves averaged in weight from 3.12 pounds to 6.36 pounds, and strange as it may seem, the hens whose eggs averaged 2.03 ounces averaged 5.75 pounds, while the ones whose eggs averaged 2.29 ounces averaged only 3.40 pounds each. In fact, we find that the size of the hen has little or no influence on the size of an egg. A four pound hen will lay an egg the same size as an eight pound hen.

After studying the poultry business from every angle, one recognizes the fact that the size and shape of an egg is the one thing all breeders can work for, for it is the only thing in common with all breeds and varieties.

In poultry shows, the breeders of the various breeds and varieties cannot enter a free-for-all competition on size, shape, color, comb, earlobes, shanks, or any other characteristic, for they are not the same with different breeds, but the size and shape of all eggs should be the same. Therefore, this is one of the most important points to be considered in breeding.

An ideal egg should be an oblong oval slightly tapering from one end to the other and should weigh 2 1/6 ounces, or 26 ounces to the dozen. Egg markets require them to weigh at least 24 ounces to the dozen. Eggs of this size and shape are the correct size to fill the standard egg case filler, and if incubated, will give better results than where various sizes and shapes are incubated together. The old idea that round eggs hatch pullets and the long eggs hatch cockerels is incorrect, for a hen lays uniformly shaped eggs regularly which hatch approximately an equal number of cockerels and pullets.

Nothing can be told from the size and shape of an egg whether it is fertile or infertile, or whether it would hatch a cockerel or a pullet, but the shape of an egg is a characteristic which is transmitted to the offspring. Therefore, use as breeders only the hens which produce eggs of correct size and shape.—Missouri Experiment Station.



H. H. Johnson



# Averaged 90% Hatches Through Twelve Years

THIS was what Old Trusty Incubator did for Bessie Warren of Tryon, Neb. Pretty good record don't you think? And when you consider that you can get Old Trusty for less than \$10, it's a pretty low cost per year of service. Back of

## Old Trusty

there's 20 years of Johnson "knowhow" plus the experience of about 650,000 satisfied owners. Hundreds of thousands of more owners than any other. Makes big hatches easy in cold weather.

## Write for This Free 136-Page Book

and let me tell you why chicken profits come so easy with Old Trusty. Still less than \$10, freight paid east of Rockies—a little more farther west. Write today.

H. H. JOHNSON

M. M. Johnson Co.  
Clay Center, Neb.

## Tested Field Seed 10c 5 Famous Samples

For 10 cents we will gladly mail you one generous package, enough for a good trial each of 5 famous farm seeds, together with our big new 1916 catalog. Catalog is free.

### Sweet Clover

Genuine White Blossom. Grows anywhere on soil that will grow little else. Improves run down, badly washed fields. Makes good hay and fine pastures. New crop, cleaned and tested.

### Kaw Chief Corn

Grown on our own Kansas pure seed farm. Matures in 95 to 100 days. Yields regularly 75 to 80 bushels to the acre, with good foliage.

### Dwarf Milo Maize

Straight neck. Drought resisting. White or yellow. 60 to 100 bushels to the acre. Earlier and more productive than Kaffir or Crook-neck Milo. 3 to 5 feet high. Straight neck is a great advantage in gathering seeds and cutting heads.

### Sudan Grass

Greatest drought resister and thrives in any soil, whether rainfall is ample or limited. Yields 400 pounds of seed to the acre, and one to two tons of hay to each cutting. Can be cut three or four times a season.

### Feterita

Greatest drought resister. 30 to 50 days earlier than Kaffir Corn. Yields 30 to 50 bushels to the acre. Makes fine ensilage.

Each of these five packages contains a liberal quantity of the choicest tested seed. Send for today.

### Books Free with \$5.00 Orders

These books of ready reference, Barteldes' Farm Guide or Barteldes' Cook Book, sent free with \$5.00 orders.

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Oldest Seed House West of the Mississippi River. Established 49 Years.



## Bumper Grain Crops Good Markets — High Prices

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa.

No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription.

Send for illustrated pamphlet and ask for reduced railway rates, information as to best locations, etc. Address

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## Trees of All Kinds Best quality only:

low prices. Full assortment of Fruit and Ornamental Trees, Forest Tree Seedlings, Small

Fruits, Grape Vines, Flowering Shrubs and Roses.

A Few Prices: Apple 6c; Peach 8c; Plum, Pear and Cherry 15c each, all grafted; Concord Grapes, \$2 per 100. Freight paid on tree and plant orders of \$10 or more.

## Field, Garden and Flower Seed

We can supply any kind of seed you need for the field and garden. Full line of Vegetable and Flower Seeds, Seed Corn, Oats, Barley, Millet, Sorghum, Alfalfa, Clovers of all kinds, Grass

Seeds, Minnesota-grown Seed Potatoes. Our seeds comply strictly with the state laws in regard to purity and germination.

1916 Garden Book Free Our 1916 Illustrated Garden Book is ready. It lists both trees and seeds. It will help you in planning your Field, Orchard and Garden Planting.

Write for your copy.

GERMAN NURSERIES & SEED HOUSE  
Box 248 Beatrice, Neb.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS



## FARM LANDS FOR SALE

## Attention Homeseekers

Forty thousand homeseekers and land investors from the Central Western States and surrounding territory, would join the line of march to Colby, Thomas County, Kansas, before the first of March, 1916, could they but partially realize the bountiful paying farm crops that have been harvested from our fields during the past few years.

Thousands of acres of Thomas County wheat land have not only paid the price of the land, but annually doubly paid the past two years, and the condition of our winter wheat for 1916 is the very best ever known. The choicest farms and lands, \$10 to \$25 per acre.

Write for our large pictorial booklet and descriptive price list of our own lands. Thirty years a resident of Thomas County, Kansas.

JOHN ACKARD & SON, COLBY, KANSAS

## Texas Farm Bargains

I have over a hundred tracts of about 100 acres each, good land, in Atascosa and Live Oak counties, the fastest growing counties in South Texas, which I will sell at from \$15 to \$25 an acre. I will sell any tract for a cash payment of \$250 and for the balance take long-time notes, on or before, at an extremely low rate of interest. I have the best proposition in Texas and would like a chance to prove it to you. Write for full information to

HARRY HYMAN

200 Central Trust Bldg., San Antonio, Texas

## LISTEN!

A section of land, level, first class soil, near the booming town of Amarillo, Texas, population 18,000. Land all fenced, 400 acres under cultivation. Warranty deed, best of terms. Will sell at a sacrifice. Address

JOHN SCHMOCKER - COLUMBUS, NEB.

## FOR SALE

Farmers, Here You Are: Just the property that you want if you are going to retire. A good house of ten rooms, all in good repair. Bath, hot and cold water, electric lights. Four and one-half lots (112 1/2-foot front). This property in one-half block of paved street. The best location in town. Excellent schools, fine college and an ideal residence town. This property is worth \$4,500, but will be sold for \$3,500, one-half cash, if taken at once. Here is your opportunity. Address

WM. C. T. ADAMS - HOLTON, KANSAS

## 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—60 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

## ACT QUICKLY FOR THIS

Excellent 100 acres in Neosho County, one mile good high school town, three churches, good market; three hours to Kansas City. M. K. & T. Fifteen acres alfalfa, 20 acres good wheat, 25 acres pasture, balance plowed for spring crops. Improvements and water good. Worth \$100 or more, selling price \$85 per acre. Terms, \$1,000 cash, \$2,000 to \$3,000 in trade, balance five to ten years at 5 per cent. Address W. J., Box 20, Stark, Kan.

## FOR SALE---BY OWNER

633-Acre Farm in Mayes County, Okla., at \$25 per acre. Some creek bottom, large orchard. Will sell on easy terms. Write for full particulars.

L. E. Hohman, 20 Neb. Bldg., Tulsa, Okla.

For Immediate Sale I offer my east 1/4 of the S. W. 1/4 and the S. W. 1/4 of the S. W. quarter of Section 13, Township 16, Range 24, Miami Co., Kan., 120 acres partly improved small buildings for \$4,000 spot cash.

E. W. Jones, Owner, Crookston, Minn.

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

## FOR SALE

The best farm and buildings in Lyon County, consisting of 250 acres. Either as a whole or in 40-acre tracts, 1 1/2 mile west of the city limits of Emporia. Address

H. D. NUTTING - EMPORIA, KANSAS

## EXCHANGE

240 Acres, Franklin County; 8-room dwelling, ideal stock, grain. Want 40, 80.

BUCKEYE AGENCY - OTTAWA, KANSAS

## NO FLOODS, NO DROUTH

Sure crops. 320 acres highly improved, irrigated Colorado ranch, at bargain.

BOX 345 - WAKEENEY, KANSAS

## EIGHTY ACRES NEAR CHANUTE

All tillable. Five-room house, large barn, granary, four henhouses, other buildings, plenty water, orchard. Immediate possession. Fifteen acres hog-tight. Price, \$3,850. Home Investment Company, Chanute, Kan.

## FOR SALE

320 ACRES—200 tillable, 100 a. cult., bal. pasture. Close to city, this county. \$13.00 per acre. Terms.

SOUTHERN REALTY CO., McAlester, Okla.

SOUTHERN FARMS—Mississippi, Arkansas, Tennessee. Cheap land for corn, stock or general farming. MARTIN & COLE, 118 Madison Ave., Memphis, Tenn.

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.



## Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

The child, the seed, the grain of corn.  
The acorn on the hill,  
Each for some separate end is born  
In season fit, and still  
Each man in strength arise to work  
The almighty will.

—Stevenson.

If you have grease spots on your kitchen floor which will not yield to the ordinary cleaning try a little alcohol on them and see how easily they will disappear.

Before putting sweet potatoes in the oven grease the skins slightly and they can be peeled without any waste of the potatoes. This same treatment may be used with white potatoes with good result.

A simple remedy for the treatment of chilblains is the use of a solution of Epsom salts. Make a solution in the proportion of two tablespoons of the salts to a quart of lukewarm water and bathe the affected places night and morning, allowing them to soak for about ten minutes each time. After drying, mas-

sage with olive oil until the skin is perfectly dry. There should be a great improvement at once unless the case is extreme. However, it is a good plan to keep this treatment during the cold season, so that the chilblains will not recur.

The canning of vegetables is no longer uncertain. It is possible to provide throughout the winter months many of the vegetables now enjoyed only during the growing season or bought in cans from the grocer's shelves. The time to begin this work is now. In planning the garden, arrange for growing enough extra vegetables for winter use.

Don't forget to add a handful of salt to the last rinse water these cold days as it will help to keep the clothes from freezing so badly.

## Cleaning a Brussels Rug.

While moving a stove in which we had been burning soft coal, the pipe came apart and fell, scattering soot all over a light tan rug with pink and green

## 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. 7428—Girl's Dress: Cut in sizes 6, 8, 10, 12 and 14 years. This pretty frock is made with a separate blouse, which has a high neck and long sleeves. Over this is worn a jacket bodice showing the underblouse at top and bottom and made with out sleeves. The two-gore skirt is quite full and is joined to the overblouse at the waist line. No. 7432—Ladies' Shirtwaist: Cut in sizes 34 to 46 inches bust measure. This bodice has a double-breasted closing and two small tucks at each side of the front near the shoulders. The back is plain. The neck is trimmed with an ornamental collar coming down in long revers along the edges of the closing. No. 7441—Boy's Overcoat: Cut in sizes 6, 8, 10, 12 and 14 years. This garment is of sackue cut with visible closing in the center of the front and with the neck either high with small collar or open with revers in the usual manner. In the back there is a seam and a small under-laid box plait below the waist, giving a little freedom to the material. No. 7416—Ladies' Empire Negligee: Cut in sizes 36, 40 and 44 inches bust measure. The short-waisted empire bodice is used in this gown, and it also has the low shoulder with a short wide sleeve below. There is a handsome collar and plastron as a neck trimming. The skirt is arranged in very small box plaits and these are attached to the outer edge of the waist. No. 7409—Ladies' Three-Gore Skirt: Cut in sizes 22 to 32 inches waist measure. This smart skirt has three gores, the sides of the front cut away at the top for the insertion of a shaped yoke, and the center of the back arranged in a wide box-plait panel. The closing is in front. No. 7429—Ladies' Dress: Cut in sizes 34 to 44 inches bust measure. Simple and smart, this dress has a plain waist with center front closing and with a wide collar at the low neck. The plain sleeves are shaped to the arm and may be long or short. The three gores of the skirt are quite full and are gathered at the top and attached to the lower edge of a deep rounded yoke.

"Light as a Feather"

"Talk about light, fluffy, tempting and wholesome"

Jelly Rolls, Cakes, Biscuits, and other good things. My! but

**CALUMET BAKING POWDER**

certainly beats the band for sure results—for purity, economy and wholesome bakings. Tell your mother to try Calumet Baking Powder on the money-back guarantee."

Received Highest Awards

New Cook Book Free—See Slip in Pound Can.

**Beacon Burner FREE**

FITS YOUR OLD LAMP.

100 Candle Power incandescent pure white light from (kerosene) oil. Beats either gas or electricity. COSTS ONLY 1 CENT FOR 6 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**

6-8. Pillows \$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 GREENSBORO, N. C.

## SCHOOLS AND COLLEGES

**LEARN TELEGRAPHY**

Students Earn Board while Learning

A practical school with railroad wires. Owned and operated by A. T. & S. F. Ry. Earn from \$55 to \$165 per month. Write for catalogue. Santa Fe Telegraph School, Dept. 1, 505 Kansas Ave., Topeka, Kan.

—OTTAWA—

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A New Crochet Book

Edgings and Insertions

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

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

## 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

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



floral design. I feared the rug was ruined. I brushed off all I could, then took it in a vacant room, spread it on the floor, then took a brush with about a pint of salt made quite damp by pouring denatured alcohol over it, and sifted the salt over the rug, scrubbing it thoroughly with a stiff brush. After sweeping my rug was bright as new. I have since tried the salt and alcohol on spots on other carpets and rugs and find the combination removes them.

#### Young Kafir Winners.

The picture on this page is that of two boys in Southeastern Kansas who last fall won first prizes in their districts for kafir grown by them.

Glen Obermier, at the left in the cut,



TWO CHAMPION KAFIR GROWERS OF SOUTHEAST KANSAS—ON THE LEFT, GLEN OBERMIER, INDEPENDENCE; RIGHT, WALTER YOE, TYRO.

fourteen years old, won a high grade Holstein heifer sired by Sir Juliana Grace De Kol, also trip to Manhattan during Farm and Home Week. In addition to being first in the Independence district, he was awarded state championship on kafir.

This boy's kafir yielded at the rate of 88.8 bushels an acre. But it was not yield alone that determined the prize-winners. The cost of producing the crop, his story of method and operations, and his exhibit were also considered in awarding the prizes.

The plot on which he grew his kafir was only one-twentieth of an acre. This he plowed, harrowed, planted and cultivated. The rows were three feet four inches apart, and a seed was planted every six inches in the row, there being 1,320 plants. The kafir was surface planted about the middle of May—when corn was being planted. Glen hired his father to hand-head the kafir for him, and this expense was included in the growing cost, which was fourteen cents a bushel. He realized a profit of forty-five cents a bushel.

Walter Yoe, at the right in the cut, won first prize in the Caney district, which prize was a trip to Manhattan. He planted one acre and grew 45 bushels of kafir on it.

The winner in the third section of Montgomery County, was Fred Harris, but we have neither his picture nor the record of his crop.

No one can question the value and the far-reaching effect of work of this kind done among the boys, who will in a few short years be the farmers of our great state. As we have many times stated, we believe there is no greater work or none more important than that of showing the young people the great possibilities of farm life, and it is to be hoped that the number of boys and girls entering such contests this year may be far greater than for the past year.

#### Conveniences as Assets.

A farmer's progress should be gauged by the improvements he has installed in the farm house. If this were the practice, there would be more convenient and well arranged houses and more healthy, happy farm women. Many times the profits are turned into more land or more stock at the expense of the health and contentment of those who do the housework. We do not believe this is ever deliberately planned—it is neglected and overlooked—and if financial rating and success were based on modern improvements in the house, they would be given more consideration.

We cannot think any man is proud of the fact that his wife or daughters

must carry all the water used in the house, and yet, generally speaking, how few women there are who do not do this very thing. The men folks cannot be on hand every time a bucket of water is needed in the house, and for this reason they should make this chore as light as possible.

About one week of cleaning lamps and washing chimneys daily, would set any man to thinking about how he could have light without so much work, and yet when he is furnished a bright light every evening he doesn't realize the drudgery it has entailed.

This same reasoning might be applied to many of the daily tasks incident to keeping the family quarters clean and comfortable and cheery. The men do not realize that it means "keeping everlastingly at it" in a way that becomes drudgery when these duties multiply to the extent that there is little time left for other things.

When the time comes that conveniences in the house are considered in appraising a farmer's worth, more will see these improvements in the light of assets rather than as luxuries.

#### The Punctual Girl.

The punctual girl is always a thoughtful girl. She is the girl who does not delay in doing an errand; who never keeps the breakfast waiting while she repairs some forgotten damage to her clothes. No one is ever kept waiting while she sews a rip in her dress or a break in her glove. These things are all done in season. She never puts off doing a thing at the right time, because she has learned that when a thing has been attended to, and put away, there is no need to worry about that particular thing.

She is the girl who is at her desk on time if she is one of the great army of working girls. Her employer and her friends all know that she will be ready for business or pleasure at the appointed time.

This girl's nerves are in good order because she never has to hurry or worry to "catch up" some work that has been neglected at the proper time, and her life runs on smoothly and happily because no undone task or neglected appointment is worrying her, or making

her restless. Character is not formed in a minute. This girl has been training herself for years to be punctual. She is ever ready for emergencies, for this habit of punctuality now touches her life in all its relations and she is making her influence felt in her own family, at least, for they must come to see the wonderful advantage of being always ready, always on time. The punctual girl while she is earnest and womanly, has not lost any of her girlish charm. Her outlook is encouraging, new chances are constantly opening to her for advancement because it is known that she can be relied upon.

—By ANNA H. QUILL, in The Housekeeper.

#### How She Won Trip to Manhattan.

The following letter has just been received from Miss Alice Henning, Bucklin, telling how she won a trip to Manhattan. This young lady is one of the Southwest Kansas group pictured on this page last week.

"Last spring I had the opportunity to join a district contest for sewing and bread-baking.

"I did not do much toward my sewing all summer, but some time after school started I began making my apron, following a short-sleeved pattern we had at home. I sewed it all by hand. I finished my apron a few days before the contest was held. There I won first prize, which entitled me to a free trip to Manhattan to attend the Farm and Home Week, and to Topeka to see the State Capitol.

"My apron was entered in the state contest at Manhattan and was awarded fifth prize there. I also won first prize in buttonhole-making and third in nail-driving there.

"I am very glad I entered this contest as I had a very enjoyable trip and a great deal of good experience."

#### A Luxury.

Mary was of middle age and had for many years been possessed of a thrifty husband who, dying, left her insurance to the amount of some six hundred dollars. Some months after her bereavement, Aunt Mary approached her mistress and with much apron twisting announced that she would like to leave for a day in order to get married.

"Why, I am surprised, Aunt Mary!" her mistress exclaimed. "Who are you going to marry?"

"Ah gwine marry Jim Johnson, honey," Aunt Mary informed her, grinning bashfully.

"Jim Johnson! Why, Aunt Mary, he is nothing but a worthless loafer who tries to be a sport."

"Yas, Ah knows dat, chile," Aunt Mary admitted, "but hit am like dis. Ah done wucked hard all my life, an' my ole man, he wouldn't er 'lowed me to be stragant ef Ar'd wanted to be. Now he's done daid, an' Ah got 'nough money from his 'surance to 'low mahself some luxuries. Ah knows dat nigger Jim am powerful wufless, but he sho' do know how to put on style, an' he'll look powerful fine settin' 'roun' de cabin!"

It is a fair, even-handed, noble adjustment of things that while there is infection in disease, and sorrow, there is nothing in the world so irresistibly contagious as laughter and good humor.—Dickens.

#### Lightning Cake.

- 1 Cupful sugar
- 1 Cupful flour
- 1/2 Cupful butter
- 1 Egg
- 1 Teaspoonful baking powder
- 1 Flavoring

Mix in dry state, sugar, flour and baking powder. Put butter in tin measuring cup and melt. Break egg in butter and beat well. Add enough milk to fill cup. Pour on dry ingredients and mix.

#### Chocolate Pie.

- 1 Cupful sugar
- 1 Tablespoonful butter
- Yolks of 2 eggs
- 2 Tablespoonfuls chocolate, melted
- 1/2 Cupful sweet milk
- 2 Tablespoonfuls flour.

Beat together the sugar, butter and yolks of eggs. Add the melted chocolate. Heat the milk and add gradually, all except enough to mix the flour. Add the flour and milk paste, and boil in double boiler. Bake the crust, then add filling, frost top with whites of eggs, and brown in oven.

Get the horse manure ready for hot-bed use. It should heat evenly and should not get hot enough to burn.

## The Victor Talking Machine Company announces an important discovery

### The Victor Tungs-tone Stylus

An improved, semi-permanent, changeable, reproducing stylus of tungsten combining all the desirable features of the Victor system of changeable needles with the added advantage of playing 50 to 200 records without changing.



After searching the earth for better stylus material, a Victor expert discovered the miraculous reproducing and wearing qualities of tungsten. The Tungs-tone Stylus will play from fifty to two hundred records or even more. The life of the Tungs-tone Stylus depends on the character and volume of the records played.

**YOU DON'T HAVE TO CHANGE THE TUNGS-TONE STYLUS** until it wears out. When this takes place the stylus simply stops reproducing as a signal for a new one. There is no danger of spoiling the record, because, strange to say, tungsten is softer than the record, although its wearing quality is one to two hundred per cent. better than the hardest steel. We cannot explain why—it is one of nature's secrets—a phenomenon. We only know it is true and recommend the Tungs-tone Stylus to all Victor users.

**NO NEEDLES TO CHANGE** is the chief nostrum of manufacturers of machines operated with a permanent jewel point, but the Victor Company knows what others will

learn in time, namely: that no permanent point can be made to last forever on hard disc records. The jewel stylus was a success on the old wax cylinder records, but jewels do wear rough in time, and, if not instantly detected and changed, will quickly spoil a valuable collection of records—a most insidious danger; hence the Victor Steel Needle, to be used but once, was the only practical needle for the new gramophone type of hard record until the discovery of the miraculous properties of tungsten for reproducing styli.

**TUNGS-TONE** is a trade-name and was coined for the occasion. The new Tungs-tone Stylus is made in **SOFT TONE AS WELL AS IN FULL TONE** and can be changed instantly, just the same as a steel needle. The virtue of the Tungs-tone Stylus lies in a small cylinder of tungsten projecting from the end of a steel holder in which it is rigidly set.

The tiny cylinders of tungsten reproduce Victor Records better than any other known material. Smooth, strong and full as to tone. The Victor Tungs-tone Stylus fits all Victor sound boxes.



#### Important warning.

Victor Records can be safely and satisfactorily played only with **Victor Needles or Tungs-tone Stylus** on Victors or Victorolas. Victor Records cannot be safely played on machines with jeweled or other reproducing points.

Made in Full Tone and Soft Tone  
Boxes of ten, 25c Packages of four, 10c

Manufactured exclusively by  
Victor Talking Machine Co., Camden, N. J.





# It took 301½ days

## of the hardest kind of service to wear out this pair of

# Goodrich "HIPRESS"

—The Rubber Boots and Shoes  
"With the Red-Line 'round the top"

We've been giving you actual instances of the remarkable superiority of the MOLDED RED-LINE Rubber Footwear. Here's another that came to us recently. Willard Crane, of Martel, Warren county, Ohio, started in February with a pair of "HIPRESS" and wore them steadily 301½ days before they would give in. The roughest usage imaginable—concreting, railroad work, tile ditching, etc. Said he had been buying three pairs of boots a year for ten years until he tried "HIPRESS." He is so enthusiastic that he went before a notary and made the above statement under oath, sending us a copy. That's the service "HIPRESS" is giving—it is so far ahead of the ordinary boot and shoe that there is no comparison. "HIPRESS" is made of the same tough rubber that goes into Goodrich Auto Tires—MOLDED INTO ONE SOLID PIECE! Weakness of the hand-made boot thus not possible—they'll outwear anything on the market. Remember—Goodrich is the only concern making these wonderful boots and shoes—you can tell the genuine by the RED-LINE 'ROUND THE TOP.

Come in all styles—short boots, hip boots, paces, arctic, etc.

**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

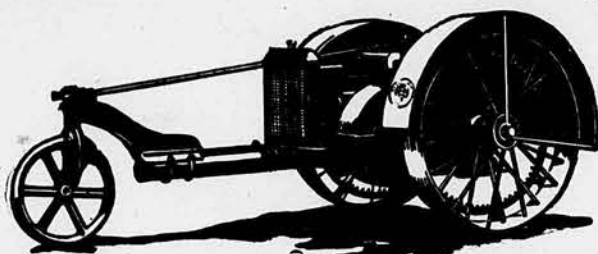


## HAPPY FARMER TRACTOR

# \$550.00

F. O. B. Factory

BEST MACHINE EVER INVENTED FOR THE FARM



POWER AND TRACTION ITS FEATURES

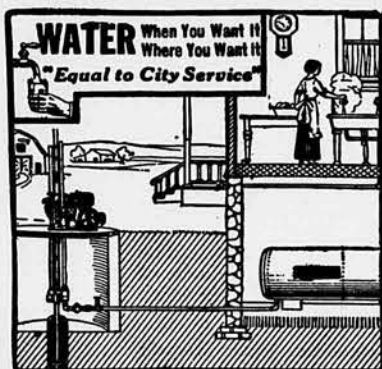
Write now for complete information. Come and see real machine.

**TOPEKA FOUNDRY & MFG. CO.**

Agents for Shawnee County

318 JACKSON STREET

TOPEKA, KANSAS



Water under pressure in your home will make housework easier, add to comfort, and increase the property value.

All water requirements of farm homes are met at moderate cost with our pneumatic pressure outfits.

May we give you details?

**Fairbanks, Morse & Co.**  
Kansas City Omaha  
(898-611)

## THE "Money Saving Simplex"

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 30 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. Heavy-duty roller bearings, Perflex Radiator, with 20-inch fan, all parts easily accessible and replaceable, simplest and most economical to operate.

**Price \$825 F. O. B. Factory**  
WHY PAY MORE?

We Want Live Dealers and State Distributors.

Write for our New Illustrated Catalogue. We'll tell you all about it.

**SIMPLEX TRACTOR CO.**

1612 Central Ave., MINNEAPOLIS, MINN.

## Order Garden Seed Early

**C**HEAP garden seed is often dear at any price. A high price is not necessarily a guarantee of high quality, but it does not pay to buy cheap seeds which may not grow, or may not produce vegetables of a good variety if they do grow. The loss of time and ground is so great that the slightly higher cost of seeds furnished by reliable firms saves the planter money in the long run.

The buyer must depend entirely upon the reputation of the seedsman to insure his getting seed of the variety he orders, but after the seed has been secured, he can test its germination power. In making the test it is better to plant fifty or a hundred of the seeds in a flat box of earth and see how many of them will develop into plants. They should be planted just as deeply in the box as they would be if planted in the garden. This is a much better test than that ordinarily made between moist blotters, or in similar ways which enable many seeds to sprout that have not vitality enough to produce good plants in the garden, or even to get through the soil at all. It is not necessary to demand a high germination percentage in case of cabbage, tomato, or other seeds that are to be started indoors, or in hotbeds, and transplanted later, but in general, at least eighty out of every hundred tested should grow, or the seed should not be used.

If it is too much trouble to make the actual planting test, another may be made by simply putting seeds between sheets of blotting paper, and keeping them moist but not too wet, and at ordinary room temperature—about 60 degrees F.—for a reasonable length of time. Radishes and lettuce may be expected to sprout in two or three days, while carrots and some other seeds may require much longer time. If blotting paper is not available, several thicknesses of ordinary newspaper or cloth may be used to hold the moisture. The bottom of a shallow dish should be covered with half an inch or an inch of sand, which will keep the blotting paper moist and furnish drainage to keep the water from standing around the seed. If many tests are to be made at once, two sheets of paper, or cloth, between which the first layer of seeds is placed, may be made the bottom of a considerable pile of similar tests which can be thoroughly sprinkled from the top and allowed to drain down into the sand.

It is important that the temperature be kept uniform, ventilation be good, and the drainage be thorough, and that moisture be kept about the seeds. These conditions can be controlled well in many kitchens, living rooms, and basements, but perhaps the incubator will control them better than anything else found on the farm. It would probably not be a good thing to try to make tests while eggs are being hatched, but if many samples are to be tested, the incubator can be filled up with seeds enough to make it pay to run it.—Circular Missouri College of Agriculture.

### Garden Notes for February.

Make the garden as large as the available space and the family demands justify.

Plant as great a variety of crops as your space will permit and the tastes of the family demand. Do not be content in growing a half dozen kinds of vegetables. Variety is the spice of gardening from the home standpoint.

Equalize the space of the garden to the extent of the use and relative productiveness.

Arrange the crops as far as possible in order of their planting and group those of a similar season of growth. For example, plant the asparagus, rhubarb, horseradish and winter onions at one side of the garden, then on either side of the remaining space plant parsnips, salsify, parsley, and other full season crops, and follow with onions, radishes, lettuce, beets, and cabbage. Then those requiring warmer weather for growth, such as beans, tomatoes and the vines.

Get at least two crops from most of the space. Onions set for green onions should be followed with celery; early cabbages, by late cucumbers; early potatoes by sweet corn, celery, beans, turnips or spinach; peas by late cabbage, carrots or beets; lettuce and spinach by beans, cabbage, celery or corn.

Use only standard varieties and avoid new varieties and novelties. Choose varieties for quality rather than earliness or productiveness.

### Buff Orpington Ducks.

Mrs. Fred Seiglinger, of Oklahoma, is enthusiastic over ducks as farm fowls, and writes as follows:

"Ducks have all the advantages of chickens and none of their drawbacks such as lice, mites, cholera, roup, scaly legs, etc. We have raised nearly all kinds of poultry, but find our Buff Orpington ducks the least trouble and the most profitable of any we have tried. The young are easily raised but should be liberally fed on soft feed several times daily. They grow about three times as fast as does a chicken. When full grown they are light feeders, good foragers, destroying thousands of insects. They do not need a pond, but should be provided with plenty of drinking water. They do not scratch the garden, are easily confined, and do not need fine houses. They prefer to roost in the open except in cold, stormy weather, and then a dry shed will be all they require.

"These ducks are larger than Runners and are good layers. They will lay when much older than will hens."

### Shawnee Pomona Grange.

The Pomona Grange of Shawnee County will hold its monthly meeting in Room 5 on the fifth floor of the State House, February 17. The special order is, "Shall we change the Pomona meeting from monthly to quarterly?" A full attendance is desired.

## Precipitation In Kansas For January

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

Cherokee	0.46	Barber	0.60	Decatur	0.46	Barber	0.51	Phelps	0.54	Barber	0.33	Johnson	0.11	Shawnee	0.93	Washington	1.61	McPherson	0.51	Wichita	1.60	St. John	1.79	Ellis	2.56
Shawnee	0.44	Texas	0.65	Shawnee	0.95	Shawnee	0.64	Shawnee	0.82	Shawnee	0.45	Shawnee	1.08	Shawnee	1.34	Shawnee	1.00	Shawnee	2.54	Shawnee	3.26	Shawnee	3.60	Shawnee	2.71
Wichita	0.66	Logan	0.40	Cole	No REPORT	Trigg	0.47	Ellis	0.53	Ellis	0.21	Ellis	2.03	Ellis	1.61	Ellis	1.29	Ellis	3.78	Ellis	3.78	Ellis	4.69	Ellis	5.39
Cherokee	0.57	Wichita	0.67	Shawnee	1.37	Shawnee	0.65	Shawnee	0.44	Shawnee	0.29	Shawnee	2.18	Shawnee	1.50	Shawnee	1.90	Shawnee	2.09	Shawnee	2.16	Shawnee	4.76	Shawnee	5.17
Shawnee	0.10	Shawnee	0.71	Shawnee	1.09	Shawnee	0.23	Shawnee	0.72	Shawnee	0.72	Shawnee	1.94	Shawnee	1.14	Shawnee	2.15	Shawnee	4.95	Shawnee	4.95	Shawnee	5.02	Shawnee	7.06
Shawnee	No REPORT	Shawnee	1.38	Shawnee	0.36	Shawnee	0.59	Shawnee	0.74	Shawnee	2.16	Shawnee	1.76	Shawnee	1.96	Shawnee	2.82	Shawnee	3.52	Shawnee	4.96	Shawnee	7.62	Shawnee	7.62
Shawnee	0.31	Shawnee	0.39	Shawnee	0.22	Shawnee	0.12	Shawnee	0.49	Shawnee	0.55	Shawnee	1.59	Shawnee	1.50	Shawnee	2.35	Shawnee	6.03	Shawnee	5.71	Shawnee	7.65	Shawnee	1.43

The amounts given include the water from rain and melted sleet and snow.

**T**HE precipitation this month was, with one exception, the heaviest that has ever been recorded in Kansas, during January. The average amount over the eastern third was more than six times that of the western third, but there were very few counties that had less than the normal.

The month's snowfall was above normal and was very irregularly distributed. A severe sleet and ice storm on the 26th left the eastern half of the state nearly all covered with a solid sheet of ice from one-half to two inches thick, but the western half and the extreme northern counties escaped any damage by this storm.

The small circles in the counties show the location of the Weather Bureau stations.



## FARM AND HERD

G. C. Wheeler, Live Stock Editor  
W. J. Cody, Manager, Stock Advertising  
O. W. Devine, Representative

### Address All Communications to Kansas Farmer and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

#### CLAIM SALE DATES.

**Percherons.**  
Feb. 24—Breeders' Sale, Hutchinson, Kan.  
C. B. Warkentin, Newton, Kan., Manager.

**Jacks and Jennets.**  
Feb. 15—P. E. Moss, Bronson, Kan.  
Feb. 18—C. H. Early, Centuria, Mo.  
Feb. 22—J. E. Park, Cameron, Mo.  
Feb. 22—G. W. Overley, McCune, Kan.  
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.**  
April 5 and 6, 1916—Central Shorthorn Sale, Independence, Mo.

**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 8—Kansas Hereford Breeders, Manhattan, Kan. Prof. W. A. Cochel, Mgr.

**Holsteins.**  
Feb. 11—H. D. Burger, Seneca, Kan.  
Feb. 16—H. L. Cornell, Route 6, Lincoln, Neb.  
Feb. 23—Nebraska Holstein Breeders' Sale Co., sale at South Omaha. E. M. Little, Clarks, Neb., Manager.  
Feb. 26—A. B. Hall, Creston, Iowa.

**Combination Breeders' Sale.**  
Feb. 15 to 18—S. S. Kirk, Manager, Wichita, Kan.

**Durocs.**  
Feb. 15—Kansas State Agricultural College, Manhattan, Kan.  
Feb. 16—Thompson Bros., Garrison, Kan.  
March 8—John Kemmerer, Mankato, Kan.

**Poland Chinas.**  
Feb. 15—Kansas State Agricultural College, Manhattan, Kan.  
Feb. 16—Herman Groninger & Sons, Ben-gena, Kan.  
Feb. 17—O. W. Long, Craig, Mo.  
Feb. 17—H. C. Graner, Lancaster, Kan.  
Feb. 18—H. B. Walter, Effingham, Kan.  
Feb. 19—Becher and Bennett Bros., Lee's Summit, Mo.  
Feb. 19—Olivier & Sons, Danville, Kan.  
Feb. 23—U. S. Byrne, Saxton, Mo. Sale at St. Joseph Stock Yards.  
Feb. 23—F. E. Moore & Son, Gardner, Kan.  
Feb. 26—A. J. Erhart & Sons, Ness City, Kan.  
March 1—Clarence Dean, Weston Mo. Sale at Dearborn, Mo.

A ten-year-old Ayrshire cow, owned by a dairyman in Pennsylvania, has just made a new milk record for that dairy breed of cattle. The cow produced 25,000 pounds of milk in one year. Her butter fat production was 805 pounds. At a low price for this cow's milk for one year it would have amounted to about \$550 cash.

W. H. Bayless & Son, Blue Mound, Kan., have one of the largest herds of imported and home-bred Belgian horses in Kansas. Several years ago Mr. Bayless made two trips to Belgium and brought over a large shipment of mares and a number of high-class stallions. Each year he has raised on his farms twenty to twenty-five colts. He now has on hand a fine lot of both young mares and stallions, the kind with size and quality. They also have a few choice Percherons. Bayless & Son have shown for several years at the Kansas State Fair and the American Royal and always won their share of prizes in the classes and several championships.

John Perrenoud, of Humboldt, Kan., is contributing his share to live stock improvement in Kansas. In addition to his heavy producing herd of Guernsey cattle, he has a fine herd of pure-bred Duroc Jersey hogs and a very fine flock of Buff Leghorn chickens. He has one of the richly-bred Guernsey herds in the state and one that has proven profitable every year since it was established. At this time he has a fine lot of young stock in his herd, including some choice young bulls.

Although the severe cold and stormy weather cut down the attendance at the Duroc bred sow sale held by R. P. Wells, of Formoso, Kan., January 26, the splendid offering sold at a fair average. While the top of the sale was \$36, the average for the entire lot was \$30. Mr. Wells is one of the progressive breeders and has succeeded in developing a type of Durocs that is popular with farmers and feeders. He will breed a number of extra fine gilts for summer farrow.

Catalogs are out for the sale of big-type Poland China and Duroc bred sows to be held by O. W. Long, at Craig, Mo., February 17. The catalog shows a richly-bred lot of Poland China and Duroc sows. The offering will be mostly tried sows. The sows in this sale carry the best blood of the breed and will be one of the very useful offerings that will be sold this year. They are a big prolific kind that are always profitable.

Catalogs are out announcing the Poland China bred sow sale of Clarence Dean, Weston, Mo. Mr. Dean will hold this sale at Dearborn, Mo., on account of the convenience of the electric line from St. Joseph and Kansas City. The offering promises to be one of the best lots of bred sows to be sold this spring. Most of the herd sows are of A Wonder and Mastodon Price breeding and bred to two good boars, one a son of Black Big Bone by Smooth Big Bone, a hog that weighed 1,000 pounds, and Big Bone Model by Long Big Bone and out of a Big Bob dam. This hog is a half brother to Black Big Bone and to Smooth Big Bone. Black Big Bone 2d and Smooth Big Bone were the two hogs that won the championship at the Iowa State Fair in 1914 and 1915. Smooth Big Bone won in 1914 and Black Big Bone 2d won in 1915.

## 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 40 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.

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.

WANTED IMMEDIATELY, 500 MORE men, 20-40, for motormen and conductors. May need more later. Salary \$60-\$100 monthly. Experience unnecessary. Rural and small town men preferred. Write for application blank. Address Supt. Employment, National Railway, Kansas City, Mo.

### REAL ESTATE.

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

TO TRADE ON LAND—ONE FIVE-PASSENGER Maxwell auto in good shape. Address L. Heaton, Larned, Kan.

FOR SALE—PANHANDLE AND OKLA-homa land. Write D. Thoburn, Higgins, Texas.

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

160 ACRES NICE LEVEL CORN, WHEAT or alfalfa land, one mile from station. \$25 per acre; terms. J. W. Wampler, Garden City, Kan.

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

LAWRENCE, KANSAS.—WILL TRADE my new home there, convenient to high school and university, for a farm. Address W. H. McClure, 917 Locust, Kansas City, Mo.

160 ACRES IN WASHINGTON COUNTY, Kansas. Rich bottom land, best farm in state, \$115 per acre. Otis Chappell, Had-dam, Kan.

WANTED—FARMS AND RANCHES. Owners send description. We have cash buyers on hand. Don't pay commission. Write Up-To-Date Realty Exchange, La Salle, Ill.

FREE GOVERNMENT LAND—250,000 acres in Arkansas now open to homesteaded entry. Send 50c for revised township map of state and copy Homesteaders' Guide Book. L. E. Moore, Little Rock, Ark.

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.

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

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.

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

### CATTLE.

FOR SALE—THREE BLACK JACKS. W. E. Long, Falls River, Kan.

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

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

RED POLLED. WILKIE BLAIR, Girard, Kan.

FOR SALE—PURE-BRED POLLED DUR-ham bulls. Priced right. L. B. Streeter, Wakefield, Kan.

FOR SALE—THREE REGISTERED HOL-stein bull calves. W. H. Surber, Peabody, Kan.

CAR LOAD CHOICE COWS. FIVE HAVE calves, others ready to calve, balance bred. Ed Woelk, Pawnee Rock, Kan.

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

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

ALYSDALE SHORTHORNS FOR SALE—Six good registered Shorthorn bulls of serviceable age, red in color, prices very reasonable. Write or call upon C. W. Merriam, Columbian Bldg., Topeka, Kan.

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.

### MISCELLANEOUS.

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

RAW FURS WANTED—WRITE ME FOR prices. Sam Wilkinson, Hewins, Kan.

BELGIAN HARES, ALL VARIETIES, for sale. J. W. Wampler, Garden City, Kan.

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

\$25 GIVEN FOR STRAWBERRY NAME. File orders immediately for best plants. Robert Thomas, Shenandoah, Iowa.

NOTICE TO WHOM IT MAY CONCERN: The Perfection Metal Shilo Company, a Kan-sas 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 14x19 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 tax-payers in county outside Topeka and Oak-land. Satisfaction guaranteed. Cloth bind-ing, \$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, To-kepa, Kan.

### HEDGE POSTS.

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

### HORSES AND MULES.

FOR SALE CHEAP—REGISTERED PER-cheron stallion. Frank Morris, Burns, Kan.

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

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

FOR SALE—REGISTERED PERCHERON stallion, coming four years old, or will trade for cattle. C. E. Olson, Solomon Rapids, Kan.

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

SEED CORN—FRED LAPTAD, LAW-rence, Kan.

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

GARDEN SEEDS—BEST VARIETIES. Send postal for illustrated catalog. I. N. Simon & Sons, Philadelphia, Pa.

PURE ST. CHARLES SEED CORN. \$1.25 per bushel. Frank Crosby, Route 2, Belvue, 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, hulled, \$10 per bushel, 60 pounds. Sacks, 25c. J. N. Thompson, Moran, Kan.

HULLED WHITE SWEET CLOVER SEED 18c pound. Clover honey, 10c. Wesley Fos-ter, Boulder, Colo.

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.

FOR SALE—FIRST CLASS REID'S YEL-low Dent seed corn, \$2 per bushel, on board cars Renfrow, Send for sample. T. J. Lehring, Renfrow, Okla.

300 STRAWBERRY, \$1.00; 100 EVER-bearing strawberry, \$1.75; 185 named dah-las. Send for price list. James McMullen, Franklin Ave., Council Bluffs, Iowa.

TEN GREAT J. H. HALE PEACH, 4 feet, \$2.50. Currants, best 2-year, 10c each, \$7 hundred. Ten Genuine Delicious trees, 5 feet, \$1.50. Money back if not satisfied. No agents. Ten Peach, 4 feet up, your choice, \$1. Sunny Slope Nursery, Hannibal, Mo.

### BERMUDA GRASS.

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

### NURSERY STOCK.

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

THE BRODBECK SWEET CHERRY, twice the size of Early Richmond. Only one failure in past twenty years. Trees for sale. Write for its history. S. S. Brodbeck, Gal-latin, Mo.

GET MY DIRECT-TO-YOU PRICES BE-fore you buy trees to set this spring. Send for fruit book—tells how I save you agents' commissions of about 40 per cent. W. F. Schell, proprietor Wichita Nurseries, Box L, Wichita, Kan.

Please Mention Kansas Farmer. When Writing to Advertisers.

### BUSINESS CHANCES.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any-one who has been getting poorer while the rich, richer. It demonstrates the real earn-ing power of money, and shows how anyone, no matter how poor, can acquire riches. Investing for Profit is the only progressive financial journal published. It shows how \$100 grows to \$2,300. Write now and I'll send it six months free. H. L. Barber, 431-28 W. Jackson Blvd., Chicago.

### TOBACCO.

FINE CHEWING AND SMOKING TO-bacco. Three years old. Send stamps for samples. W. L. Parks Tobacco Co., Adams, Tenn.

### PATENTS.

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

IDEAS WANTED—MANUFACTURERS are writing for patents procured through me. Three books with list hundreds of inventions wanted sent free. I help you market your invention. Advice free. R. B. Owen, 122 Owen Bldg., Washington, D. C.

### LUMBER.

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

### PEANUT BUTTER

BLACK WALNUTS, 80 CENTS BUSHEL. Nice fresh walnuts, sacked and delivered at express or freight office, only 80c per bushel. Pecans, 10c pound. Best shelled Rice Pop Corn, pops fine, 10 pounds 50c. Finest pure Peanut Butter, one pound 20c, 2 1/2 pounds 40c, 4 1/2 pounds 70c, 9 pounds \$1.25, 55 pounds \$6.50. In air-tight tin cans. Write today for circular. Henry Jefferies, Ottawa, Kansas.

### HOGS.

DUROC SWINE—THREE BRED SOWS, twelve summer and fall shoats; two Red Polled bull calves. Two registered saddle stallions, one and two years respectively. Pedigrees given with every animal. J. B. Davis, White City, Kan.

### SITUATION WANTED.

WANTED—POSITION ON A FARM BY a young man twenty-one years of age. J. F. LeCompte, Renfrow, Okla.

SITUATION WANTED ON FARM. MAR-ried man with small family. Reference fur-nished. L. Biles, Shawnee, Mo.

WANTED—A POSITION ON FARM BY single man of good habits, experienced, age 18. C. F. Osborn, Madison, Kan.

MARRIED MAN WANTS WORK BY month on farm. No family. Chester De-Walt, Vliets, Kan.

SINGLE MAN, 19, WANTS A JOB ON farm. Have had experience and not afraid of work. Wants to begin March 1. A. D. Hagee, Arno, Mo.

ANYONE WANTING A TRUSTY FARM hand, please write me. Am 19 and single. Want to begin March 1. Eteyl Hagee, Arno, Mo.

IF YOU WANT A STEADY, RELIABLE, experienced, strictly sober, married farm or ranch hand, address at once, C. M. Bruner, Route 2, Dorrance, Kan.

YOUNG MAN 22 YEARS OLD, EXPER-enced farmer, wants work by the month un-til harvest. Address Edward Ford, Enter-prise, Kan.

MARRIED MAN WITH TWO CHILDREN wants farm or dairy work by month or year. Work on shares considered. Can give ref-erences. P. M. Stewart, Route 5, Osborne, Kan.

### THE STRAY LIST

TAKEN UP—BY E. T. BURTON, IN Lake Township, Harvey County, P. O. ad-dress Burrton, Kansas, R. 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.

FOR SALE—CHOICE PURE-BRED COL-lie pups from well trained parents, at let live prices. L. A. Whitten, Fairmont, Neb.

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.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. Best of breeding. E. L. Dolan, Route 2, Platte City, Mo.

### FARM AND HERD.

Although the weather was very unfavor-able, E. S. Engle & Son, of Abilene, Kan., held a very successful sale of Holsteins on January 27. The offering consisted of high grades. Thirteen cows averaged \$126 per head, five springers averaged \$107 per head, and five yearling heifers sold for \$57.50 per head. The twenty-three head sold averaged \$107 per head.

During Farmers' Week at Columbia, Mo., a new society named the Missouri Live Stock Producers' Association was estab-lished, with C. E. Yancey, Liberty, Mo., president, and Prof. E. A. Trowbridge, sec-etary. This organization is composed of various live stock associations of the state, the directors being formed of representa-tives of each of the component societies.

C. B. Warkentin, Newton, Kan., with Charles Molzen and A. C. Tangeman, all prominent Percheron breeders of Newton, Harvey County, Kansas, will hold a sale of Percherons at Hutchinson, Kan., Thursday, February 24. The offering will consist of thirty-seven head—fourteen stallions and twenty-three mares and fillies. Nine of these stallions are of serviceable age. Fif-teen of the mares are safe in foal. The blood of the World's Fair prize winning Casino is strongly represented in the offer-ing. A large part of the mares are in foal to either a son or a grandson of Casino. One son, one daughter and several grand-sons and granddaughters of this famous sire go in the sale.



# RELIABLE POULTRY BREEDERS

## LEGHORNS.

**BIG PRIZE ROOSTERS, BUFF, CHEAP.** Mrs. S. F. Crites, Florence, Kan.

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

**FULL BLOOD ROSE COMB WHITE LEG-**horn cockerels, \$1 each. N. C. Dewey, Stafford, Kan.

**S. C. BROWN LEGHORN COCKERELS**—Extra quality, \$1 each, six for \$5. Mrs. L. H. Hastings, Thayer, Kan.

**PURE-BRED SINGLE COMB WHITE** Leghorn, White Wyandotte cockerels, \$1.00 each. A. F. Hutley, Maple Hill, Kan.

**CLASSY S. C. W. LEGHORN COCKER-**els, \$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 LEG-**horns exclusively. Keeping strain. Thol R. Wolfe, Conway Springs, Kan.

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

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

**PURE SINGLE COMB WHITE LEGHORN** cockerels. Frantz Yesterlaid strains, \$1 to \$2. Eggs, Young Frantz Yesterlaid strains, \$4 per hundred. C. G. Cook, Lyons, Kan.

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

**ENGLISH STRAIN WHITE LEGHORNS**—Cockerels, pullets or hens, \$1 each. Eggs for hatching, in season. Mrs. Ben Johnson, Belton, Mo.

**S. C. WHITE LEGHORN COCKERELS**—Long back, bred for egg production. Farm raised, \$1.50, \$2 each. Dave Baker, Conway Springs, 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.

**FOR SALE—S. C. WHITE LEGHORN** male and female breeders. Exhibition and utility settings. Write for prices. Midland Leghorn Yards, 320 Second Ave., Leavenworth, Kan.

**S. C. BROWN LEGHORN COCKS, COCK-**erels, 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.

**LAKESIDE POULTRY FARM OF PEER-**less 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.

## ORPINGTONS.

**BUFF ORPINGTON COCKERELS.** G. D. Willens, Inman, Kan.

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

**BUFF ORPINGTON COCKERELS FROM** \$1.00 to \$1.50. Address W. M. Scherman, Route 3, Olathe, Kan.

**FINE S. C. B. ORPINGTONS—HENS,** free range at \$1 each. Martha Brown, Parkerville, Kan.

**BUFF ORPINGTON STOCK ALL SOLD.** Some White Pekin ducks, \$1 each. Mary Price, Manhattan, 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.

**FOR SALE—FINE BUFF ORPINGTON** hens and pullets, \$1 and \$2 each. Best of winter layers. Mrs. Myrtle Howard, Byron, Okla.

## BABY CHICKS.

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

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

## CORNISH

**CORNISH FOWLS—A FEW UTILITY** pullets, cockerels, eggs. L. C. Horst, Newton, Kan.

## DUCKS AND GEESE.

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

**DUCKS FOR SALE—WHITE RUNNERS,** females, \$1 each. Pure white eggs. J. F. Cox, Route 28, Topeka, Kan.

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

## POULTRY WANTED.

**PAYING 13c FOR HENS; TURKEYS, 17c;** guineas, dozen, \$4. Coops loaned free. The Copes, Topeka.

## PLYMOUTH ROCKS.

**FOR SALE—A FEW WHITE ROCK** cockerels at from \$2 to \$5 each. Thomas Owen, Route 7, Topeka, Kan.

**CHOICE BARRED PLYMOUTH ROCK** cockerels, \$1.50 to \$3.00 each. E. Leighton, Effingham, Kan.

**BUFF ROCK PULLETS, SISTERS TO** my Kansas City and Topeka winners. Also cockerels. E. D. Small, Wilson, Kan.

**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.

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

**BARRED ROCKS—COCKS, COCKERELS,** Toulouse geese, \$1 to \$3. A. G. Hammond, Vinland, Kan.

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

**CHOICE BARRED PLYMOUTH ROCK** cockerels, Bradley strain, Parks 200 egg strain, \$2 to \$5. Gem Poultry Farm, Haven, Kan.

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

**MAMMOTH STAY WHITE ROCK COCK-**erels. Twelve years a breeder for size and quality. Eggs in season. Charles Vorles, Wathena, Kan.

**BARRED PLYMOUTH ROCK COCKER-**els, \$2 to \$5. Eggs, \$1.50 per thirteen. Bradley strain, large boned. F. F. Wood, Wamego, Kan.

**WHITE ROCK EGGS—STATE SHOW** winners, only \$1.00 fifteen, \$5.00 hundred. Baby chicks, 10c. Mating list with records free. Nellie McDowell, Route 1, Garnett, Kan.

Kansas Farmer, Topeka, Kan.

Gentlemen:—I am flooded with letters; cannot find time to answer all. I have sold all my birds and have returned money orders and checks.

I wish you would do me a favor of printing in your paper that I have sold all my birds, to save me the trouble of answering so many letters. I have gotten better results from your paper than any others. I want to put in an ad for setting eggs soon.

## SEVERAL BREEDS

**GUINEAS—WHITE AFRICAN, \$5 TRIO.** Pearls, \$2. The Copes, Topeka.

**3,479 COCKERELS—41 VARIETIES**—Chickens, geese and ducks. Seeds and trees. Aye Bros., Box 18, Blair, Neb.

**ROSE COMB REDS, BUFF ORPINGTONS,** Light Brahmas and Geese. Emma Ahlstedt, Roxbury, Kan.

**TWENTY LEADING VARIETIES, EGGS** and baby chicks. Write for information. Royal Poultry Yards, Coffeyville, Kan.

**EGGS FOR HATCHING.—SEND FOR** free egg circular; it tells of the West's best birds. All eggs, \$1.50 per fifteen. Forty mated yards. Modlin's Poultry Farm, Route 7, Topeka, Kan.

**STOCK, EGGS, BABY CHICKS, LEG-**horns, Campines, Orpingtons, Langshans, R. I. Reds, Plymouth Rocks, Wyandottes. Stock, \$2 each; eggs, \$1.50 per 15, \$5 per 100; chicks, 15c each. Miller Poultry Farm, Box K, Lancaster, Mo.

**I HAVE SIXTY BRONZE TURKEYS** yet. Pullets, \$3 to \$5; young toms, \$5 to \$10. I won all firsts, Dalhart, Texas, '12 and '13, and Unionville, Mo., 1914. Eggs for hatching, \$6.00 per dozen. Have some fine Barred Rock cockerels and Black Langshans for sale. Write your wants. J. W. Anders, Route 8, Unionville, Mo.

**FOR SALE—EGGS FROM PURE-BREDS,** Turkeys; geese; Pekin, Rouen, Muscovy and Runner ducks; Pearl and White guineas; bantams; Houdans; Leghorns; Rhode Island Reds; Hamburgs; Games; Barred and White Plymouth Rocks; White and Silver Laced Wyandottes; Buff and White Orpingtons; Langshans. Hen eggs, 15c for 1. Also hares, white rabbits, guinea pigs, fancy pigeons. Write wants. D. L. Bruen, Platte Center, Neb.

## WYANDOTTES.

**R. C. BUFF WYANDOTTE STOCK FOR** sale. G. G. Wright, Langdon, Kan.

**FORTY WHITE WYANDOTTE HENS** and pullets. G. D. Williams, Inman, Kan.

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

**PARTRIDGE WYANDOTTE COCKER-**els, \$1 and \$2. Satisfaction guaranteed. Eggs, \$1.50. Jacob Klassen, Inman, Kan.

**FOR SALE—PURE-BRED WHITE WY-**andotte cockerels, \$1 each. Mrs. Clarence Kagarice, Darlow, Kan.

**EXTRA GOOD WHITE WYANDOTTES**—Regal strain. Cockerels, \$2 to \$4. M. L. Van Ornam, Superior, Neb.

**WHITE WYANDOTTES THAT WON** firsts and sweepstakes. Eggs, \$1.15 per fifteen, \$4.00 hundred. B. M. Stephenson, Cawker City, Kansas.

**LAST CHANCE TO BUY WHITE WYAN-**dotte cockerels at \$2 each, from State Fair winners. Circular. G. A. Temple, Box A, Lexington, Neb.

**WHITE WYANDOTTES—GUARANTEED** stock. Pen 1, pullets, fifteen eggs, \$2. Pen 2, hens, thirty eggs, \$3. Utility flock, \$4 per hundred. Effie Acheson, Palco, Kan.

**WHITE WYANDOTTES, WORLD'S FAIR** winners. Mammoth Pekin and Buff Ducks and capons for mothers for incubator chicks. Mrs. A. J. Higgins, Route 1, Effingham, Kan.

**WHITE WYANDOTTES—WINNERS OF** blue ribbon on pen, State Poultry Show, 1916. Stock and eggs in season. Mr. and Mrs. J. Carter Bales, Route 7, Wichita, Kan.

**COLUMBIAN WYANDOTTES—CHOICE** cockerels. Undeclared champions. Eggs, \$3 per fifteen. H. A. Wattles & Son, 1149 University, Wichita, Kan.

**WHITE WYANDOTTES—REGAL STRAIN**—Extra layers. Males from Martin's. Eggs, lots to suit. Stock for sale. Mrs. C. C. Brubaker, 709 East Euclid, McPherson, Kan.

**FOR SALE—PURE-BRED SILVER WY-**andotte cockerels, \$1.50 each; six for \$8.00. Choice breeding. Mrs. Philip Schuppert, Arington, Kan.

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

## BRAHMAS.

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

**LIGHT BRAHMA COCKERELS, \$1.50 TO** \$2.50. Big boned kind. Also Bronze Turkeys. Frank P. Healy, Bedford, Iowa.

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

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

**I SHIP MY LIGHT BRAHMAS AND** eggs everywhere from New England to California, from Canada to Florida. Winning the highest premiums wherever shown. Pictorial price list for asking. Mrs. J. R. Kenworthy, Wichita, Kan.

## RHODE ISLAND REDS

**RHODE ISLAND WHITE COCKERELS,** \$1.25. Will Tonn, Haven, Kan.

**DARK ROSE COMB RED COCKERELS**—Prices right. Louis G. Roth, Holyrood, Kan.

**FINE ROSE COMB RED COCKERELS**—Baby chicks in season. Order early. Lily Robb, Neal, Kan.

**ROSE COMB RED COCKERELS—LARGE,** deep red, for \$1.50 each. Mrs. Geo. Schultz, Route 5, Haviland, Kan.

**RHODE ISLAND REDS—EGGS FROM** fine matings. Mrs. F. A. Fulton, El Dorado, Kan.

**GOOD ROSE COMB RED COCKERELS,** \$1.50 and \$2. Satisfaction guaranteed. Ason Hinkson, Valley Center, Kan.

**ROSE COMB RHODE ISLAND RED** cockerels for sale. Mrs. C. H. Jordan, Wakarusa, Kan.

**PURE ROSE COMB RED COCKERELS**—Good laying strain, \$1 each to clean up flock. H. A. Engele, Purdum, Neb.

**SINGLE COMB REDS—THREE EXTRA** fine matings, \$1, \$2 and \$4, fifteen eggs. Few good cockerels. C. E. Florence, El Dorado, Kan.

**RHODE ISLAND REDS—FIFTEEN EGGS** \$3; hens or pullets, \$2 each; cockerels, \$2 to \$15; cocks, \$4. All good ones. Nicholas Bach, Hays, Kan.

**100 ROSE COMB RED COCKS AND** cockerels, sired by roosters costing \$15 to \$75. \$1.50, \$3, \$5, \$7.50 each. A few higher. 1916 pens best ever. W. R. Huston, Americus, Kan.

**BRED TO LAY—PURE-BRED S. C.** Reds. Eggs from the finest birds I ever raised, \$1 setting; fifty, \$2.50; per hundred, \$4. Guaranteed. Few choice cockerels. Belmont Farm, Box 69, Topeka, Kan.

**ROSE COMB RHODE ISLAND REDS,** from prize winners. Pullets, \$1; cockerels, \$1.50 and \$2.50. Eggs for setting. F. L. Blaine, New Ulysses, Kan.

**EGGS FOR SALE—FROM MAC'S RIVER-**side S. C. R. I. Reds. State show winners, three excellent matings. Price, \$3 per fifteen, \$5 per thirty, \$12.50 per hundred. W. C. McPherson, 1233 Forest Ave., Wichita, Kan.

**ROSE COMB REDS—FINE YARDS,** headed by first cockerel Kansas State, and second cockerel Missouri State Shows. Eggs, \$4 per fifteen. Fine farm range flock, all good birds, \$4 per hundred. Free catalog. Mrs. Clyde Meyers, Fredonia, Kan.

**FOR SALE—FULL BLOOD ROSE COMB** Rhode Island Red cockerels. American Beauty strain. Took first and second prizes, besides several specials, at two shows this year. Prices, \$2 and \$3. A. W. Hibbets, Damar, Kan.

**MACK'S S. C. RHODE ISLAND REDS**—Bred for beauty and bountiful egg production. Winners at the large shows. Champion cockerel, cock, and pen, at Nebraska Mid-State Show, '15, '16. Six grand matings for 1916. Prices reasonable. Good breeding cockerels and pullets cheap. Catalog free. H. H. McLellan, Kearney, Neb.

## TURKEYS.

**GOOD PURE-BRED MAMMOTH BRONZE** turkeys. Sadie Litton, Peabody, Kan.

**WHITE HOLLAND TURKEY TOMS, \$4** to \$5; hens, \$3. C. G. Cook, Lyons, Kan.

**EGGS—FAMOUS NARRAGANSETT TUR-**keys. Sunlight Poultry Farm, Mt. Moriah, Mo.

**PURE-BRED NARRAGANSETT, BOUR-**bon Red, White Holland Turkeys for sale. F. L. Jones, Route 1, Alma, Kan.

**MAMMOTH WHITE HOLLAND TUR-**keys—Toms twenty-four, pullets fifteen and sixteen pounds. Miss Lillian Schaal, Lexington, Mo.

**BRONZE TURKEY TOMS, \$5.00 EACH.** Single Comb White Leghorn eggs, \$5.00 per hundred eggs, \$1.00 per fifteen. Mrs. Mabel Sullivan, Route 7, Abilene, Kan.

**BOURBON RED TURKEYS—MATINGS** headed by my Missouri State, Kansas State and San Francisco Poultry show first prize toms. Eggs, \$3 and \$4 per eleven. Free catalog. Mrs. Clyde Meyers, Fredonia, Kan.

**CHAMPION BRONZE TURKEYS, Sired** by sons my 52-pound champion tom. Well marked, white edging, won many prizes in largest show. Pleased customers in thirty states. Ike Hudnall, Milan, Mo.

**MAMMOTH BRONZE TURKEYS FROM** strains that have won at the leading shows. White Holland toms, genuine wild mallards domesticated, Buff Rock cockerels, eggs in season. Mrs. E. B. Powell, Higginsville, Mo.

**MAMMOTH BRONZE TURKEYS OF EX-**cellent breeding and quality. Parents winners at Kansas State and other shows. 1915 hatch won at late Panama-Pacific Exposition. Write your wants. Mrs. H. E. Bachelder, Fredonia, Kan.

**BOURBON RED TURKEYS, WORLD'S** best strain. Great big, vigorous, farm raised, deep breasted birds. From prize winning stock. Also white egg Indian Runners. Eleanor Poultry Ranch, Brighton, Colo.

## MINORCAS.

**S. C. BLACK MINORCAS—COCKERELS,** \$2.50; eggs, \$1.50; \$6 hundred. J. M. Johnson, Bolivar, Mo.

## CANARIES.

**CANARIES—GUARANTEED SINGERS,** \$2.50 and \$3.25. Pairs, \$3 and \$3.75. Breeding hens alone, 75c and \$1. Mrs. Iver Christenson, Jamestown, Kan.

## PHEASANTS.

**PHEASANTS—EASILY RAISED AS** chickens. Eggs from Beautiful Golden, \$5 per fifteen; English Ringneck, \$3.50. Scarce this year. Orders booked for 50c stamps. Mrs. Iver Christenson, Jamestown, Kan.



## The Nebraska Holstein Breeders Sale

Union Stock Yards Sale Pavilion, South Omaha, Neb.

**Wednesday, February 23, 1916**

Promptly 10:30 o'clock

**100 Home Bred Registered Holstein-Friesian Cattle 100**

This offering is made up of the best record cattle in the finest condition ever sold in a midwest sale. All the biggest and best herds in the state have entered cattle. Each consignor has outdone himself to make a good representative showing that will do justice to his breeding herd. Positively there are no culls in the entire list.

### HERE ARE THE CONSIGNORS:

Leroy Ball, Albion.  
Dr. W. M. Condon, Humphrey.  
W. J. Jenkinson, Monroe.  
Nelson Bros., Stromsburg.  
O. G. Sparks, Westboro.

Badger & Frost, Central City.  
Dr. B. B. Davis, Omaha.  
Cameron J. Furry, Franklin.  
Alex Gerggren, Wahoo.  
U. S. Indian School, Genoa.

A Number of Show Ring Winners, including PRINCE KATY and Eight of His Perfect Daughters.

### HEAVY MILKING A. R. O. COWS AND HEIFERS

A Number of Splendidly Bred Bulls and Bull Calves.

Cows and heifers bred to such bulls as Colonel Beets Segis, one of the best sons of King Segis; Pontiac Segis Colantha, three nearest dams average 32.44 pounds; King Segis Pontiac Plus, 31-pound son of King Segis Pontiac; Rag Apple Korndyke Boon, best son of the \$25,000 bull; Prince Katy, thrice grand champion.

WRITE FOR CATALOG NOW.

**E. M. LITTLE, Sales Mgr.**

**CLARKS, NEB.**

South Omaha Address, 115 Exchange Bldg.

## FRANK IAMS'

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

Big, Nifty, Classy "New Horses" are "Town Talk." His 34 years of success in Importing, Breeding and Selling, 5,640 registered horses—his "50 trips" across the ocean—make Iams a safe man to buy stallions from. His "old customers" are "best 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

### "Gold Medal and State Prizewinners"

"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; \$100 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 Banks, St. Paul, Neb.

**ST. PAUL, NEB.**

## 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 66th. Lady Wonder 5th 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.

## CLOSING OUT SALE

**65 - HEAD OF PURE BRED AND GRADE HOLSTEINS - 65 AT CRESTON, IOWA, SATURDAY, FEBRUARY 26, 1916**

THE OFFERING CONSISTS OF THE FOLLOWING:

Eighteen Head of Pure-Bred Holstein Heifers, coming 3 years old; most of them fresh now; all are fine milkers and out of the best families of the breed.

Nine Pure-Bred Heifers and Nine Pure-Bred Bulls, all coming 1 year old.

Sixteen Pure-Bred Young Calves, half heifers, half bulls, all sired by De Kol Paul Korndyke, my imported herd bull, registered in both the American and Canadian herd books. This bull will be sold at sale.

Five High Grade 3-Year-Old Heifers, all extra heavy milkers.

Five Grade Calves.

These cattle will be sold at the sale pavilion at Creston, Iowa, on February 26, 1916. Sale to commence at 10:30 o'clock. Send for catalog.

**A. B. HALL, - - - - - CRESTON, IOWA**

### THIRD ANNUAL SALE

**POLAND CHINAS and DUROC JERSEYS**  
**KANSAS STATE AGRICULTURAL COLLEGE**

MANHATTAN, KANSAS

**TUESDAY, FEBRUARY 15, 1916**

Poland Chinas - - - - 10:30 a. m.

Duroc Jerseys - - - - 1:00 p. m.

For catalog address

ANIMAL HUSBANDRY DEPARTMENT

## DON'T MISS THIS Postponed Public Sale

Will now be held

**Saturday, Feb. 19, 1916**

Fifty Head of Large-Type Poland China Hogs. Thirty-three head of Shorthorn and Polled Durham Cattle. Nine Horses. Implements. Household Goods.

All trains will be met. Come! Free transportation and accommodations.

Come and buy something worth the money. The date is February 19.

**M. A. DRAPER**

Sylvia,

Kansas



## JACKS & HORSES

—AT CENTRALIA, MO.—

**Friday, February 18, 1916**

Nineteen head of extra good jacks from 4 to 6 years old, all blacks with white points, have been raised on my farm. They are well broke to service and sold to be sound and right in every way.

One 5-year-old jack that will make a splendid herd jack. He stands 15½ hands and weighs 1,060 pounds.

Thirty-five head farm horses and mules.

Ten head high-grade Shorthorn cows, most all have calves at foot. Also fifteen head spring calves.

Seven thousand bushels corn in crib and 150 tons baled timothy hay.

Write for catalog and arrange to come to sale.

**C. H. EARLY, - - - - - Centralia, Mo.**

MENTION KANSAS FARMER WHEN YOU WRITE.



# Kansas Breeders' Hereford Sale, State Fair Grounds, Hutchinson, Kan., Feb., 25

Seventy Cows, Bulls, Heifers. Every One a Grand Individual.

Without question this offering contains more high-class individuals of the best breeding than will be sold in any sale this winter. Every one selected for its individual excellence and true Hereford character. Not a tail-end or cull in the bunch. Every one a top individual and a splendid specimen of the breed. If you want a herd bull or a carload of grand heavy-boned bulls, you cannot afford to miss this sale.

**Grand Young Cows and Heifers—None Better Bred**

Tops from these good herds: W. I. Bowman & Co., Ness City; Moses Bros.

**Notice.—Attend the Warkentin Percheron Horse Sale on February 24, and the A. J. Erhart & Sons' Poland China Bred Sow Sale on February 26, Both at Hutchinson.**

**Tops Only. Show Bulls! Herd Bulls! Both Polled and Horned**  
& Clayton, Great Bend; A. & P. Schmitz, Alma; J. M. Lewis, Larned; Richard Taylor, Great Bend; H. D. Plummer, Longton; J. D. Holloran, Castleton; Hopper & Handley, Ness City; A. H. Arnold, Pratt.

**Thos. Clayton, Mgr. Great Bend, Kan**

## Ayers & Anderson Dispersion Stock Sale

—At Howard, Kansas—

**Tuesday, February 22, 1916**



One registered black Percheron Stallion, No. 46306, sired by imported Casino, ten years old and weighs 1,900 pounds in breeding condition.

Seven head extra good registered Percheron mares from three to eight years old, will weigh 1,700 to 1,900 pounds.

### Three Registered Percheron Yearlings One Stallion and Two Fillies

Two registered standard bred stallions by Pingineer, four years old and large size. Four standard bred mares.

Twenty-five high grade Percheron brood mares, twelve mules and horse colts, three jacks and three jennets, thirty-four head of three to five-year-old mules (mostly mares).

Have sold our farm and everything will be sold to the highest bidder. Come and buy what you want. We will also sell a lot of farm implements on February 21. Remember, the horses and mules sell February 22.

**Ayers & Anderson, Howard, Elk County, Kansas**

## JACK AND JENNET SALE

At McCune, Kansas, February 22, 1916  
26 — HEAD OF JACKS AND JENNETS — 26

Twelve head of jacks, from suckers to aged jacks, all black with white points, from 14 to 15½ hands high, all my own raising, sired by Monsees' Perfection 1174, Bradley's Sunlight 2732 and Kentucky Yelberton 3352.

Fourteen head good well-bred jennets, bred to Kentucky Yelberton. I think most of them are safe in foal. Everything guaranteed as represented on sale day. McCune is located on the Frisco Railroad, twenty miles west of Pittsburg, fifteen miles east of Parsons.

**SUNNY SLOPE STOCK AND BREEDING FARM**

G. W. OVERLEY, PROPRIETOR, McCUNE, KANSAS

P. S.—Terms, cash or twelve months' time on bankable paper at 6 per cent interest from date, parties giving 1916 bank references.

## PUBLIC SALE OF JACKS AND JENNETS TO BE HELD AT CAMERON, MO., TUESDAY, FEB. 22

On the above date we will sell forty head of Mammoth Jacks and Jennets, consisting of thirty tried jacks, some jennets in foal and some good young stock of both sexes that will double in one year.

The jacks and jennets that are consigned in this sale represent as good blood as can be procured in Missouri and Kentucky. They represent the blood of Dr. McCord, Limestone Mammoth and other noted sires, and will be sold under positive guarantee to be as represented. This sale affords an unusual opportunity to buy the BEST. The catalog will describe every animal listed and will be mailed to those who write for it. They will be ready to mail, February 6.

**JAS. E. PARK, - - - - - CAMERON, MISSOURI**

COL. P. M. GROSS  
Macon, Mo.

COL. D. D. DEEM  
Gallatin, Mo.

COL. THOS. E. DEEM  
Cameron, Mo.

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READ KANSAS FARMER'S CLASSIFIED**

### 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.

CHAS. H. MURRAY, FRIEND, NEBRASKA

#### CEDARDALE CHESTER WHITES

Choice gilts bred for March and April farrow. Bred to W. P. Sweepstakes by Wildwood Prince for March and April farrow. Some show prospects. Priced right.

J. S. KENNEDY - BLOCKTON, IOWA

#### O. I. C. PIGS

Pure-bred O. I. C. pigs, 3½ 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.

JOE FOX, GREELEY, KANSAS.

#### O. I. C. HOGS

Guaranteed cholera immune. Long, smooth, good bone. Boars ready for service, gilts bred or open, \$17.50 to \$25. Pedigrees furnished.

CEDAR VIEW STOCK FARM, Bolivar, Mo.  
Dr. C. E. Ackerman, Sec'y.

#### RICKETTS' O. I. C's.

Extra good gilts bred for March farrow. Also choice males. All priced reasonable.

C. W. RICKETTS - HANNON, MO.

### FARM AND HERD.

Al E. Smith, of Lawrence, Kan., owner of one of the good herds of Jacks and jennets, also Percheron horses, in this state, reports his herds doing fine at this time. Mr. Smith has forty head of big mammoth jacks. A feature of his herd is the choice lot of three-year-old jacks, a number of which are sixteen hands high. He also has a choice lot of young Percherons, some of the yearling stallions weighing up to 1,500 pounds and two-year-olds weighing up to 1,900 pounds. Some of the older stallions weigh up to 2,400 pounds. The Percheron mares in his herd are a very fine lot.

Catalogs are out for the Nebraska Holstein Breeders' Sale to be held at the Union Stock Yards sale pavilion on Wednesday, February 23. The cattle consigned to this sale are from strictly high-class herds and the 100 head catalogued are a richly-bred lot of Holsteins. The offering includes a number of show ring winners, among them Prince Katy and eight of his perfect daughters. The cows and heifers to be sold are bred to such bulls as Colonel Beets Segis, Pontiac Segis Colanthe, King Segis Pontiac Plus, Rag Apple Korndyke Boon and the three times grand champion Prince Katy.

Fred Dauber, of Meriden, Kan., is one of the progressive Percheron breeders in this state and owns one of the good herds of that breed of draft horses. A feature of his herd at this time is the fine lot of young stallions and mares.

The date of the Hereford-cattle sale to be held by the North Missouri Hereford Breeders' Association at St. Joseph, Mo., has been changed from March 3 to March 4. On that date a very high-class offering selected from the best herds in North Missouri will be sold at the stock yards sale pavilion at South St. Joseph.

J. S. Kennedy, of Cedarvale Farm, Blockton, Iowa, owner of one of Iowa's great herds of Chester White hogs, writes that his herd is in fine condition. Mr. Kennedy has bred a large number of big growthy gilts of the ideal brood sow type. These gilts are bred to noted herd boars of the breed and are the kind that are profitable not only to breeders but on every farm where hogs are raised.

Fred B. Caldwell, Howard, Kan., sold at his farm on Saturday, February 5, forty head of bred sows and bred gilts at an average of \$43.10. Nothing sold high and no record prices were made, but every animal sold at a price where the purchaser will make money, and the prices received were very satisfactory to Mr. Caldwell.

J. A. Godman, of the Pleasant Valley Stock Farm near Devon, Kan., held a big two days' sale as advertised. The second day was the Poland China bred sow sale. A large crowd of farmers and breeders were present and bought at good prices. An average of about \$50 was made on the entire lot sold. Mr. Godman has been a liberal buyer at many breeders' sales the past two years and he had very liberal support from a number of breeders both from Kansas and Missouri.

G. C. Roan, of La Plata, Mo., owner of one of Missouri's greatest herds of Jacks and jennets, has claimed March 20 as the date of his annual Jack and jennet sale. One of the best lots of Jacks and jennets ever sold on Clover Leaf Farm will be cataloged for this sale, including a number of outstanding herd headers.

H. T. Hineman & Sons, of Dighton, Kan., the well known breeders of Percheron horses and mammoth Jacks, write that their herds are doing well. This is the home of Kansas Chief, the grand champion Jack at the Panama-Pacific Exposition, San Francisco. They have at this time a very fine lot of Jacks, some of them weighing up to 1,240 pounds. They report a good demand for high class Jacks at very satisfactory prices.

Bruce Saunders, proprietor of Banner Stock Farm, Holton, Kan., reports that his fine herd of Jacks is doing well and that inquiries indicate a good demand for strictly high-class Jacks and jennets. The herd of Jacks on Banner Stock Farm is one of the good ones.

### JERSEY CATTLE.

#### JERSEY CATTLE AND CHESTER WHITE HOGS

Two registered Jersey bulls ready for service. Richly bred.

DORNWOOD FARM, Route 1, Topeka, Kan.

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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 Oakland, 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.

#### SUNSET "CORRECT TYPE" JERSEYS

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

#### 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 7941 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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First Register of Merit herd in Kansas—Established 1878. Oakland Sultan, first Register of Merit sire in Kansas, is dead. Last chance to get one of his daughters. \$100.

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JERSEY BULL CALVES—Two fine bred ones, 6 months and 1 month of age. Priced to sell. For description and price write A. W. Nickols, 603 North D St., Indianapolis, Ia.

### 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.

A. E. SISCO, Route 2, TOPEKA, KS.

#### DUROC JERSEY HERD GILTS

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.

H. D. PLUMMER - LONGTON, KANSAS

#### Bred Sows and Gilts

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.

W. R. HUSTON - AMERICUS, KANSAS

#### BIG-TYPE HEAVY-BONED DUROCS

Bred sows and gilts by Blue Ribbon Model, first prize winner at Iowa, Minnesota and South Dakota, 1911. Bred to Illustrators Jr. and Col. Gano Again.

CHAS. CHRISTIANSON, AKRON, IOWA.

#### DUROC BOARS AND BRED GILTS

Large, smooth, easy-feeding type. From champions Long Wonder, Defender, Superba and Golden Model breeding. Also fall pigs. Everything immune.

JOHN A. REED - LYONS, KANSAS

#### BOARS! BOARS! BRED GILTS!

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

G. M. SHEPHERD - LYONS, KANSAS

#### GUARANTEED IMMUNE DUROC BRED GILTS

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.

FRANK J. HUETTENEYER, Lohman, Mo.

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



**SHORTHORN CATTLE.****CEDAR LAWN SHORTHORNS**

For Sale—A number of choice bull calves from 8 to 16 months old, by Secret's Sultan 363833 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.

S. B. AMCOATS - CLAY CENTER, KAN.

**SPINGDALE SHORTHORNS**

For Sale—Ten choice Scotch topped bulls from 8 to 16 months old. They have size and quality. My price is right. Try me.

A. A. TENNYSON - LAMAR, KANSAS

**Tenneholm Shorthorns**

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.

E. S. MYERS - CHANUTE, KANSAS

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Vallant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

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**HILL'S SHORTHORNS**

Two choice Shorthorn bulls. One red, ten months old, sired by Battle's Albion 399451. One white, eight months old. Extra fine and priced to sell.

C. E. HILL - TORONTO, KANSAS

**Sycamore Springs Shorthorns**

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

**Cedar Heights' Shorthorns**

Eight head of pure Scotch and Scotch-topped bulls for sale, ten to sixteen months old. Reds and roans. Phone 59-N-1.

HARRY T. FORBES, Route 8, Topeka, Kan.

**Shorthorns**

20 bulls and heifers sired by Duchess Searchlight 848529, a 2,500-pound bull, and from cows weighing 1,400 to 1,600 pounds. Good milkers. Come or write.

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For Sale—Fifteen pure Scotch and Scotch-topped cows and heifers. Five pure Scotch and Scotch topped young bulls. Prices reasonable. Come and see them.

H. H. HOLMES - GREAT BEND, KANSAS

**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

**HEREFORD CATTLE SALE**

Perry Bros. and J. O. Southard will sell 200 head of registered Hereford cattle on February 5, 1916, in Council Grove, Kansas. Address Perry Bros., Alta Vista, Kansas, or J. O. Southard, Comiskey, Kan., for catalogs.

**Breeders' Directory**

**PERCHERON HORSES.**  
M. E. Glendon, Emmett, Kan.  
**ANGUS CATTLE.**  
Geo. McAdam, Holton, Kan.  
**SHORTHORNS.**  
E. E. Heacock & Sons, Hartford, Kan.  
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.  
**POLAND CHINA HOGS.**  
Wm. M. Dixon, New Florence, Mo.

**RED POLLED CATTLE.****RED POLLED BULLS**

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

E. E. FRIZELL, Frizell, Pawnee Co., Kan.

**Goburn Herd Red Polled Cattle**

A few choice bulls. Eight extra good two-year-old stallions for sale at reasonable prices.

MAHLON GROENMILLER, Pomona, Kan.

**RED POLLED CATTLE**

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

AULD BROTHERS, FRANKFORT, KAN.

**RED POLLED CATTLE.**

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

I. W. FOULTON - MEDORA, KANSAS

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**HORSES AND MULES.****Home of the Giants****Fifty Head of Jacks and Jennets**

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MARCH 15.

Catalogs out Feb. 10

BRADLEY BROS.

Warrensburg - Mo.

**Belgians and Percherons**

A few extra good Belgian and Percheron Stallions and Mares from two to six years old. All priced reasonably. Come and see them.

W. H. BAYLESS & SONS

Blue Mound, Kan.

**FAIRVIEW STOCK FARM**

Home of World's Grand Champion Jack, Kansas Chief 9194

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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**PRAIRIE VIEW STOCK FARM**

Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for \$500 to \$600 than most speculators can for a thousand. Come and see for yourself. They must sell.

E. BOEN, LAWSON, MO.

38 MI. N. E. of K. C. on C. M. & St. P.

40 MI. S. W. of St. Joe, on Santa Fe

**Rivrside Stock Farm**

Offers one Belgian stallion; 5 years old next May; dark bay; weight 1,950; gentle; broke single and double; sure breeder; good style, action and looker. Also one stallion, 2 years in May, weight 1,400. Both from imported sires and dams. If interested, write

W. J. FITZGERALD & SONS,

Dodge City, Kansas.

The Champion Breeder—Missouri Chief 8365

Sire of the world's grand champion Jack, Kansas City 8743, in public service at our ranch south of Ellinwood. Excellent facilities for handling any number of healthy jennets. Write us for list of winnings of his get. Most liberal terms and other information about this sire possessing excellent size, quality, bone, finish, and unexcelled style and action. Winner first at Kansas State Fair, Hutchinson, 1915.

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Percheron Stallions and Mares

For Sale. Imported and home bred. Prices reasonable. Extra good individuals of both sexes. Come and see them.

FRED DAUBER, Route 3, Meriden, Kansas.

25—SADDLERS, PERCHERONS, STAND-ARD BRED HORSES AND JACKS—25

Ask for Catalog.

OSCAR EDWARDS & SON, DE SOTO, MO.

Jefferson County.

**Imported Percheron Stallion**

For Sale—Three years old, black, all O. K. Insurance company values him at \$1,000. Will take less.

ED SCHIPPEL - SALINA, KANSAS

ONE HUNDRED

Registered Percheron, French Draft, Belgian and Shire stallions and mares for sale cheap.

A. LATIMER WILSON, CRESTON, IOWA.

THIRTY HEAD MAMMOTH JACKS

And Jennets for sale. The big kind. Priced to sell.

J. D. HOLMAN - CURRYVILLE, MO.

SHIRE STALLIONS—Registered, well bred, first class stock.

JAMES AULD, Wakefield, Clay Co., Kansas

Imported Percheron, Belgian and Coach Stallions. Good Jacks, \$450 up.

ILLINOIS HORSE CO., Good Black, Des Moines, Iowa.

**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.

**BERKSHIRE HOGS.****BIG-TYPE BERKSHIRES FOR SALE**

Sired by grand champion boars of Illinois and Missouri State Fairs.

Also S. C. Black Minorca chickens.

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**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.

J. M. NOLAN - - - - - PAOLA, 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 eyes; one black mare, three years old in April; stud colt, 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 meaty 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**

W. 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.

**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, 14½ to 16 hands high, well broke and quick performers. Good herd of registered jennets headed by large Spanish jacks.

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

Rice, County.

**HIGH CLASS JACKS**

We offer 25 head to select from. Herd headed by Mo. Chief's Boy 6815. One imported gray Percheron stallion, first prize at Kansas State Fair. Write or phone us.

LOUIS MILLS & SON, Alden, Kan.

**JACKS AND JENNETS**

10 Large Mammoth Black

Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. A few good jennets for sale. Come and see me.

PHIL WALKER, Moline, Elk County, Kansas.

**Jacks for Sale**

I have three good young jacks for sale and worth the money. Also a few very fine jennets.

JOHN A. EDWARDS

Englewood - Kansas

Reg. Percheron Stallions—Twenty-nine black ton and 2,200-pound 4 and 5-year-olds. 44 black coming 3's, 41 black coming 2's, 29 registered mares for sale. 19 Belgian stallions. Just above Kansas City.

FRED CHANDLER PERCHERON FARM

Route 7, Charleston, Iowa

**JACKS FOR SALE.**

Seven head of big mammoth jacks, from two to seven years old. Would take some White-Face heifers in exchange. Jacks guaranteed as represented.

PHIL HANNUM, JR. - CARTHAGE, MO.

Home Phone 817 Black.

**DUNHAMS' PERCHERONS**

For Fifty Years the Best.

Send for fine photographic catalog.

DUNHAMS

Wayne, Dupage Co., Ill.

**PUBLIC SALE OF REGISTERED JACKS & JENNETS FEBRUARY 15, 1916****15 - HEAD - 15**

Three jacks and eight jennets of breeding age. Some extra good individuals, and all of very best blood lines. For catalog address

P. E. MOSS, Bronson, Kansas  
Auctioneers—Cols. R. L. Harriman and L. D. Long.

**HARRIS BROS. 90 PERCHERONS 90**

Sixty Mares and Fillies.

Thirty Stallions, from weanlings to five years old

At live and lot live prices.

Route 6, GREAT BEND, KANSAS.

**PERCHERON STALLION AND JACK.**

For Sale—Black registered Percheron stallion, weight 1,900, sound in every way. Also 1,100-pound Missouri jack, black with white points, well broke and good performer. They are priced to sell.

M. Reser, Jr., Route 13, Rossville, Kansas.



## 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.

## POLAND CHINA BOARS AND GILTS

A few serviceable boars and bred gilts for sale. Send for my bred sow sale catalog. Sale will be held March 1 at Dearborn, Mo., on electric line out of St. Joseph. Write.  
CLARENCE DEAN, R. D., WESTON, MO.

## 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.

## OLD ORIGINAL SPOTTED POLANDS.

Spring boars, fall pigs, bred sows. Bargains.  
A. S. Alexander, Route 2, Burlington, Kan.

## 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

**BRED EWES.**  
Registered Shropshires to lamb March and April. Bred to son of imported Ludlow King, sire of state fair champions. Also rams. Eighty miles north St. Joseph, Mo.  
C. W. CHANDLER, Kellerton, Ia.

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## 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.

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## Live Stock and Real Estate Auctioneer

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

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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.

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That is Our Business. Let us make your cuts for sale catalogs, sale bills, letter heads, and cards. Send your order Write for information.

## TOPEKA Engraving Company

ARTISTS AND ENGRAVERS

SIX TWENTY FIVE JACKSON STREET Topeka, Kans.

H. D. Plummer, of Longton, Kan., is a young man who is making a great success with pure-bred Hereford cattle and Duroc Jersey hogs. Mr. Plummer lives on his 320-acre farm near Longton. He has made great progress with the Polled Hereford cattle and at this time has about fifty cows of this breed. He finds a ready market for all his bulls at good prices just as soon as they are old enough to ship. Mr. Plummer says he cannot keep a bull calf on his farm until he is two years old unless he refuses to price him. A feature of the herd at this time is the large number of choice Duroc Jersey bred gilts. They are all bred for May farrow. These gilts are sired by Klondyke by Good Enough by old Klondyke and out of sows by Graduate Col and other good boars, and are bred to a grandson of B and C Col.

The American Shorthorn Breeders' Association recently decided to offer \$250 in cash and three loving cups as premiums to be awarded to the Shorthorn cattle consigned to the Central Shorthorn Breeders' Association sale to be held at Kansas City on April 5 and 6. The classification will be as follows: Bulls two years old and over, senior yearling bulls, junior yearling bulls, and bull calves under one year old. The same classifications will prevail in the female class. Premiums will also be offered for champion bull and champion cow in sale.

For many years the problem of the small breeder in cattle who does not have a sufficient number in his herd to attract buyers from long distances, has confronted the cattlemen of Kansas. In order to encourage the small breeder the Animal Husbandry department of the Kansas State Agricultural College has inaugurated the first annual sale of Kansas Hereford breeders to be held at Manhattan on Friday, March 3, 1916. All of the cattle that have been consigned are inspected by some member of the animal husbandry force before being accepted. This precaution has been taken in order that the sale may not be handicapped by cattle that are either inferior in type or have not had an opportunity to develop as they should. Nearly one-half of all those consigned have come from the Blue Valley herds, which have gained a local reputation for breeding cattle of superior merit. They are William Acker, Vermillion; Fred R. Cottrell, Irving; Drennan Bros., Blue Rapids; Howell Bros., Herkimer; Joseph F. Sedlacek, Blue Rapids; C. G. Steele, Barnes, and S. W. Tilley, Irving. Rooks County is represented by C. G. Cochran & Sons of Plainville; Wabunsee County by Henderson Bros. of Alma and J. B. Shields of Lost Springs; Lyon County by C. F. Peterson of Parker, and Woodson County by W. J. Brown and T. I. Woodall of Fall River. In the forenoon of sale day the cattle will be placed in four classes, as follows: Bulls two years old or over; bulls under two years old; cows two years old or over; females under two years old. This is being done in order to make the sale educational as well as profitable in other ways. The date selected follows immediately after the sale at Kansas City and immediately precedes the sale at St. Joseph.

Shulthis, Robinson & Shultz, of Independence, Kan., owners of Albechar Holstein farm, are among the earnest workers for better dairy cattle in Kansas and they now own one of the great herds of Holsteins in this state. They have one of the well equipped farms with modern barns and conveniences for handling their herd. The head of their herd is Sir Juliana Grace De-Kol, dam's butter record 365 days 924 pounds, milk 22,087 pounds. Record of sire's dam as three-year-old, 1,021 pounds butter in 365 days and 3,000 pounds butter in three years. Among the cows of this great herd are American Topsy with a seven-day record of 23.27 pounds butter and with an average of 80 pounds of milk per day; Beryl Queen Johanna, a three-year-old, with a seven-day record of 17.46 pounds butter; Aurora, Plebe Korndyke, 20.33 pounds; Plebe Oak Colantha, 22.22 pounds; Princess Alta Gerster DeKol, 22.83 pounds, and a number of others with like records. Their herd is in the class that always produces profit.

Charles H. Murray, of Friend, Neb., who is one of the leading Chester White breeders of that state, reports that his herd is doing well. Mr. Murray is secretary-treasurer of the Nebraska Chester Breeders' Association and has built up a herd of that breed that has attracted the attention of swine breeders throughout the corn belt. He has the big, high quality, easy feeding type that is profitable and has bred fifty head of the top gilts of his large herd to go in his annual bred sow sale, February 17. The gilts are bred to the silver cup winner at Lincoln, 1915.

M. A. Draper, Sylvia, Kan., owner of good herds of Polled Durham and Shorthorn cattle and Poland China hogs, announces that his postponed sale of these breeds will be held on Saturday, February 19. Thirty-three head of choice Shorthorn and Polled Durham cattle and fifty head of richly bred big-type Poland Chinas will go in this offering. The entire offering is of the breeding and type that makes the profitable kind for the farmer and feeder.

Fred Chandler, of Charlton, Iowa, owner of the noted Chandler Percheron Farm and herd of Percheron horses, reports his herd in fine condition and says he has the best lot this year in the history of his herd. At this time there are on the farm twenty-nine black Percheron stallions that will weigh from 2,000 to 2,200 pounds each, all four and five year olds. The total number of stallions in the herd is 100 head, in addition to the large number of choice mares.

Mr. S. J. Miller, owner of Oakland Stock Farm, Chillicothe, Mo., reports a good demand for high class Percheron and Jacks. The herds of Percherons and Jacks on Oakland Farm, are among Missouri's best. The young Percherons and Jacks on the farm at this time including twenty-two head of two-year-old Jacks are a choice lot. This Jack was raised on that farm and is a splendid individual.

Catalogs are out for E. M. Wayde's Poland China bred sow sale to be held at Burlington, Kan., February 29. This year Mr. Wayde has cataloged forty head of richly bred sows and a few choice fall boars. The April farrow, also ten choice fall boars. The sows and gilts will be bred to Orange Wonder and Big Tecumseh, two of the good sires of the breed. The offering cataloged is a very useful lot of sows and are the kind that are profitable.

Harry T. Forbes, of Cedar Heights Farm, Topeka, one of the leading Shorthorn breeders of this state, reports a brisk demand for high-class Shorthorn bulls. He also reports sales of choice bulls to the following parties during the past ten days: H. M. Bonham, Stanley, Kan., and Peter Maxton, Rydal, Kan., each purchased a bull out of Apple Blossom dams, tracing to imported Flora; John Hyde, Alta Vista, purchased a fine calf out of Lorraine 6th, tracing to imported Elizabeth. The young bulls in Mr. Forbes' herd are a choice lot, including some Scotch-topped bulls, also one outstanding Scotch bull out of a Bloom dam and carrying the blood of Choice Goods and Avondale.

Catalogs are out for the thirty-seventh annual sale of Jacks and Jennets to be held at Smithton, Mo., March 7 and 8 by L. M. Monsees & Sons. One hundred Jacks and Jennets have been cataloged for this two days' sale, and the offering will include most of their Panama-Pacific show herd, and will include grand champions and herd leaders. The Jennets will be bred to World's Fair grand champion, Orphan Boy 696 and Limestone Monarch 3254, Missouri State Fair grand champion and Panama-Pacific Exposition reserve champion.

When writing advertisers, please mention KANSAS FARMER.

## 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 Julian Grace De Kol and King Hengerveld Model Payne.  
Sir Julian 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 grandmothers. 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.

## HOLSTEIN FRIESIAN 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 & ROBISON, 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. ROBISON - 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

FOR SALE—Holstein-Friesian A. R. O. bulls. One A. R. O. 15.78 pounds butter cow, gave 12,386 pounds milk in 292 days, will be fresh December. Price, \$275.

## G. Regier &amp; Sons

WHITEWATER - KANSAS

## 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 Artis Pontiac Abbekerk No. 136382 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, KAN.

## 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 1 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

## 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.

## HAMPSHIRE HOGS

## ATTBERRYS' HAMPSHIRE

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

## TAMWORTH HOGS.

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

## HOME FARM HOLSTEINS

## OFFER HEIFER CALVES

Five months up to 15 months; grand-daughters of De Kol Burke, Fobes Tritomila Mutual De Kol and Walker Korndyke Segis. Official record and untested dams. Prices, \$95 to \$325.  
W. B. BARNEY & SONS, Chapin, Iowa.

## 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 young Holstein bull ready for service; King Segist DeKol breeding, high producing dam. Also females.  
B. R. GOSNEY - MULVANE, KANSAS

## BRAEBURN HOLSTEINS

A 15-month 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 are breeding Iowana De Cola Walker on daughters of Sir Johanna Payne, King Pieter Lyons and Spring Brook Pearl. What a mistake we must be making!

## TREDICO FARM

Route 44 Kingman, Kansas

Holsteins for Sale High bred registered bulls ready for service  
N. S. AMSPACKER, JAMESTOWN, KAN.

FINE HOLSTEIN CALVES from heavy milkers, \$20 each. Registered yearling bull, \$85. Edgewood Farm, R. 3, Whitewater, Wis.

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.

## GUERNSEY CATTLE

THE GUERNSEY is popular among the dairy-men who appreciate that economical production, richness and fine flavor of products lead to larger profits.

Try Guernseys and be satisfied. Guernsey Cattle Club, Box 3, 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.

MENTION KANSAS FARMER WHEN WRITING ADVERTISERS.



## E. M. Wayde's Poland China BRED SOW SALE

—AT FARM NEAR—

Burlington, Kansas, Tuesday, Feb. 29

40 - Head Bred Sows & Bred Gilts - 40



Bred for early March and April farrow to my herd boars, Orange Wonder by Big Orange, and Big Tecumseh, two extra large boars with size and quality. All large type breeding from the very best families.

### Ten Fall Boars Ready For Service

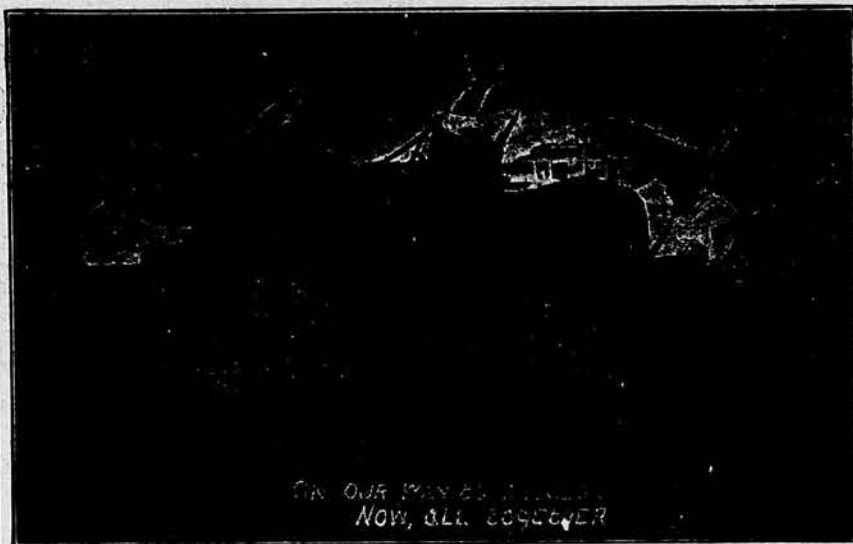
Send for catalog and come to my sale. I guarantee a good offering of large Poland China bred sows and bred gilts. O. W. Devine will represent Kansas Farmer at sale.

**E. M. WAYDE, Burlington, Kan.**  
Auctioneer—Jas. W. Sparks.

## 37th AUCTION SALE AT LIMESTONE VALLEY FARM

Two Days' Big Sale, Tues. and Wed., March 7-8

ONE HUNDRED HEAD OF HIGH-CLASS REGISTERED MAMMOTH  
JACKS AND JENNETS



Including most of our Panama-Pacific Exposition show herd. Prize-winning champion, grand champions, and herd headers, and jennets bred to the World's Fair grand champion, Orphan Boy 696, and Limestone Monarch 3254, Missouri State Fair grand champion and Panama-Pacific Exposition reserve champion, the two greatest show and breeding jacks in the world.

We guarantee this the best offering of the year from any firm, breeder or company.

Nothing priced or sold privately after catalogued, January 1, 1916. Every animal guaranteed as represented. Sale under cover with comfortable seats. Special train from Sedalia to Smithton and return on each day of sale. Free conveyance from Smithton to sale.

If interested, please write for fine illustrated catalog, as we can send catalogs only to those who write for them.

Six miles east of Sedalia and two miles north of Smithton, Pettis Co., Mo.

**L. M. MONSEES & SONS,**

**Smithton, Mo.**

## THOMPSON BROTHERS

Seventh Annual Duroc Jersey

## BRED SOW SALE

Wednesday, February 16, 1916

Sale on John Dinnon Farm Two Miles Northeast of Stockdale and Four Miles South of Garrison, Kansas.

40 - Head of Tried Sows, Fall Yearlings and Spring Gilts - 40

### ALL IMMUNE

Our offering is by such boars as Chief Wonder, King Raven, Tatarax, B Valley Chief, Crimson Lad, Mary's King, Col. Harris, Select Chief and Crimson Wonder King. They are bred to Select Chief, Col. Harris and Col's Best.

This is not a closing out sale, but we are greatly reducing our herd and, therefore, putting into this sale more good tried sows than we have ever done before. Every tried sow has been a good producer. The offering will be presented in the best of condition, having been fed a ration consisting of corn, shorts, bran, oil meal, tankage, and alfalfa hay, since they were taken off pasture. You will find in this lot a good, useful, well-bred lot of sows and gilts, some good enough to go into the best herds in the state.

O. W. Devine will represent Kansas Farmer at this sale. Send for catalog at once.

**THOMPSON BROS.,** Garrison, Kansas

Auctioneers:

Cols. L. R. Brady, Jas. T. McCulloch, and Floyd Condray.

## POLAND CHINA BRED SOW SALE

HUTCHINSON, KANSAS

SATURDAY, FEB. 26

TWENTY TRIED SOWS BRED TO BIG HADLEY JR.



**BIG HADLEY JR.**

The Grand Champion Poland China Boar of Kansas, 1915, and First in Class Wherever Shown.

**Fifteen Head of Fall Yearling Gilts  
Twenty Head of Large Spring Gilts**

A number are sired by Big Hadley Jr., a number of the fall gilts are out of full sisters to Big Hadley. Will be bred to Columbus Defender, second in class and second in futurity at Nebraska State Fair, 1915.

This is positively the best offering we have ever sold and we guarantee them in every way. Come to our sale and you will not be disappointed. Catalogs are ready to mail out. Send for one today to

**A. J. ERHART & SONS, NESS CITY, KAN**

SALE AT HUTCHINSON, KANSAS

AUCTIONEERS—Col. J. W. Sparks, Col. John D. Snyder, Col. Lafe Burger



# \$2 Brings You This Big LIFE-TIME GUARANTEED NEW BUTTERFLY Cream Separator

**On 30 Days' Trial** At Our Risk

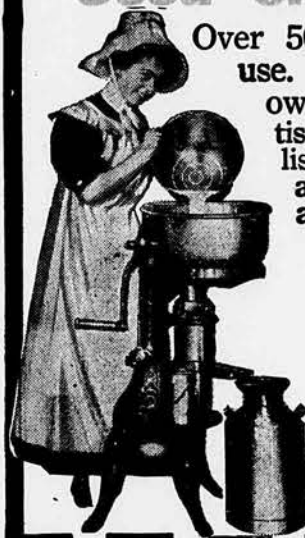
Then if pleased you can keep it and pay only a little each month out of your extra cream profits until the machine is paid for. In this way the separator itself will earn its own cost—and more before you pay. You won't feel the cost at all. If you do not need a large capacity machine you can obtain a smaller one on payments as low as

**Only \$2 a Month**  
No Interest to Pay—No Extras

The prices we quote include everything. You have no extras to pay—no interest. You buy direct from the manufacturer and save nearly half. We give **30 days' trial** on your own farm. During this time if you don't find the New Butterfly the lightest running, easiest cleaning and best all around separator on the market (regardless of price), you don't need to keep it. Just send it back at our expense and we will refund what you paid, including all freight charges both ways.

**Used on More Than 50,000 Farms**

Over 50,000 New Butterfly Cream Separators are now in use. No doubt some of them right in your own neighborhood. We have been advertising in this paper for years—the publishers know us and know we do just as we agree. Read these letters from just a few of thousands of satisfied owners:



**Seven Years Old—Runs Like New**  
"The Butterfly Separator we purchased of you about seven years ago is still doing fine work. I recently took it apart and cleaned the gears with coal oil. Now it runs like a new machine and works as well as ever."  
H. S. Stonebraker,  
Kokomo, Indiana.

**Twelve-Year-Old Girl Runs It**  
"We would not do without our Butterfly Separator or exchange it for all the other machines we have seen. Our little girl, 12 years old, runs it like a clock!"  
Mrs. P. E. Rude, Ashland, Wis.

**Made \$61.39 More from Same Cows**  
"We made \$78.61 worth of butter before we had the machine and in the same length of time we made with the Butterfly Separator \$140.00 worth of butter from the same number of cows."  
Thos. S. Kermosky,  
Point Aux Pius, Mich.

**Lighter Running and Easier to Clean**  
"We don't see how we got along without the New Butterfly as long as we did. It runs lighter, is easier washed and kept clean than the higher priced machines in this neighborhood."  
R. E. Morrison,  
Ollie, Mont.

Top of  
Milk  
Tank  
Is  
Only  
38 in.  
From  
the  
Floor

Skimming  
Device  
Made of  
Aluminum  
One-piece  
Easily  
Cleaned

## NEW BUTTERFLY CREAM SEPARATORS

are the only ones having the patented one-piece aluminum skimming device, very easy to clean. Light-running vertical shafts, frictionless pivot, ball-bearings bathed in oil; low-down, self-draining milk tank; closed drip-proof and dust-proof bottom. Simplest and most sanitary machine on the market. Send for Catalog Folder.

**Fill Out Coupon  
and MAIL TODAY**

Why not get one of these big labor-saving, money-making machines while you have the opportunity to do so on this liberal self-earning plan? Let us send you our big new illustrated Catalog Folder showing all the machines we make and quoting lowest factory prices and easy payment terms. We will also mail you a book of letters from owners telling how the New Butterfly is helping them to make as high as \$100 a year extra profit from their cows. Sending coupon does not obligate you in any way. Write today.

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Factories: 2181 Marshall Boulevard, CHICAGO, ILL.

**ALBAUGH-DOVER CO.,**  
2181 Marshall Blvd., Chicago

Gentlemen:—Without obligation on my part, please mail me your **free** Catalog Folder and full particulars regarding your special easy payment offer on the New Butterfly Cream Separator.

I keep.....cows.

Name .....

P.O.....

State.....R.F.D.....