

# KANSAS FARMER

For the improvement of the Farm and Home

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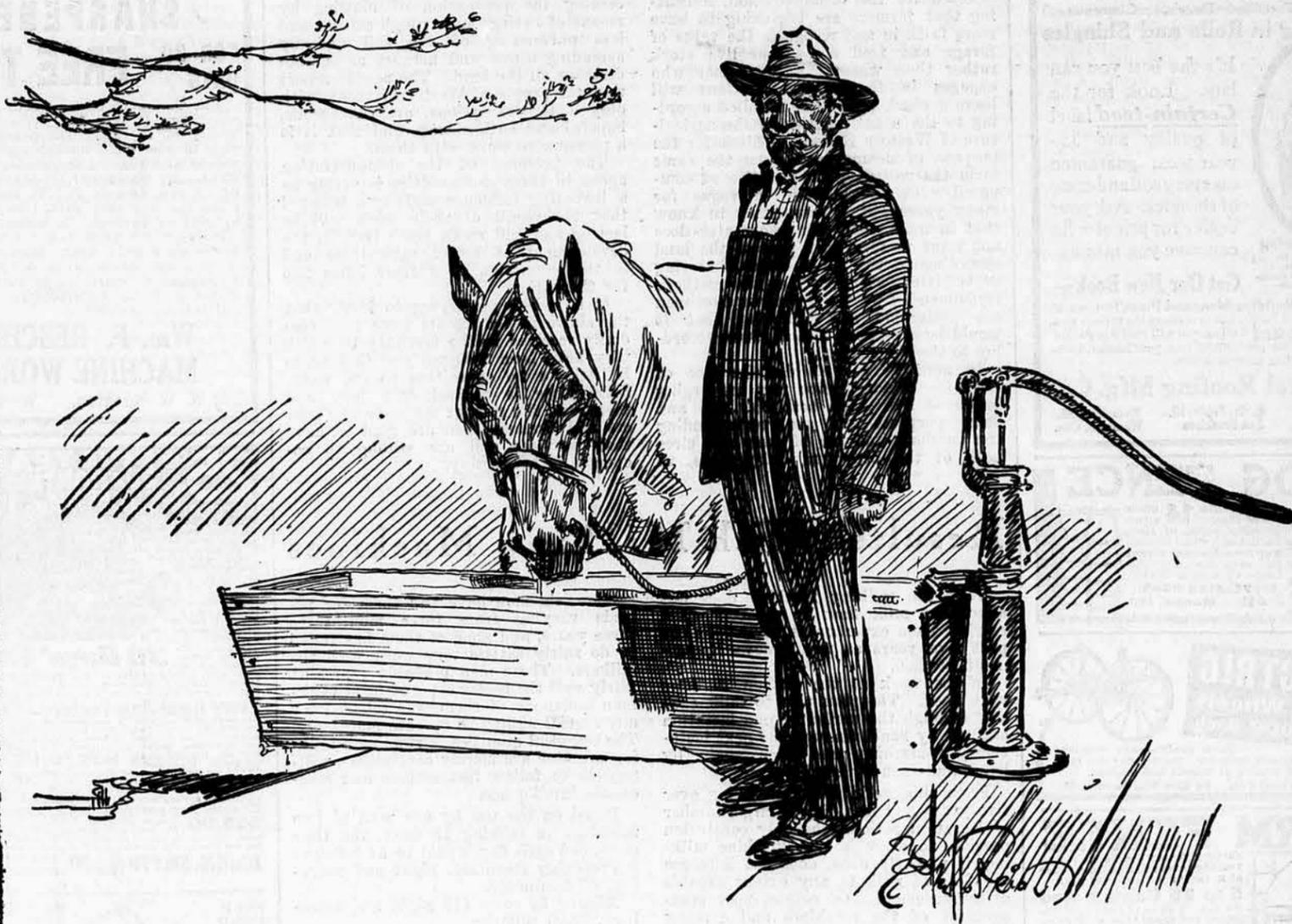
**T**HAT man is idle who might be better employed.

Work is given to man—not because the world needs it but because he needs it. Work makes the man; shirking it, the rascal. He who is employed ministers to humanity and hears his own sermons. Work without work is drudgery. Earth is where commerce lives, the sky where constellations shine; and some incentive besides the dollar is needed to save us from failure.

A man may be worth a million and be worth nothing else. His check may be honored everywhere—himself nowhere. Great wealth subordinates a man to his possessions—makes him a valet to look after his own luggage, while some men are so dishonest that you feel like counting your fingers after shaking hands with them.

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**Four Important Demonstrations**

Western Kansas Farmers Will Co-operate With Demonstration Agents in Best Agricultural Practice

ONE hundred twenty Western Kansas farmers are this season co-operating with three district demonstration agents in four fundamental demonstrations specifically adapted to the requirements of what is believed to be the best agricultural practice in the western one-third of Kansas. This big co-operative demonstration should make a deep impression on the future of the agriculture of that section. The agents looking after this work are W. A. Boys, Hays, whose district is along the line of the Union Pacific from that point to the west line of the state; Clyde McKee, Dodge City, whose district is along the line of the Santa Fe to the western boundary of the state; and G. E. Thompson, Norton, whose work is along the line of the Rock Island from Agra to Kanorado. Each of the above agents is co-operatively employed by the Kansas Agricultural College, the Federal Department of Agriculture, the Rock Island Railroad co-operating in the case of Mr. McKee, and the Santa Fe in the case of Mr. Thompson.

The agents above named were recently in conference at Manhattan with the state leader of demonstration work, Edward C. Johnson of the extension division of the Kansas Agricultural College. At that conference it was decided that each agent would undertake definite demonstration work in soil and crop management, each agent having already secured the co-operation of 40 selected farmers who would handle their land according to the recommendations of such agent. At the conference the four fundamental demonstrations were planned as follows: First, spring plowing and summer fallow for wheat; second, spring listing and summer fallow for wheat; third, early disking and listing to the inter-tilled crops—kafir, milo, sweet cane, or corn; fourth, early spring listing followed by listing to kafir, milo, sweet cane, or corn.

The two latter demonstrations are by far the most popular with those farmers selected for the demonstration, indicating that farmers are beginning to have more faith in and recognize the value of forage and feed crops and live stock rather than wheat. Each farmer who engages in these demonstrations will leave a check plat to be handled according to the usual practice in the agriculture of Western Kansas. This is for the purpose of demonstrating on the same farm the recommended practice as compared with the practice in vogue for many years. It is interesting to know that in most cases the co-operator does not want to farm any part of the land according to the old methods, knowing or believing, at least, that the methods recommended by the demonstration men are preferable and believing that it would be a distinct loss to farm according to the old methods.

In addition to this definite line of work the demonstration men are urging improved live stock both for beef and dairy purposes and are recommending the purchase and use of pure-bred sires both of the beef and dairy type, to

breed up and increase the herds already in existence. There seems to be a tremendous interest in dairy and beef cattle, but there is little money or credit to invest in stock. No one, however, is asked to go into dairying on a large scale immediately, but to secure two or three good animals from which to start a herd and then to develop the herd slowly and naturally from this foundation stock. This conservative method is urged in order that there may be no failures on the part of the people who are over-enthusiastic about dairying and who know nothing about the business. The same is true in the recommendation of the development of the beef industry.

The demonstration men are also active in pushing the silo propaganda wherever there are a sufficient number of cattle to justify the placing of a silo on the farm. As a result of less than six weeks work, one of the men reports that at least seven silos will be built on his recommendation; one five and the other four. One of these agents is making contracts for the raising of seven carloads of pure seed both of kafir, Gold Mine millet, Sudan grass and milo; the seed to be sold to the Department of Agriculture for distribution in small quantities later throughout the district. The other two agents are also emphasizing the value of pure seed and careful seed selection in order to produce early strains of milo, kafir and other sorghums.

In addition to these definite recommendations the men are working in co-operation with schools in planning for definite demonstrations on small plats and in organizing boys' and girls' clubs and contests. They are also continually called upon for farm advisory work, and this has already developed to such an extent that all the requests cannot possibly be handled by one man for any one of the districts. Then they are studying the problem of soil blowing and giving all available information concerning the prevention of blowing by means of listing, more rough culture and less pulverizing of the soil and by spreading straw and manure as surface dressing on the land. The agents report that the people of Western Kansas, with only a few exceptions, are courageous, hopeful and enthusiastic, and that it is a pleasure to work with them.

The presence of the demonstration agent in these communities is acting as a leavening influence and it is believed that the result of their work will be lasting and will mean much both in the development of better agriculture and in the promotion of a finer home life for the region.

It is indeed gratifying to know that the above named agents have been cordially received in the territory to which they have been assigned and that there is little or no opposition to the work. Indifference is noticed only here and there, and the greater majority of farmers and business men are glad to have their services and are willing to co-operate in every way.

**Results With Milking Machines**

That the milking machine does not affect the milk flow is one conclusion reached from experiments carried on the past five years at the Geneva Experiment Station.

In the work at the station 29 cows were used. The plan was to milk each cow through the period of one lactation entirely by hand, through the next lactation by machine, and then again by hand, and then by machine, etc.

From this work, then, extending over five years and including a large number of lactation periods, the only conclusion possible to draw is that machine milking, if properly done, does not influence the flow of milk to any extent capable of measurement. Of course, poor management of the machines and careless handling might bring down yields; but so also a careless, inefficient hand milker may dry off a good cow in a few weeks.

It is undoubtedly true that not every good hand milker would be able to handle a machine with equal success; but no remarkable qualities are necessary for efficient machine management. During the tests of the B-L-K machines at the

station, six men have run them for periods varying from three months to three years, and none of them has failed to do fairly satisfactory work with the milkers. These men probably represent fairly well the better class of farm workman and none of them was selected for any special ability to operate machinery. The essential qualities in running a milking machine are merely carefulness, willingness to follow instructions and reasonable intelligence.

Based on the use by one man of two machines in milking 15 cows, the time consumed each day would be as follows:

- Preparing machines, night and morning, 6.72 minutes.
- Milking 30 cows (15 night and morning), 88.20 minutes.
- Rinsing machines at barn, night and morning, 15.36 minutes.
- Cleaning teat-cups and tubes (done weekly), 2.61 minutes.
- Washing remaining parts of machines, 8.31 minutes.
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- Average time required to milk one cow, 4.034 minutes.

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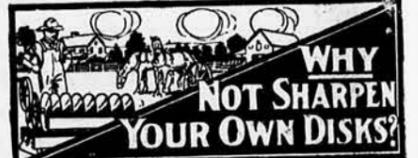
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# KANSAS FARMER

With which is combined FARMER'S ADVOCATE, established 1877.

Published weekly at 625 Jackson St., Topeka, Kan., by THE KANSAS FARMER COMPANY.  
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### EFFICIENT ORGANIZATION.

The foremost co-operator of the day is Henry J. Waters, of Kansas. It runs in our mind that he is the safest co-operator of the present time. He has studied the subject of farm co-operation from all angles and in our judgment has drawn conclusions the practice of which will prove permanently successful and beneficial. He, like every other man who has thought deeply on the subject, believes that co-operation in selling farm products will result in an increased profit and a greater prosperity to the farmer. He does not believe that these results can be accomplished in a day. He does think, however, that the movement should be set on foot at once. He believes organization to be the panacea—the remedy that will make things as they ought to be, but this organization must be efficient. Further along this line, in an address in Chicago a week or so ago, he said:

"Four men with improved machinery and the help of science now produce as much food as formerly was produced by fourteen men. Where are the ten? The ten men forced out of the field of production have not found employment that is profitable to society, no matter how profitable it may be to themselves.

"While the farmer has become, through better methods, a much more efficient producer than in other years, something has interfered to deprive him of a large part of the advantage that this increased efficiency naturally would be expected to bring. Something, also, has deprived the consumer of whatever advantages were expected to accrue to him, through these better systems.

"The farmer already is more efficient as a producer than as a buyer or seller, but this does not mean that we should cease to teach him the details of production, else the world would go hungry. We must add to our resources in this direction, equally profound studies of the great questions of marketing products and coining the income into higher standards of life on the farm. Very little can be expected from an organization of men who do not know how to conduct the business or enterprise they seek to control. By 'knowing how' I mean having the best first-hand information always ready. Organized inefficiency will not do."

The facilities for distributing and marketing farm products never were so ample and adequate as at present, yet it is costing more to get these products to the consumer than at any time in the past.

"In my judgment it is a clear case of too large a proportion of those who have quit producing, finding a way to get a living by helping the food products on their way to the consumer. The distribution and sale of typewriters, calico, shoes, ice, dressed beef, evaporated fruits, and other things have been reduced to a definite system and all unnecessary expense eliminated. But the distributing and marketing of farm products still are left to chance. The farmer has been more difficult to organize than any other man.

"The colleges of the country must teach the principles of marketing and distributing and co-operation. The high schools must teach the girls how to buy economically for the farm and teach them, also, the relationship their purchases bear to the development of their community or the state. Efficiency is of transcendent importance on the farm. Without it we might as well have no organization."

Governor Hodges has planned a nice lot of work for the board of administration, the board of control and the board of corrections for the next eighteen months. Each board is to make a complete codification of all the laws relating to its work and the governor proposes to have the boards do the work and get the new codification ready for presentation in the next legislature. Kansas has not had a codification of its statutes since 1868.

Faith may remove mountains all right, but picks and shovels help a lot.

### COUNTY AGENT IDEA GROWING.

The county agent idea is coming into its own. This, in spite of the opposition with which the idea met when it was first exploited in Kansas a year or 18 months ago. We felt at the time that the opposition to the county agent was due—more than to anything else—to the lack of understanding and failure of the farmer to appreciate what the county agent was to do or could accomplish for him. Like everything else, new, untried and not understood, the most staunch supporters were severely criticised. However, in our own mind we are satisfied that the farmers of Kansas are as fully receptive to new ideas as are the farmers of any other state. We are confident this is true politically, and we are strongly inclined to the belief that it is true agriculturally.

In Kansas there have been at work for periods ranging from a year to six months, eight or nine men in the capacity of county agents. These men have had ample opportunity to circulate among their constituents, and they, like other men, have made friends for themselves, as well as for their work, by personal contact with those whom they seek to serve. We have recently been in several of the communities in which county agents are at work. It has been our effort to learn to what extent these men have obtained the confidence and respect of farmers in general. It is gratifying to us, at least, to know that in every instance coming under our observation the county agent is properly regarded as the helper of the farmer. He is not recognized as a dictator. We have had opportunity to learn of the work of one man in particular, and the way in which this man goes at things cannot help but impress the most doubtful.

It has been our contention since the adoption of the county agent idea as essential and beneficial to the agriculture of the state that the success of the agent would depend largely upon the personality of the man and the diplomacy with which he pursued his work, taking for granted, of course, that the man selected would be capable of doing the things expected of him.

In Leavenworth County—the first in the state to have such agent—P. H. Ross, who holds the position, is as busy as it is possible for a man to be. It is apparent that Leavenworth County could well use the services of two or three men as competent as the one they now have. Mr. Ross's whole time is taken up with calls made upon him by those who have expressed a willingness and have obligated themselves as his co-operators. These have first call on his services. Many farmers who want his services but who did not fall into the idea and subscribe their names at the first opportunity are now seeking his advice and assistance. This is a fair example of the favor with which the county agent idea has been met and how it has grown upon the people in Leavenworth County.

Other agents are reporting a gratifying reception at the hands of farmers in their counties and districts. In Montgomery County, for instance, E. J. Macey has charge of the work, and so many in one township wished to join the farmers' club and so co-operate with the agent that a meeting of the farmers was called and those who were to receive the regular visits of the agent were selected by vote. The vice-president of the farmers' club says it was only by this method that hard feelings were prevented. In another county which is organized and awaiting the appointment of the county agent, 125 farmers have already paid the \$5 fee for joining the club and 50 others are on the waiting list eager to join as soon as they can be cared for.

In the case of the district demonstration agents working in the western one-third of the state—one each along the lines of the Rock Island, Union Pacific and Santa Fe—no difficulty whatsoever was experienced in securing the signatures of 40 farmers for each district to co-operate with the agent in the agricultural demonstrations elsewhere reported in this issue of KANSAS FARMER.

Our readers will note that the Agri-

cultural College which has properly assumed the responsibility of selecting county agents for those counties which organize and ask for agents, is not pushing the county agent idea. This, for the reason, first, that it does not have the disposition to force upon the farmers of Kansas those things which are now well started and which will speak for themselves; and, second, because of the scarcity of men who are capable of filling the positions. The fact is that county agents can be supplied for Kansas only to the extent to which men for the positions are available. Men capable of acting as county agents are scarce.

The county agent idea, we believe, has in this state thoroughly proven its value. Having done this, the good news cannot help but spread from county to county, and those farmers and business people in these counties interested in agricultural improvement and uplift will take care of themselves in the matter of organization and will make their demands for men as their arrangements are completed. It has been said that "a little leaven leaveneth the whole lump." The old maxim will prove its truthfulness in the case of the county agent.

### FOR THE HOME.

The home is the important thing. The farm is only the machine which supports the home. Families can camp out with this machine and make of it the most important thing or they can really live in the home and operate the farm machine. The money-making machine can be made to dominate the lives of the farmer and his family until they are glad to look forward to that time when they can retire to the city and live an aimless, useless existence as a rest from a strenuous life.

Or, the farm may be subordinated to the home as a necessary accessory, and the farmer may enjoy the home while he operates the farm, so that the city will have no lure for him. When age compels he can retire on the farm where his active life has been spent and where creative power placed the best environments for the making of the full measure of a man.

Environment influences and the beautifying of the home grounds has more influence upon contentment than can well be measured. It is in recognition of this fact that the Shawnee Alfalfa and Farmers' Institute has arranged with Prof. C. D. Steiner of the State Agricultural College to give his address on "Planning and Planting the Home Grounds" at its next monthly meeting, Saturday, April 26.

This lecture will be illustrated with 60 stereopticon views and will be held in the Topeka Commercial Club rooms. Invitations have been sent to all the Granges of the county and to every school district, in the hope that a proper interest will be shown by a very large attendance.

Inquiries continue to come for the March 1 issue of KANSAS FARMER in which was printed the several articles regarding kafir farming. This issue of KANSAS FARMER is exhausted and copies cannot be supplied. This material will be printed in a booklet for distribution to those who are interested before another kafir planting season. The articles, with the cuts, have been printed in several of the leading weekly papers of the state. The Butler County State Bank, El Dorado, made liberal use of the material and cuts in the preparation of a kafir booklet for distribution among the farmers of Butler County. Readers will recall that Butler is the leading kafir county of Kansas. In fact, kafir gave Butler a conspicuous place on the map—conspicuous, by increasing the wealth of the county through the surety of grain and forage. The kafir booklet prepared by J. B. Adams, president of the above named bank, is an example of the banker's interest in a propaganda which, if extended to other counties through the bankers of such counties, would do much for the agricultural uplift of the state.

### TO PROVE SERUM VALUE.

Farmers in general have in the past entertained with some doubt the value of serum as a hog cholera preventive. It has, however, for years been the belief of many swine growers that the proper use of the serum will prevent cholera. Scientists hold that properly prepared serum, properly administered, is an absolute protection against cholera. However, the latter admit that as handled in many instances its use has proven a failure. It is insisted, however, that the serum, if properly prepared, has not been at fault, but that its use has been improper and consequently ineffective.

Now, to prove the value of the serum and to demonstrate the proper means of administering and handling swine herds after the serum has been administered, the Kansas Agricultural College authorities have undertaken two demonstrations of far-reaching effect and value. The authorities have selected two localities in which it is proposed to secure the co-operation of every farmer for a considerable territory in giving the serum a thorough test. One such locality is in Shawnee County, and the other in Smith County. It is the purpose of the experiment to completely eradicate hog cholera by the use of the serum in each of these two localities, the successful accomplishment of the purpose to demonstrate to the state as a whole, and for that matter to the swine growers of the United States, the efficiency of hog cholera serum properly administered.

Before the arrangements are completed for these demonstrations every hog owner in the territory must consent to co-operate and follow the directions. These will be mainly with reference to sanitary conditions, feeding, etc. The owner must agree to have all hogs vaccinated whether they are sick or not, and he must pay for the serum used. He must keep in close touch with the college veterinarians and furnish information from time to time concerning the condition and health of the hogs. Into each territory the college will send a veterinarian as often as may be necessary to vaccinate all hogs and to suggest such care in handling as he believes best. The salary and railroad fare of veterinarians will be paid by the Agricultural College, but the hog owners are expected, in addition to paying for the serum used, to pay his expenses while in the territory.

It occurs to KANSAS FARMER that these demonstrations, if successful, cannot help being worth millions upon millions to the farmers of Kansas. Even though the demonstrations should not be successful—which is not regarded by us as probable—they will be worth untold value still, because farmers will better know the risk they take in growing swine and can govern themselves accordingly. However, to us it seems that a large part of the value of the demonstration lies outside of their special value to hog growers. They show the practical lines along which an institution such as the Agricultural College is operating. The charge has long been made that all agricultural colleges are in a very great measure impractical, and for this reason are not of great benefit to the farmer. These demonstrations, as well as others we might name but which have from time to time been mentioned in KANSAS FARMER, are of thoroughly practical value, and when the college authorities are so far-seeing and show a willingness to arrange for these and similar demonstrations, those farmers in territories in which the demonstrations are located should be more than willing to co-operate to the fullest possible extent. Such demonstrations are, as a rule, carefully thought out, and it is quite certain that hearty co-operation will not result in financial loss to the co-operators.

As the result of a number of Missouri experiments it was found that seed from pure-bred corn produced on the average 15 bushels per acre more than common dent varieties. The seed used in making these yield tests was taken from the planter boxes of some 30 to 40 farmers, so the test was a fair one.

# THE SILO AND THE BEEF COW

*Silage is the Cheapest and Most Economical Feed For the Beef and Dairy Cow*

By C. S. NEVIUS, Before Kansas Improved Stock Breeders

ANYONE that would not become a convert to the use of silage, after going up against the high-priced feed for the last five years in trying to produce beef, or milk either, at a profit, is either hard to convince or is in too deep a rut to make the change.

As for ourselves, we should not be too hard on those that are slow in making up their minds to build and fill a silo, because for several years prior to 1909 we tried to obtain accurate figures as to the cost of feeding 100 head of cattle on silage. We were pretty well acquainted with the way we were doing it up to this time, as we will give figures to show later on.

Someone told us that it made excellent feed, but it took considerable good hay with it. I reasoned, like others who are reasoning today, that to put corn making 30, 40, or even 50 bushels to the acre in a silo, corn and all, it must make it pretty high-priced feed.

Others said that the cost of filling was a big item. All this held back a prejudiced person from making the start. I asked our college concerning the silo proposition, but they gave me no encouragement. The mystery to me was why the college management had failed to use the silage as the big end of the ration in feeding their show steers and other beef cattle, although I understand they have fed them the past year.

At last I asked a fellow breeder, who had two good silos, his opinion as to the feeding value of silage. His remark was, it saves just one-half the feed. Where he had bought 50 tons of good hay from his neighbors he now could sell 50 tons. To get to the point, this is just our experience. It saves just one-half of the feed, and a lot of work in feeding.

First we will give you very nearly accurate figures as to the cost of the silage in a 150-ton silo. It will take 30 acres, making 25 bushels to the acre. Allowing 50 cents a bushel it would cost \$375. Twenty acres of corn making 40 bushels, or 15 acres of corn making 50 bushels to the acre, will fill the same silo. So the cost is about the same whether the corn makes 20 bushels to the acre or 50 bushels to the acre. But corn making a high yield is best from one point of view, and that is, the cost of cutting is less.

This fall it cost us about 50 cents a ton to cut and put it into the silo. We paid \$2 per day for single hands and \$3 per day for man and team. We used seven teams for seven days, or \$147 for hauling; three single men seven days, or \$42. Power and cutter cost \$60. Thus the cost was \$250 for 450 tons, or a trifle over 50 cents a ton. We have allowed for our teams as well as for those hired. This year we put in 75 acres (the stalk was light), making 450 tons at a cost of \$1,200 for corn in the field and \$250 for filling. This makes the silage a little over \$3 a ton. This year the size of the stalk in proportion with the ears makes the big difference in the cost.

Some may think this a big and expensive job, but what would it cost to put up and handle 450 tons of hay, or to cut and shock 75 acres of corn and haul it in and feed it as you need it?

Now that you have the cost of silage, the next question is, how far will it feed in comparison with hay, shock corn or grain, feeding enough to make a steady gain of 50 to 60 pounds a month? At Glenwood we feed 150 head every day for six or seven months.

When we were feeding dry feed before we built our silos we were feeding one and one-half tons of hay, shock fodder, corn and all, making 20 bushels to the acre, from 43 acres, along with 10 bushels of ground feed, to the young things, the cows in the barns and suckling calves, the show bunch and the young bulls.

You can figure the hay at \$10 a ton, or \$15 a day; shock corn at \$3.50 a day; ground feed at \$5 a day, and that makes it \$23.50 a day for our feed bill.

Some have said we were not heavy enough feeders. Well, we had to shut our eyes to do that much and keep it up. It arrived at the point to quit the cattle (and many did quit) or find cheaper feed.

About this time we began to have good luck with alfalfa, our best and greatest hay feed, and we reasoned, like others do today, that we had found it; that if we could get 150 tons of hay off of 40 acres this would cheapen the feed proposition.

This is just the way two-thirds of our good friends will answer if ap-



"GLENWOOD," FARM HOME OF C. S. NEVIUS, CHILES, KAN.

proached with the silo question. "Oh, we have alfalfa and do not need the silo."

While you have produced a profitable crop of alfalfa from the ground, still you have lost your profit if fed into cattle at the price they have been until recently. Think of feeding three tons of alfalfa to a cow, making her feed bill from \$30 to \$35 for the winter. Compare it with three tons of silage, or \$10 for the winter, and the cow kept in just as good or better condition. You cannot count your profits until all feed bills are paid.

Do not understand me as being against alfalfa, because I am its greatest friend, and I cannot see why every farm that has good land does not have enough alfalfa to fill its place on every farm. Silage and alfalfa make the proper beef or milk ration.

I should not overlook our good red clover where it can be grown better than alfalfa. It will answer nearly the same purpose as alfalfa.

In feeding silage you will save all the labor it took to put it into the silo. It takes only a short time to feed 150 head of cattle with silage. Some think it necessary to have bunks to feed in, but it is not. We feed in the same racks we feed the hay in. Throw it in on top of the hay and you will find hay and all gone. Oats or wheat straw goes the same way.

As for gains made, it is much better than we could ever make on dry feed.

We have weighed our silage to know how much it takes to feed this same 150 head on silage and what hay they need, which is about 500 pounds a day; a little extra feed for the show bunch and the young bulls—about three bushels a day in all. We are feeding less than two tons of silage per day, costing \$6.50. One-half ton of hay is plenty, or \$5 a day for hay. Three bushels of other feed at \$1.50 makes our feed bill \$13 per day—a saving of over \$10.

In other words, we are getting over \$6 a ton for our silage, or \$30 for corn in the field that makes only 30 bushels to the acre. It looks like a big saving to me. In fact it is the only place where we can buy corn in the field at the market price and get one-half thrown in, the stalks being worth as much as the corn.

Our show herd of Shorthorns has been fed on silage as the big end of their feed ration; alfalfa for hay, and extra

feed as we would feed beef steers, except we would use cottonseed cake in feeding steers for market.

Everyone said that our show herd was in better condition and better bloom last fall than ever before. I know we did stand higher up than usual. One of the best fitted herds of Angus shown on the western circuit was fed along the same lines. Silage was used as the bulk of their feed.

I am sure it cuts the expense of carrying our show bunch and young bulls from \$30 to \$60 a month. They are being fed the same way this winter.

There seems to be no worry about the feed question, for we know where to find more at no very great cost.

In a breeding herd it is valuable as a dairy feed. The cows suckling calves give a strong flow of milk and hold in fine flesh and, being a bulky feed, it will not scour the calves like strong and more concentrated feed. That has always been our trouble, to feed our nursing cows heavy enough on grain to hold their flesh without ruining the little calves with the scours, so it is more valuable in this respect for a breeding herd. It is also a great feed for little calves. They will commence to pick the cooked corn, as it is soft to take hold of, and by the time they are two months old they will line up to the trough like yearlings. This is one great point in producing baby beef, to get them started early and keep them going.

We have had the best of success in feeding to our horses. They get about all they want and they relish it very much. Silage with a little hay, oats straw or cane hay, will keep them through the winter at one-half the cost of grain and hay feeding.

We are trying out alfalfa in the silo for hog feed. So far it looks good if not put in too green.

We have found that cane or kafir is best when left to wilt before putting into the silo. We have let cane lay as long as four or five days. Rain will not hurt it. Another way to look at the silo as a money saver is, any feed that will produce as much gain as silage, is worth as much as any other feed that you would use that do not use the silo.

Silage will pay a profit up to \$6 a ton, and it was \$10 last winter. What can be taken from an acre of good corn?

In our case we are compelled to buy corn from our neighbors. We pay the market price and get the stalks thrown

in. We figure and have proved that we get just as much out of the stalks as from the corn, and if this is correct, those that have no silos are standing a big needless waste.

It has been said that the western part of our state has no use for a silo. Any place where kafir or cane can be raised, even every second or third year, could use a silo to a great advantage. Silage will keep, and it would be an insurance against a shortage of winter feed when a bad season comes.

In the first place we were assigned the subject of the concrete silo, as this is the kind of silo we use, and concrete for all buildings is our hobby. We want to make no fight on builders of other kinds of silos, for all are good and have their place, but I do think we should be allowed to stand for the good points of the concrete silo. No false claims will stand for any length of time against the concrete silo. We know, and others know that have tried them, that they are all right in every way.

The solid wall concrete silo well reinforced and properly built will not crack and silage will keep well in every sense of the word, and it needs no insurance against wind, lightning or fire, nor any expense for annual upkeep.

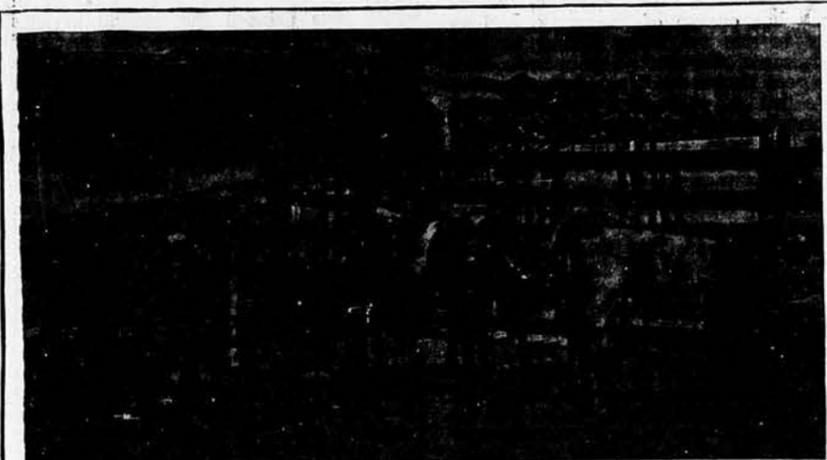
We know of a good number who have them, and you could not get one of them to change for any other kind.

We use a 5½-inch wall, well reinforced. We use the open door from bottom to top, with heavy iron doors. We also use a concrete chute over the doors. We would advise no one to build less than 40 feet high and 14 or 16 feet across. A 16 x 40-foot silo will feed 50 head of cattle for six months, make them grow like they were on grass, and there are no flies to bother. Many make the excuse that they cannot afford to put up a silo, but, if they only knew, they could not afford to be without one. A 150-ton silo will save \$350 in one season, and in counting the labor saved it will be nearer \$400 saved. This is the price of a 14 x 40-foot concrete silo complete and ready to fill.

The question has been impressed upon us at this time how to keep the silage on top of the silo from spoiling. We have just opened our second silo, which was the first one filled, and was not tramped down after being finished. We found four loads of spoiled silage. The first one opened, which was well tramped for 10 days after filling, did not have one load of spoiled feed on top. The same conditions were found to exist every year. Where well tramped but very little feed has been spoiled.

## Stabling for Dairy Cows.

Suitable stabling will ever be a live subject for the consideration of the farmer who is milking cows. It is certain that protection from inclement weather is necessary if the dairy herd is to do its best. It is certain, too, that the large proportion of dairymen do not feel able to build such stabling as they see or read about on the best and most up-to-date dairy farms. There is no set rule to be made with reference to stabling. This, for the reason that such a wide range of satisfactory stabling can be provided. We have remarked time and again that the stabling arrangement, the cost of construction, etc., depends wholly upon the ingenuity of the dairyman building the stable. It is certain that the stabling need not be expensive, that very commonplace stabling can be built and so arranged that it will make the cows comfortable and will afford pleasant and comfortable quarters for the milkers. We hope between this time and August 1 to submit plans for cheap and economical building of farm cow barns. It is well for the dairyman to right now begin considering the construction of a suitable building and arrangement, or the suitable arrangement of the building he now has. We believe in comfortable stabling—not from the cows' standpoint alone, but from the standpoint of the milker. Milking is much more pleasant and in fact satisfactory in a stable arranged suitably. It is certain that in Kansas the milking must be done by the family. If the women folks are to milk or are to be induced to milk, comfort, convenience and decency must be provided. These are not difficult to provide. A visit to the most expensive cow barn will suggest to the ingenious farmer how he can arrange his barn to accomplish the same result at small expense.



SILAGE-FED, PURE-BRED SHORTHORNS ON GLENWOOD FARM,

# SEWAGE DISPOSAL PLANT

*Residence Plant Designed by W. C. Hoad, Engineer Kansas Board of Health*

**T**HE disposal plant shown in the drawing herewith is not a cess-pool, but is a complete, though small, sewage-purification plant, designed to treat the domestic wastes coming from the kitchen sink, bathroom and laundry of an ordinary residence provided with a water supply system. Garbage and rubbish of all kinds should be excluded, and no roof leaders or cistern overflows should be connected with the plant.

The purification processes involved consist of preliminary treatment in a septic tank, followed by oxidation in the open surface layers of porous soil, through which the sewage is distributed by means of a dosing chamber and a system of subsurface irrigation pipes. The sewage first enters the septic tank, where the suspended organic matter is held until it is disintegrated by the intense bacterial activity of the tank. The clarified effluent then flows out into the dosing chamber, where by means of either the tipping tray or the automatic siphon (depending on which device is used) it is flushed out into the distribution pipes of the subsurface irrigation system. Here the sewage trickles out through the open joints of the pipes into the surrounding soil, where it is further acted upon by the oxidizing bacteria of the upper soil layers, and where it finally becomes food material for the plant life of the lawn or field.

The drawing shows a tank built of brickwork, though it could be constructed of either stone masonry or concrete just as well. The bricks should be laid in a rich cement mortar, care being taken to fill all the vertical as well as the horizontal joints. The cross wall should be bonded in with the side walls in every alternate course. After the mortar of the brickwork has set, the dirt taken from the excavation should be tamped in around the sides, the excess material being used to bank up around the tank to prevent the entrance of surface water. The inlet and outlet pipes should be carefully set at the exact elevations indicated in the drawing, and firmly cemented in place. Finally, the tank should be carefully plastered on the inside with a one-half inch coat of rich Portland cement mortar.

The tipping tray shown in the dosing chamber can be made by any tinner, while the automatic flushing siphon, which may be used instead of the tipping tray if a somewhat better and more permanent form of construction is desired, can be secured from the manufacturers of automatic flushing appliances. Whether the siphon or the tipping tray is used for flushing the sewage out into the distribution pipes, the device should be tested after being set in position in order to make sure that it is in good working condition.

The connection from the house to the septic tank should be of four-inch vitrified clay pipe, with bell and spigot joints, carefully laid to a uniform grade, and having the joints well filled with cement mortar. This careful cementing of the joints is especially important in case the house connection is carried through a grove of trees, since if any of the joints are left open the tree roots may grow in through them and quickly fill up the pipe.

The pipes for the distribution system should be sound, hard-burned three-inch

lengths. They should be laid on a grade of 3 inches in 100 feet. The matter of grade or "fall" should receive careful attention, since if the grade is too great the lower end of the pipe will receive more than its fair proportion of sewage, while if the grade is too small the upper end will receive too much. The length of this three-inch pipe should be proportioned according to the nature of the soil. If the soil is quite open and sandy approximately 200 feet will be sufficient for the sewage from an ordinary residential drain tiles, in one-foot density; while if the soil is of a closer

texture 300 or 400 feet or even more will be necessary. The system is not well adapted to very tight and retentive clay soils, though it has been used successfully for a time in soils of this character. A desirable, though somewhat costly modification that has been successfully used in tight soils consists in digging the trench about four feet deep, filling the lower three feet or so with cinders or gravel, and then laying the three-inch distribution tiles at the surface of this porous filling material and covering them with about a foot of earth. The total length of distribution

tiles deemed necessary for any particular installation may be laid in one or more single lines extending out from the dosing chamber, or a single line may be divided into two or more branches, as indicated in the drawing. In case more than a single line is used great care should be taken to see that each line receives its fair share of the septic-tank effluent. Where the natural slope of the ground is steeper than the grade required by the distribution lines, these may be zigzagged down the hill.

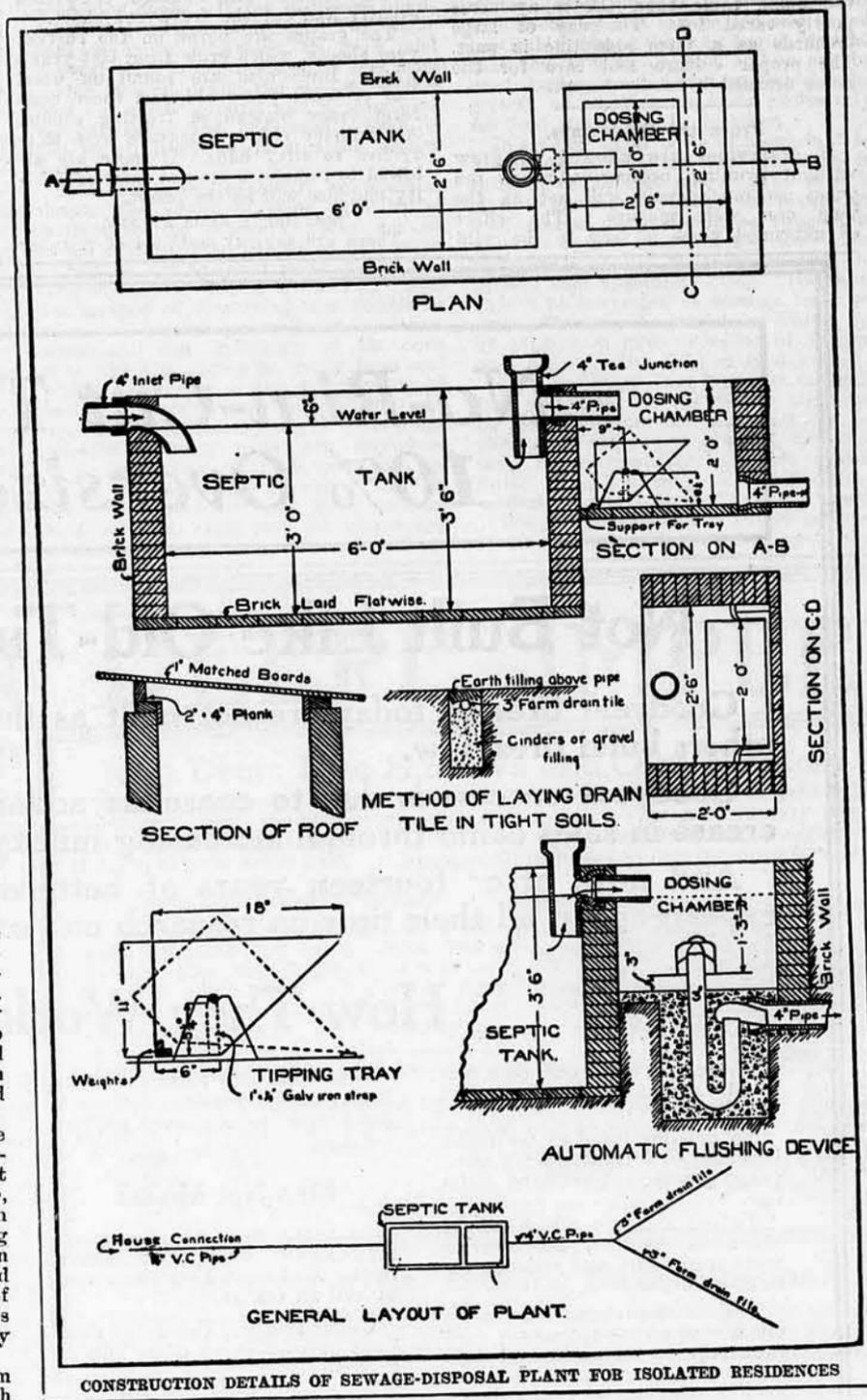
A plain board roof can be built over the tank, as shown in the drawing, two trap doors being left by means of which the interior of the tank and dosing chamber may be inspected. Or, if a more permanent form of construction is desired, the walls of the tank may be made thicker and the whole structure arched over and covered with earth. In this case, however, at least one and preferably two large manholes should be left, through which the operation of the tank and dosing chamber may be inspected, and by means of which the tank may be cleaned out. Upon the whole, the wooden roof construction is better, as in this case the roof can be lifted off bodily when it becomes necessary to get into the tank.

It should be the expectation that once in from one to four or five years the tank will require cleaning out, the frequency depending largely upon the character of the sewage. The sludge taken from the tank at these cleaning periods will be found to be relatively small in amount, and may be best disposed of by running it into a trench or furrow and covering it over with soil. This cleaning out should be done in the fall of the year, if possible, as at this season the sludge in the tank possesses less odor and is less objectionable to handle than at other times.

It should also be expected that every few years the distribution tiles will have to be taken up and relaid in a new trench a few feet away from their former position. This is simply because there is a gradual choking up of the open spaces in the soil, with the result that the soil immediately adjacent to the pipes may become waterlogged and sour.

Particularly for those parts of the state where the rainfall is such that the water of the sewage, as well as its fertilizing constituents, has an appreciable value, the disposal scheme outlined above may have a considerable economic as well as important sanitary value. It is quite possible by this method to maintain in the driest region a large, well-fertilized and well-watered lawn. The process should be carried on entirely without odor, though, of course, the septic tank should be located at some little distance from the house—say a hundred feet or more, if possible. Especially, the disposal plant should not be near any open well which is used as a source of water supply.

Like all plants which are designed to be automatic in their action, this one requires some attention. It should be inspected occasionally, simply to see that none of the pipes has become stopped and that the dosing device is working properly, if for nothing else. If carefully constructed and properly looked after it will always be found to give good and satisfactory service.



## Sub-irrigation Thoroughly Practical

By REV. A. L. CARLTON

**I**N the so-called semi-arid region east of the Rocky Mountains extending from Canada to the Gulf we have each year dry spells that greatly hinder the growing of crops and make the successful growing of trees almost impossible. At the same time it has always been known that this region was underlain with an unlimited supply of water, but the great problem has been how to get this water to the surface in sufficient quantities to irrigate even small tracts for gardens and orchards. Much time and large amounts of money have been expended in experimenting with surface irrigation, but this method has always had its disadvantages and disappointments.

In the first place, surface irrigation requires such large quantities of water that in the deep well sections the expense of raising the water is so great

that it is not practical; then again the application of the water to the surface has an unpreventable tendency to cause the soil to bake. Also we notice that some plant life is entirely destroyed by application of the water to the surface while the sun is shining and the wind blowing.

These facts have led us in later years to experiment with sub-irrigation, and we have found first of all that it requires only one-seventh the amount of water that is required for surface irrigation. In other words, the same quantity of water placed in the sub-surface of the soil will thoroughly saturate seven times as much ground as if it were applied to the surface. In our locality it is 200 feet to water, and yet we find that with sub-irrigation an ordinary

windmill will furnish sufficient water to irrigate three to five acres.

Sub-irrigation requires no attention. After the system is installed all that is necessary is to drop the hose from the pump into the end of the riser of the sub-surface main and the system does the rest. This plan also does away with the baking of the ground, as the tendency is for the water in coming to the surface to keep the soil loose and free. The discovery of these facts concerning sub-irrigation brought up the problem of how to get the water into the sub-surface.

The first method used was the perforated iron pipe, which proved to be fairly successful, but the first cost was high and the pipe would rust out in a few years, making this plan impractic-

able. Then came the German brick method, which is fully successful, but has the same difficulty of the former plan in that the first cost is so heavy that the average farmer can not afford to install a plant. Finally attention was directed to the making of tile from cement and sand. Different methods have been used, some using wooden molds with a piece of pipe for the core, then making the perforations with a wire after the mold is removed. This is a very slow and difficult method. Recently there has been established in Deming, New Mexico, a plant for the making of cement tile in joints, which is then laid in a ditch and the water seeps out at the joints. But it seems to us that the most successful plan for making the tile is found in a machine which lays a continuous tile in the bottom of a ditch or

(Continued on page 15.)

KANSAS STATE UNIVERSITY

## Young Apple Orchard Pays Well

*Plan By Which Young Apple Orchard May Safely Be Planted to Other Crops*

By GEORGE O. GREENE, Horticulturalist

SEVERAL years ago a prominent Kansas orchardist propounded a rule that has come to be almost the Golden Text of orchard procedure among his followers. He said: "If you are going to raise a crop between the trees in the apple orchard, let that crop be apples." His rule was to plant between the trees that were to make up the permanent orchard some of those varieties that come into bearing early in life, get one or two crops from these, and then cut them out. His rule was good as far as he was concerned. He did remove the inter-planted trees at the proper time. Other farmers and growers, seeing his success, planted in the same way. Eastern Kansas orchards show that these men did not remove them at the proper time. As long as they were growing a good crop of apples each year, why cut them out? They now have an excellent grove consisting of shade producing apple trees.

The rule needs to be made over to fit the men who see things as they are today and who can't or won't see how the trees are to look a few years from now. Let's put the rule this way: "If we are going to plant four times as many trees as the permanent orchard will stand, let's plant four times as many acres," or, "Let's save three-fourths of that money to pay the hired man to cultivate the orchard and to buy spraying materials and pruning saws, and still have three-fourths of the space where we can grow corn, vegetables and similar fruits, that give an immediate and annual return." At 35 feet each way, the saving for cultivation and for purchasing seeds is \$10.50 on the first cost for trees for each acre to say nothing about the lasting injury from over-crowding. Ten dollars and fifty cents will pay all of the expenses on cultivation until the orchard comes into bearing. You still have two-thirds of each acre to grow potatoes, melons, strawberries or raspberries. These will make you a return all the way from a gastronomic satisfaction to financial aid to the tune of \$200 an acre. The inter-planted trees will return you five or ten dollars an acre less the interest for five to ten years as well as continued trouble in culture, pruning and the final grubbing and hauling from the ground. What is the use in going to a lot of expense where there are to be no returns?

The first year's crop in the young orchard can well be sweet corn. This crop furnishes a good windbreak and if planted with a vacant row on each side of the trees will not rob them of their share of the moisture. By breaking the force of the wind, the corn will help the young tree to establish itself in the soil with the regulation southwest slant of the trunk. Early sweet corn is fairly good feed for that car of early spring shoats. It also furnishes the family larder with canned and dried corn for next winter and will, according to authorities on foods, be nearly as good for the family to eat as the average run of "store" canned corn.

The second year is a good time to start a rotation of strawberries, potatoes and melons or cantaloupes. The rotation, on paper, would look something like this:

Row 1—1913, potatoes; 1914, melons; 1915, strawberries; 1916, strawberries; 1917, potatoes.

Row 2—1913, strawberries; 1914, strawberries; 1915, potatoes; 1916, melons; 1917, strawberries.

Row 3—1913, melons; 1914, strawberries; 1915, strawberries; 1916, potatoes; 1917, melons.

Row 4—Raspberries four years.

Row 5—Blackberries four years.

This rotation would take the apples up to their first blooming when they should, under most conditions, have clean culture. There are some objections to blackberries in the orchard at any time because they are hard to kill out and because they interfere with the spraying as the orchard nears the bearing period. The objection is well taken. Still, they can be removed by deep plowing and by the use of a good, heavy harrow run with the teeth slanting forward to catch the roots. Continued disking and harrowing for one summer will get the most of them.

The plan for making the orchard pay its way as given above is thought to be excellent for home orchards. It might or might not do for the commercial orchard. The man with many acres, unless

he is one of the many vanishing and mis-informed Mississippi Valley apple failures, usually adapts a method suited to his location, soil and market conditions. His locality might call for squashes or if in a German settlement, for sauer kraut possibilities. The suggested rotation is for the small home orchard where the owner does not care to spend a double preparation period as well as the loss of double the amount of ground to grow the crops suggested. We are more interested in the small orchard for the home table than the many acres poorly cared for. The day of large orchards as a farm side line is past. The proper culture and care for the home orchard is hardly begun.

### Prune the Grapevines.

If grapevines are allowed to grow without pruning, ordinarily, about ten times as much fruit will set as the vine can well mature. The effect of unpruned vines is seen in the wild

grapevines which bear small and inferior fruit. Many of the domestic grapes have been obtained from wild grapes by a process of up-breeding, giving them a better environment, and by pruning. In other words, when you take nine-tenths of the vine away from a wild grapevine, the one-tenth will bear better and more fruit than the entire vine would bear. The object of pruning is to get just as much fruit from as little vine as possible, according to D. E. Lewis, assistant in horticulture at the Kansas Agricultural College.

### SPRING THE BEST TIME.

Pruning can be done in either spring or fall, according to the climate, Mr. Lewis says. Where winter freezing frequently injures the vines, it is best to wait until spring to prune. When all danger of severe frosts is past and before the sap begins to flow, it is safe to prune the vines. Although some grape growers advise pruning in the fall, a severe winter will damage the vines greatly and cut the fruit crop short.

The grapes are borne on the current year shoots, which grow from last year's wood. Buds also are found on wood two or more years old, but these buds form canes instead of fruiting shoots. An ordinary vine will mature from thirty-five to fifty buds. If more are allowed to remain, a crop of inferior quality and size will be the result.

### DISTRIBUTE BUDS EVENLY.

There are several methods of pruning

grapevines, depending upon the form of vine desired. The manner of cutting is the same. The canes not required in the system of pruning used, are all removed. First, select the method of pruning with respect to form of vine. Then cut so you will distribute the forty or fifty buds, which are left, evenly over the vine. The most common pruning system in this section of the country is the four-cane Kniffen system. In this method the old stock or stem is allowed to remain from year to year. Each spring the canes, except those carrying the required number of buds, are removed. A short spur containing one or two buds is left at the base of each cane to insure new canes in the proper place for the following year. The two lower canes are left on a level with the lower trellis wire, eighteen inches to two feet from the ground, and the upper ones, two feet from the lower. Vines trained by this system are easily and quickly pruned and require only a small amount of labor in the growing season. Other methods used are the "umbrella" system and the "fan" system. These are equally efficient, the object being in all of them to remove unnecessary canes so that a crop of better quality and size will be grown.

The best team on the farm is the husband and wife, and, if they are well matched and properly gaited, they beat all the tractors.

## No-Rim-Cut Tires 10% Oversize

### Not Built Like Old-Time Tires

Goodyear tires of today are not built as they once were, nor as others build tires now.

Goodyear success is due to ceaseless advancement. Every increase in sales came through increasing mileage.

And now, after fourteen years of betterments, scores of our experts spend all their time on research and experiment.

### How They Work

These men wear out, on a metered machine, hundreds of Goodyear tires.

To get our tread as we make it today, 40 formulas were compared—by actual metered mileage.

To get a fabric which would stand all strains, 200 fabrics were tested out, and mileage results recorded.

These comparisons have gone on for years and years. And they still go on night and day. For we know that no tire can lead in sales unless it also leads in mileage.

### What They've Done

This research department cost us about \$100,000 per year. On this year's output that's about five cents per tire.

But note the result:

All the remarkable mileage you get from Goodyear tires is due to this ceaseless improvement.

No-Rim-Cut tires—the tires that end rim-cutting—were developed in this shop. With the old-typetires, 23 per cent met with rim-cut ruin.

And from this shop came the 10 per cent oversize, which adds one-fourth to the average tire mileage.

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In these days of odometers, men know which tire serves best. And that tire alone can outsell all others.

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And the sales have doubled over and over, as the tires became better known. Last year's sale by far exceeded our previous 12 years put together.

That's the result on actual use, on hundreds of thousands

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### Average Profit \$2.90 Per Tire

Here's another reason why you get so much in a Goodyear tire. Our average profit last year was but \$2.90 per tire.

Goodyear tires cost all the way from \$15.55 to \$104.95, according to size and type. The most popular size—34x4—costs from \$32.95 to \$37.90, differing with type and treads. And our average profit on all these tires was exactly \$2.90 per tire.

That's why you get at the Goodyear price tires with so much mileage. Tires that can't rim-cut—oversize tires. This is due to the fact that so much of the cost goes into things that count.

No other tire in all the world offers you equal value.

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.

**GOODYEAR**  
AKRON, OHIO

**No-Rim-Cut Tires**  
With or Without Non-Skid Treads

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO  
Branches and Agencies in 103 Principal Cities More Service Stations Than Any Other Tire  
We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits  
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

# Feeding Value of Beets and Mangels

Subscriber A. P., Clay County, asks these questions:  
 "Do you approve of ringing hogs? How old should pigs be before ringing can be done?"

"What is the difference between sugar beets and mangels? Which of these is best for milk cows and hogs? How much seed of either sugar beets or mangels should be sown per acre and how is the best way to plant them? How long does it take them to mature? Where and how should they be kept for winter feeding? Do they have to be cut in pieces or how are they fed? Where can I get good seed?"

"I am 20 years old and am trying to learn all I can about good farming and stock raising. I graduated from high school last year and decided to make farming my profession. My father and I farm 240 acres and it keeps us both busy to do the work right. I am a reader of KANSAS FARMER and certainly appreciate its help and good pointers, and must say that those who do not take it are missing the best there is in agriculture."

It is our experience that it pays to ring hogs to prevent rooting. The results from ringing, however, are obtained by making the hog's nose sore. After the wound becomes healed a large part of the effect is lost and ringing again becomes necessary. When the hog roots to an excessive and damaging extent, he is seeking in the ground something he needs in the way of feed and which he does not find on top of the ground. Rooting will be overcome to a considerable extent by liberal feeding and the feeding of the right things, and one of these is mineral which can be supplied by an occasional feeding of coal or ashes. Hogs will root in an alfalfa field and damage the field only when the pasturage is short. Seeking more feed, the hog goes into the ground for the alfalfa roots and for what min-

eral he can obtain. It is safe to ring pigs just so soon as they begin to root to a damaging extent. It must be kept in mind that it is natural for the hog to root, but it is not natural for him to root all day and so work over the entire pasture lot.

Sugar beets and mangels have practically the same feeding value for hogs and cows, although the sugar beet is somewhat more valuable. The mangel is a heavier yielder than the sugar beet and in this way makes up for the small deficiency in quality. There are numerous varieties of each, some being heavier yielders than others. The yields range from 10 to 25 tons an acre, depending upon variety, conditions of soil and rainfall. Beets and mangels are about 85 per cent water. The sugar beet has been developed for the single purpose of producing sugar. If fed in liberal quantities it produces scouring. The sugar beet is more expensive to grow and harvest than is the mangel; it sets deep in the ground, while the mangel stands well out of the ground and is more easily cultivated and harvested. Each is fed to all kinds of farm stock except horses.

Root crops are expensive to produce, despite the advice of some agricultural writers to the contrary. The use of roots in the United States as well as in Canada is not so great as 50 years ago. This is because within the last 25 years the method of preserving corn fodder in silos has become generally well understood and the succulence of the corn crop which is grown on every farm and which succulence is the great value of beets, is found in the corn silage. An agricultural authority says: "It seems improbable that roots can anywhere hold their way with Indian corn in places proper for the growth of the latter." Inasmuch as corn, kafir or cane is a universal farm crop for forage and grain, it would not seem good business

to devote land and labor to the cultivation of an exclusive crop to obtain succulence when we grow that succulence in other crops better adapted to Kansas soil and conditions.

The conditioning effect resulting from the succulence and the spur given the appetite, by sugar beets and mangels, are the principal things to be sought and accomplished in their use. Corn, cane or kafir silage accomplish the same thing.

The subscriber writing above attaches a clipping from a newspaper. The information given in the clipping is in the main correct. However, the writer does not take cognizance of general Kansas conditions. If his suggestions were followed every farmer in Kansas would grow beets for all classes of farm animals, imposing an unnecessary expense upon the farmer and the use of unnecessary land in the production of feed. The use of beet pulp from the sugar factories is explained by this writer. Beet pulp is a by-product of such factories and can be fed and is fed profitably, but it must be borne in mind that this is a by-product and so can be used under conditions by which the growth of beets or mangels exclusively for feed would not be justified.

In seeding sugar beets or mangels, 5 to 8 pounds of seed an acre is sown in drills 2 to 2½ feet apart. The seed is slow to germinate. After the plants are well started they should be thinned to 8 to 10 inches apart in the row. The cultivation should be frequent and the ground kept absolutely clean. The beets should be harvested as soon as frost occurs. They can be stored for winter use by placing in cave or cellar or in covered heaps in the field or feed yard.

It is necessary that beets or mangels, like pumpkins, be cut before they can be fed. Machines are manufactured for slicing. When fed in a small way they may be conveniently cut with a corn knife. The seed may be obtained from seedsmen advertising in KANSAS FARMER.

We recommend to our subscriber that if he tries sugar beets or mangels that

he do so in a small way. With the abundant and certain silage crops we have in Kansas we do not believe there is justification for the growth of beets for feed.

### Retired Before Value Was Known.

The bull when bought must be judged by his breeding conformation, etc., but his real value is not known until his heifers come into milk. It is our opinion that when a dairy-bred bull is purchased he should be kept in the herd until his heifers become producers. So to do may result in retaining him at the head of the herd, or if sold in giving him an extra value—this in case he proves to be a superior animal. A writer in the National Stockman and Farmer tells of his experience and from it the lesson can be drawn. He presents the record of his dairy for the year 1912 and then says:

"Near and at the head of the list are the cows Bessie, Lou, Lappie and Olga, half sisters. They are all cows that gave over 2,000 pounds more than their dams, and we made the fatal mistake of slaughtering their sire because he was so cross. The bull did not cost a great deal of money when we bought him, but we must acknowledge that it cost us no little worry to hold him, and finally had some ribs loosened at his instance, then decided to do away with him and did. One of the mistakes of our life, for had we known then what we do now, it would have taken thousands of dollars to take him from the farm. We should have kept him, had we been compelled to build a stone wall around him to keep him in control. Later we bought as much of that blood in a sire as we could possibly get, and while we have not as yet proof of his value, except from the looks of the calves, we paid many times the price of the original bull."

Don't quit raising sheep, whatever is done to the tariff. If you do you simply give the London syndicate free swing to dictate the price of your clothes.

# JOHN DEERE IMPLEMENTS



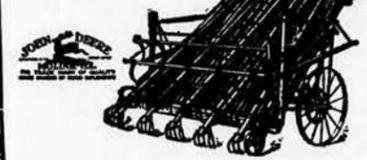
## John Deere Wagons

No other implement on the farm is used as much as the wagon. Nothing is more abused. Consequently the wagon should have the quality to withstand this usage. John Deere Wagons are built of oak and hickory—the best material known for wagon making. They stand up under the most severe tests, and give the satisfaction you want.

## John Deere Ironclad Wagons

A booklet that gives you valuable pointers on how to buy a wagon, and other interesting articles that you should know about. See lower right hand corner of ad, and see how "to get the books you want."

## Dain Hay Tools



Use Dain Hay Tools and put up your hay quicker, better and more economically than with any other hay tools.

The Dain Hay Loader is easy to operate. Simple construction, few parts, nothing to get out of order. Material and workmanship of the known Dain standard, proven by service to be reliable and trustworthy. Ask your John Deere Dealer about the Dain line.

## Dain Hay Loader and Side Delivery Rake

tell you about how to use these tools to handle your hay rapidly and economically. Should you want information about other Dain hay tools, tell us which tool you are interested in. See lower right hand corner of ad, how "to get the books you want."

## John Deere Disc Harrows and Corn Planters

This spring pressure harrow pulverizes your soil thoroughly and puts it in condition to grow the biggest crop you ever raised. The extraordinary flexibility of John Deere Disc Harrows due to spring pressure, insures thorough cultivation of your entire field. It leaves small middles and cuts out dead furrows.

### John Deere Corn Planters

The great accuracy of drop is what naturally interests you most. John Deere Planters give the highest accuracy of drop attainable. Repeated tests show ten to fifteen bushel per acre in favor of accurate planting. You profit by the increased yield due to perfect stand, by additional years of service and freedom from break down.



### Bigger Crops from Better Seed Beds and More and Better Corn

Two books that will prove a great help to you in the preparation of your land for seed, and the planting of corn. These books contain valuable suggestions by men who are experienced on those subjects. "To get the books you want," see lower right hand corner of ad.

## Davenport Roller Bearing Steel Wagons

Reduces the draft; makes your hauling easy; the roller bearings do that. Haul larger loads, make fewer trips,



save time. Your time is worth money to you.

You do the same work with one horse less; if you now use three horses you will only need two; if you use four, three will do the work.

No repair bills to pay; no tires to reset; the Davenport Roller Bearing Steel Wagon is practically everlasting. The first cost is the only cost.

The steel spokes don't pick up and carry the mud like wooden spokes; they cut through it. Ask to see the Davenport wagon at your John Deere Dealer's.

### When The Going is Hard

Containing twenty-six articles on wagons. Tells you why the dish is put into the wooden wheels and other things you should know about. It is interesting and you'll like it. Lower right hand corner of ad, tells how "to get the books you want."



Better Farm Implements and How to Use Them illustrates and describes the most complete line of farm implements made. Tells when and how to use them under varying conditions—answers questions about farm machinery and is a practical encyclopedia for the farm. It is worth dollars to you. You can't afford to be without it. Write today for "Better Farm Implements and How to Use Them."

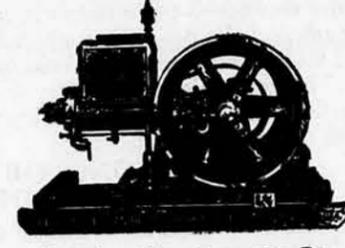


## R & V "Triumph" Gasolene Engines

Develop even more than rated horsepower. Easily started, smooth-running, dependable. Economical in use of fuel. Speed easily increased or decreased. Best type of magneto on the market. Portable and stationary engines.



R & V "Triumph" Engines can be furnished in sizes 1 to 12-hp., with the hopper-cooling system. This cooling system does away with tank, pump, piping and fittings, making a neat, compact engine noted for its good working qualities. No air-cooled engine troubles to contend with.



### Letting Gasolene Do It

Tells you how to lessen your work every day of the week, and every season of the year. Get this book and see how your work can be made easier, at the same time saving you money. Lower right hand corner of ad, tells you how "to get the books you want."

### "To Get the Books You Want"

Write to us at once stating which books you want, and they will be mailed free. To be sure that you get a copy of "Better Farm Implements and How to Use Them," ask us for Package No. X-13

**John Deere Plow Company, Moline, Ill.**  
Branches and Dealers Everywhere

KANSAS STATE UNIVERSITY



## PAINT SERVICE DEPENDS ON THE CLIMATE!



The old idea that "paint was paint," and that any paint was good for any climate, was changed when we discovered that climatic conditions *did* affect paint very seriously unless the paint was *made to suit the climate*.

It has been *proved* that paints which are not prepared to meet climatic conditions will crack, check and peel off—giving poor, uneconomical service. To avoid paint troubles, and losses, use

## Lincoln Climatic Paint

Made on four formulas—to suit the damp, medium, dry or very dry sections of this country. Look at the map, showing prevailing climatic conditions in each section—showing you the paint you ought to buy.

### Lincoln Climatic Paint Book—FREE

—tells about our discovery of the greatest fact the paint industry has ever known—shows why it *pays* to buy only the paint that suits your climate.

Ask your dealer for Lincoln Climatic Paints—also for Lincoln Floor Paints, Lincoln Enamels, Lincoln Carriage and Automobile Paints, Lin-Co-Lac for furniture and inside finish, Lincoln Walamo for a fine washable wall finish. There's a Lincoln Paint, Varnish, Stain, Enamel or Finish for every surface, old or new, indoors or outdoors.

Write for free copy of "Home Painting Jobs—How to Do Them." It will help you with the little painting and decorating jobs that make the home attractive and render housework easier.

### LINCOLN PAINT & COLOR CO.,

Dept. 85      Lincoln, Nebraska  
Factories: Lincoln, Nebraska; Dallas, Texas









**Explanation of Map**

Symbol	Formula	Humidity	Climate
Triangle	No. 1	80 & over	Damp
Square	No. 2	65 to 75	Medium
Circle	No. 3	50 to 60	Dry
Cross	No. 4	Under 50	Very Dry



## The Adriance Binder

For Over Fifty Years a Favorite  
the World Over

The above reproduction from a photograph shows an **Adriance Binder** in use in Siberia where thousands of **Adriance Binders** and **Mowers** are giving excellent service under most trying conditions.

In all parts of the world this time tested Binder is growing in favor, more and more each year.

It is growing because it is a better binder than any other. Gives better service—is more simple in construction—lighter draft—costs less for repairs. Its design is such that it works easier—without the strain and wear of other binders, consequently less time lost and less breakage.

Its materials are the very best and every wearing part has been carefully and scientifically designed to produce the greatest durability with lightness of draft.

**FOR LONG OR SHORT GRAIN  
FOR HEAVY OR LIGHT CROPS**

The **Adriance Binder** will handle long or short grain, heavy or light crops equally well. It can be instantly changed, without the driver leaving his seat, to bind grain anywhere from 20 inches down to 7 from the butts, making a square butted, well-tied bundle in every case.

**ADRIANCE BINDERS GIVE BEST SERVICE FOR LONGEST  
TIME AT LEAST EXPENSE.**

Write for FREE ILLUSTRATED BOOKLET.

## MOLINE PLOW CO.

Dept. 4      MOLINE, ILL.

Manufacturers and Distributors of

Adriance Harvesting Machinery

MENTION KANSAS FARMER WHEN YOU WRITE.

# THE FARM



#### Fruit Growers' Organizations.

Answering J. L. L., Douglass County: Write W. R. Martin, manager Wathena Fruit Growers' Association, and E. M. Pollard, Nehawki, Neb., for copies of bylaws for co-operative fruit marketing organizations. Thirty apple growers representing 2,000 acres of orchard recently organized in Nebraska. The last gentleman named above is one of the managers.

#### Commercial Inoculation of Alfalfa.

L. L. T., Jefferson County, asks if we recommend inoculation of alfalfa by the commercial cultures.

This question has been answered several times recently. It is certain that commercial inoculation when done carefully and according to directions is successful. We have just received a bulletin from the Rhode Island Experiment Station in which favorable results are reported for nitragin and farmogerm.

#### Cowpeas for Pasture.

P. A. L., Nemaha County, asks if cowpeas will make pasture.

Yes, they will make good pasture for a month or six weeks, depending upon the season and the growth made. They can be sown immediately following the harvesting of oats or wheat and so produce a catch crop of value as pasture or hay. However, pasturing is a wasteful use of the crop on account of the waste by tramping into the ground. This waste is saved if the crop is made into hay or the crop cut and fed green. However, the waste from pasturing will be plowed into the ground and the field so benefited.

#### Feed Rack for Hogs.

Subscriber J. H. C., Johnson County, writes: "I have heard that the Agricultural College uses a rack for feeding alfalfa hay to hogs. How is it built?"

Build a trough a foot wide and four inches deep for the bottom of the rack. This trough will catch the leaves of the hay. Nail four uprights, three feet long, one to each corner of the trough. Fasten the back uprights to the fence so as to keep the rack in place and make it handier to fill. Nail a board between the tops of the front uprights and to this board fasten the strips, which should be from six to seven inches apart, and run from it to the center of the trough.

#### Thrive on Frozen Eggs.

Readers of KANSAS FARMER seem inclined to look to us for information on all sorts of topics. A reader inquires how the Kansas University boys are doing on the cold storage egg diet upon which they entered a few weeks ago.

None of the subjects of the experiment has experienced any ill effects from eating the eggs, and nearly all have gained in weight since the experiment began. One boy has gained three pounds in about a week.

By means of this experiment Doctor Crumrine expects to prove that the federal government was not justified in condemning a carload of frozen eggs shipped from Kansas to New Jersey. His claim is that the eggs were perfectly fit for food purposes after a period of two years in cold storage.

#### Was Advanced in Tree Thought.

Subscriber J. B. D., South Dakota, writes: "KANSAS FARMER improves with each number. The March 29 issue is worth many times the cost of a year's subscription to anyone interested in orchards."

"Those articles referring to pedigreed trees are of especial value. In the early seventies, while living in Marion County, Kansas, I wrote an article for KANSAS FARMER in which I recommended the cutting of scions from the most vigorous and fruitful trees and vines. The editor took issue with me and said that a Ben Davis was a Ben Davis and a Concord was a Concord, regardless of the particular tree from which the scions or cuttings were taken. But I then held that our fruits could be improved by the same principle by which our live stock is improved. I am glad now to see that others have successfully accomplished the improvements of fruit-bearing trees by the methods I had in mind forty years ago. I am satisfied that the principle is sound and that the trees of the future will be from proven parent stock.

"Some time since some one of your

readers asked if it were safe to dehorn cows near calving time. You said that it was not. I was among the first to introduce dehorning in Marion County and at that time was threatened with prosecution for cruelty. I dehorned thousands and I would not wait 24 hours for a cow to calf, and I never had a case of injury."

#### Economical Manure Handling.

B. W. G., Dickinson County, asks how manure from the horse and cow barn can be most economically handled.

Practically all of the manure produced in Kansas barns is handled at least two times. Usually it is thrown out of the barn onto a pile, then loaded onto wagon or spreader and taken to the field. On some farms, however, the manure is loaded from the barn directly onto the spreader, which when loaded is hauled directly to the field. This is the ideal method of handling, and is a plan which will work the greater part of the stabling season. When the fields are too wet to permit wagon or spreader thereon the situation is changed. Manure produced in corrals or feed lots should of course be loaded on spreader or wagon and taken to the fields. This hauling can be done only when fields are dry and without extra labor.

On a farm we visited recently the manure was taken from the barn in a manure carrier. The spreader stood under a shed 100 feet from the door. The carrier dumped into the spreader. When the spreader was loaded it was hauled to the field. When the plowed fields were too wet the alfalfa fields or prairie grass pasture were top dressed.

#### Does Not Think Two Taxes Fair.

Subscriber O. W. P., Jewell County, writes: "Is the automobile license tax in addition to the personal property tax? Why should one man and not another be taxed for the use of the public highway?"

"Automobiles are a benefit to the dirt roads, but the narrow steel-tired vehicle is not. The automobile acts as a roller while the vehicle with narrow tires and the sharp shod horse cut up the road surface. I am not opposed to good roads, but I favor fair means to obtain them. There is about 75 per cent of our road tax now wasted."

The automobile license tax of \$5 a year is in addition to the personal property tax. The cost of the license tag amount to about 75 cents, leaving \$4.25, which will go into the road fund of the township in which the car is owned and which road fund will be used exclusively for road work. Motorcycle owners will pay a license of \$3 a year, the money received from such licenses being distributed in the same manner as that obtained from automobile licenses. There are about 25,000 automobiles in Kansas and about 5,000 motorcycles. It is believed that this license law will place not less than \$100,000 a year in the road fund of the various townships and cities of the state.

Our subscriber may consider that he does pay a double tax on this vehicle. There is no reason, so far as we are able to see, just why he should, except that it is within the power of the state to make such license law and to collect the tax. The legislature no doubt felt that the license tax was justified inasmuch as there is a demand for road improvement in Kansas and the license tax affords one method of providing the necessary funds.

What our subscriber says with reference to the automobile being a benefit to the dirt roads is true, provided the automobile does not travel the roads when they are soft. It is notable that an automobile on soft roads leaves a track which cannot be removed until the roads again become soft and the rut can be filled.

#### Composition Human Food.

Mrs. C. M., Marion County, writes: "In your most excellent paper you give the man of the house most helpful information regarding the feeding of hogs and cattle and the feeding value of the various field crops. Will you please give the important food constituents of the things we use on the table?"

So many factors enter into the value of food materials besides the actual percentage of constituents that no definite

set of rules can be offered for use in selecting or purchasing them. It is a simple matter to give the composition of most foods, including the percentage of refuse, water, protein, fat, carbohydrates (sugar, starch, etc.), mineral matter and fuel value, but when we have to take into consideration such factors as ease of digestion, completeness of digestion, purpose of the food, individuality of consumer, palatability, then a statement of the chemical composition oftentimes serves only as a guide, though in some cases the sole guide.

For example, graham flour contains a larger percentage of protein than ordinary flour from similar wheat, but a smaller percentage of digestible protein. Corn contains more starch than some other foods, yet is more fattening because the starch is more digestible. Fresh cheese is probably just as completely assimilated as is ripe cheese, but a greater tax on the system because the casein has not had sufficient time in which to ripen into a readily soluble form. Protein can be had more cheaply in the form of peas and beans than in the form of meat, yet it is considered more available in the form of meat. Many foods, such as the pineapple, banana, and malt, contain ferments, similar to saliva and pepsin, which greatly assist digestion. Foods that are attractive and palatable greatly stimulate the flow of the digestive juices.

Protein furnishes material for the production of heat and for the construction of body tissue, while fat, sugar and starch serve to furnish heat and merely reserve tissue; hence, protein is absolutely necessary for the growth of the body.

Since it is generally known that meats furnish the bulk of the protein and fat, and vegetables the starch and sugar, a few examples are given in the table below to show the comparative value from a chemical standpoint:

	Pct. Protein	Pct. Carbo- Fats	Pct. Refuse
Porterhouse steak...	19.1	17.9	12.7
Round steak .....	19.0	12.8	7.2
Veal (leg cutlets)...	20.1	7.5	3.4
Pork chops .....	13.4	24.2	19.7
Pork tenderloin .....	18.9	13.0	...
Hallbut steak .....	15.3	4.0	5.0
Milk (whole) .....	3.5	4.0	17.7
Wheat flour .....	11.4	1.0	75.1
Graham flour .....	13.3	2.2	71.4
Macaroni .....	13.4	1.0	74.1
Rye flour .....	6.8	1.0	78.4
Corn meal .....	9.2	1.9	75.4
Oat breakfast food...	16.7	7.3	66.2
Rice .....	8.0	0.3	79.0
Beans (Dried) .....	22.5	1.8	59.6
Beans (String) .....	2.1	0.3	6.9
Corn (Green) .....	3.1	1.1	19.7
Potatoes (Irish) .....	1.8	0.1	14.7
Potatoes (Sweet) .....	1.4	0.6	21.9
Dates (Dried) .....	1.9	2.5	70.6
Almonds .....	11.5	30.2	9.5
Peanuts .....	19.5	29.1	18.5
Eggs .....	13.1	9.3	11.2

The percentage required to make up the total 100 per cent and which is not shown is water and a little ash. The column "carbohydrates" includes the starch, sugar, etc.

**Beef Feeding Discussion.**

Subscriber C. W. A., Ness County, writes: "I am feeding a bunch of two-year-old steers on bound cane cut while the seed was green, and with this I am feeding all the corn the steers will eat. The animals seem to be putting on flesh rapidly, but are not making the growth I expected. Would it have paid me had I fed cottonseed cake at \$28 a ton, with the corn, when the latter is worth 40 cents a bushel?"

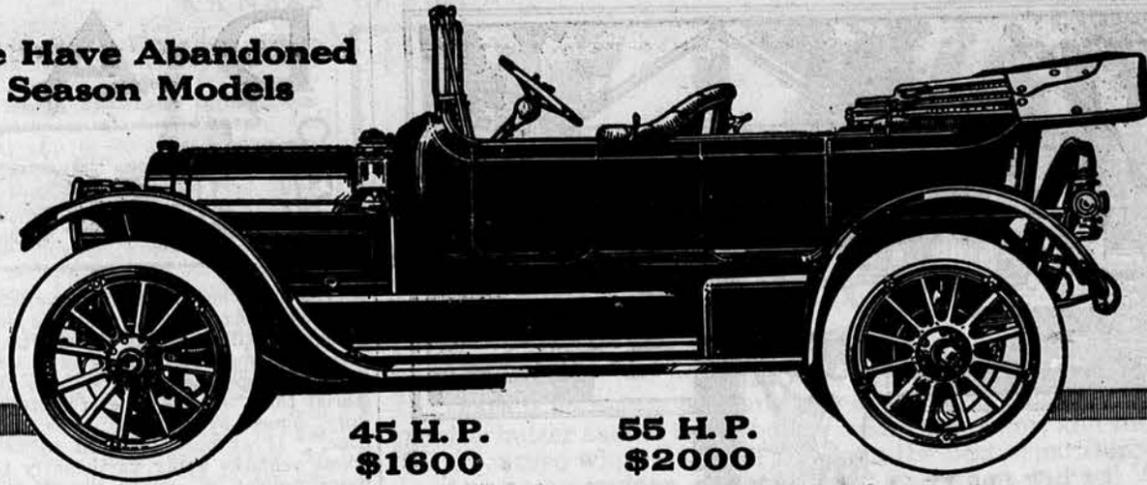
There are a good many things in connection with this feeding experience which our subscriber should have reported in order that we might have given him such reply as would prove of greatest benefit to himself and to other readers.

It is impossible to produce the maximum gain and the most economical gain on steers by the feeding of cane or kafir fodder, prairie hay or corn fodder with corn chop as the grain ration. This is because the ration is deficient in protein, and our subscriber can well afford to feed some cottonseed meal or cottonseed cake. Were he able to feed some alfalfa, cowpea hay, or clover, as a roughage, a protein concentrate would not be necessary. Protein is that element of feed which makes muscle and bone and growth. A combination of protein in the ration is absolutely essential.

In a test case at the Nebraska station in 1911, yearling steers on corn and alfalfa made a gain of 1.97 pound a day during the six months feeding period, while a lot on corn and prairie hay—the latter being equivalent to cane, kafir or corn fodder as roughage—gained but 1.35 pound a day. In these tests 36 per cent more feed was required for each pound of gain on corn and prairie hay than was required on corn and alfalfa. The net profit on corn and prairie hay was 38 cents a steer for the six months feeding, while those in the alfalfa lot each returned a net profit of \$8.66.

The cane hay and corn which our sub-

**We Have Abandoned Season Models**



45 H. P.  
\$1600

55 H. P.  
\$2000

**This 20th Anniversary "Jack Rabbit" Car Will Be Up-to-Date for Years to Come**

Season styles may be all right in millinery and clothing. It's an extravagant and useless custom when applied to automobiles. "Jack Rabbit" Cars have been mechanically perfect since 1903—the finished work of 10 busy years on part of the Apperson Brothers.

No material change in mechanical design or construction has since been necessary. To force good cars out of date by bringing out new models, with changes that are unessential, is not fair to the owners. We have entirely stopped the practice. You make a permanent investment when you buy a "Jack Rabbit."

**One Apperson "Jack Rabbit" Car is all you ever need buy**

It will last you as long as you need a car. There are "Jack Rabbits" in use today 17, 18 and 19 years old. The average age of all our cars now in use is 8 years. No "Jack Rabbit" has ever worn out. You can safely invest a lifetime's savings in a "Jack Rabbit". It won't disappoint you. No such certainty in other cars. No one of them has 10 years of real proving—our cars have had 20 years proving.

**\$800 a Year Income Is Enough**

to afford a "Jack Rabbit"—many a man with an income of only \$800 a year owns an Apperson. With 17,000 cars on the road—some of them very old models—the average cost of mechanical upkeep to "Jack Rabbit" owners last year was only \$5 per car. The average of other cars is \$20 or over—and all these cars are comparatively new. Owners of recent "Jack Rabbit" models scarcely know the meaning of mechanical trouble.

**As Beautiful as It Is Durable**

Particular men and women both make the "Jack Rabbit" their choice—men, from a practical business

standpoint; women, because it just suits their keen sense of refinement and is the easiest car for a woman to operate. "Jack Rabbits" have easy cushions, stylish bodies, beautiful finish and luxurious equipment.

**9% Profit**

is all we make on the Apperson. We have a smooth-running manufacturing organization—the result of 20 years' building. The Apperson Brothers own 97% of the stock. We have no interest on borrowed money to pay. Our overhead expense is extremely low. We can guarantee you this: No car can be built with Apperson quality to sell at Apperson prices on a margin greater than 9%. This is an important thing to consider.

Only a few thousand "Jack Rabbit" cars are built each year. Each car is an individual product built under the direct personal supervision of the Apperson Brothers.

**Write for Our New Catalog**

Investigate this lifetime, always-in-style car—the car with the powerful engine. Write for catalog today.

Electric Self-Starter and Electric Lighting Furnished if Desired

**Apperson Bros. Automobile Co.**  
321 Main St., Kokomo, Indiana

20th ANNIVERSARY  
1893-1913

I AM LIGHT IN WEIGHT

I HAVE SPEED WHEN NECESSARY

20th ANNIVERSARY  
1893-1913



**PRATT "50"**  
Long Stroke Motor  
4 1/2 x 5 1/4

**FULL EQUIPMENT**  
Gray & Davis Electric Starting and Electric Lighting.  
Bosch Magnets. 11-in. Upholstery.  
Licensed under Dyer patents 657,650-685,986 and 921,963

**1913 Pratt Cars**

Five Years—Every one successful as manufacturers of automobiles.  
Forty Years—Every one successful as manufacturers of standard vehicles.

**Get Catalogue** showing photographic view of all models, and giving you the standards by which to value any car. We have a business proposition for you. Our goal for 1913 is a "Pratt Car" in every locality. If there isn't one in your neighborhood—if there isn't a Pratt dealer near you it will be to your material advantage to write or wire and let us know.

Three Distinct Models—Pratt 50, 122-inch wheel base, electric starter and electric lighting system. Price \$2,150.00.  
Pratt 40, 120-inch wheel base, Prest-O-Starter and electric lighting system. Price \$1,850.00.  
Pratt 30, 114-inch wheel base, Prest-O-Starter and electric lighting system. Price \$1,700.00.

**ELKHART CARRIAGE & HARNESS MFG. CO.**  
ELKHART INDIANA

scriber is feeding are both highly carbonaceous feeds and absolutely fail to supply the animal body with the protein needed. Because of this lack of protein, our subscriber's feeders are not increasing in weight as rapidly as they should, and it is certain not as economically as possible and will not finish in such way as to bring the highest market price. An addition of corn will not supply the protein needed. This, for the reason that the animals cannot eat enough corn to get the protein required. It is because of this condition existing with reference to our common feeds that it is necessary that we supply protein in the form of clover, alfalfa or cowpea hay, or it is necessary that we buy protein in the form of cottonseed or linseed meal, the first named being the best even at a cost of \$28 a ton. At such cost protein is supplied at less cost than in corn at 40 cents a bushel. To feed the bushel of corn is to obtain 3.7 pounds of digestible protein, and when

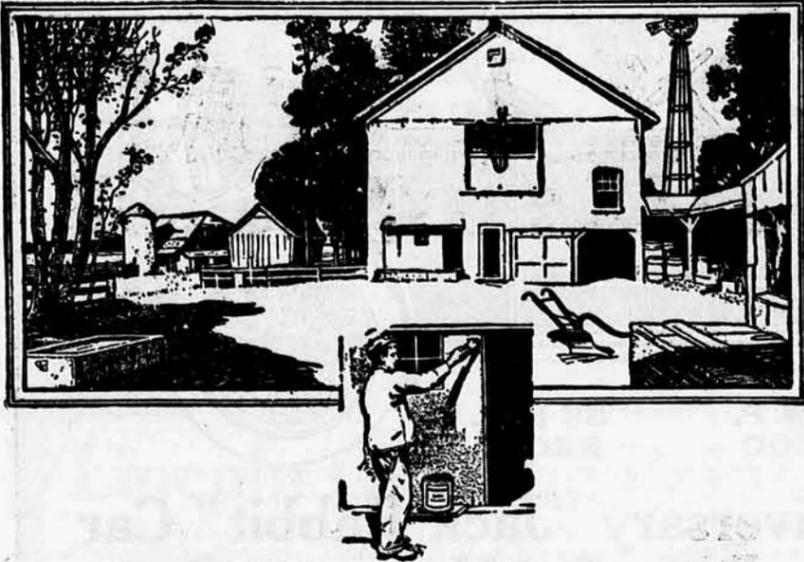
corn is worth 40 cents a bushel the digestible protein costs in excess of 10 cents a pound. A pound of digestible protein in cottonseed meal costs slightly less than 4 cents, showing, therefore, that protein in cottonseed meal at \$28 a ton is 2 1/2 times cheaper than protein in corn when the latter sells at 40 cents a bushel.

Feeders in their practice vary in the amount of cottonseed meal used from four to eight pounds of meal a day, depending upon the period of finishing. A quite common finishing ration is one of five pounds of cottonseed meal a day, a head, for steers weighing 1,100 to 1,200 pounds; corn meal, 16 to 20 pounds, and corn, kafir or cane stover without limit. At the Indiana station a ration of shelled corn 16.7 pounds, clover hay 4 pounds, and corn silage 15 pounds, produced an average daily gain on two-year-old steers averaging 1,010 pounds and fed for 180 days, of 1.9 pound a day, a head. When three pounds of cotton-

seed meal was added to the same ration the daily gain was 2.6 pounds. The addition of cottonseed meal to an already excellent ration seemed in this experiment to stimulate the appetite of the steers so that they ate better and gained .7 pound more a day. In this experiment it is shown that the feeding of 116 pounds of cottonseed meal effected a saving of 255 pounds of corn, 63 pounds of clover hay, and 226 pounds of corn silage, in making 100 pounds of gain. Because of their better finish the steers getting cottonseed meal sold for 30 cents a hundred pounds more than the others fed without cottonseed meal.

In the above the advantages of feeding cottonseed meal with a ration superior in every respect to that which our subscriber is feeding, showed great profit in the use of the cottonseed and the use of the cottonseed meal in our subscriber's ration would work out to a much greater advantage than it did in the experiment quoted.

KANSAS STATE UNIVERSITY



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**D A I R Y**



The boy who has studied geometry, or for that matter anyone who has thought about it, will say that the shortest distance between two points is a straight line. A paper before us says in an editorial that "success in every effort usually comes by sticking to a straight line." It at once occurred to us that these remarks apply particularly to the improvement of our live stock. Those men who take up a line of breeding do so with the determination to stick to that breed, and having such determination and following it up they are sure of arriving at the point they seek. The man who starts today with a breed of horses, cattle, hogs, or sheep, and who in a few years changes his breed or mixes the original breed with other breeds, is not following the straight line. To be sure, the selection of a breed depends upon personal inclination and the environment and the purposes for which the breed is to be kept. There are breeds better adapted to certain conditions and to certain purposes than other breeds. Usually there are several breeds of nearly equal value to these different conditions. It is for the man engaging in the breeding of the particular line of stock to take advantage of the breeding done in the centuries past by other breeders and so avoid the experimentation of the past centuries. Progress comes only from a selection of the best there is today and improvement upon that best. It cannot come from beginning with that which 50 years ago was not found as the best. Life is too short to take hold of other than that of the best we have, either in the breeds of live stock or in knowledge with reference to general agricultural advancement.

same way and that they had taken over the home farm and were making money growing feed and keeping hogs, calves, stock cattle, and a bunch of good cows from which the cream was sold. When we inquired as to what he thought was the matter with farmers, he said that it was the farmer's dislike for chores. He went on to say that a farm without chores could not be profitable, that taking care of the calves, looking after the hogs, feeding the chickens, making the cows and all other kinds of live stock comfortable and providing them with plenty of feed was the kind of chores to which he referred. He ventured the remark in about these words, if we can quote correctly from memory: "You go through the country and pick out the men here and there who have made money, reared and educated families and who lived comfortably on 160 acres of land, and you will find men who have always grown feed and kept live stock and who have always had a big lot of chores to do." We propose to apply this gentleman's standard of success to such observations as we are able to make from time to time in our travels. Will you do the same and let us know whether in your judgment he was right or wrong?

A creamery paper printed in a state in which there are large numbers of small creameries—both individually and co-operatively owned—takes these institutions severely to task because of the competition between them in paying abnormally high prices for butter fat. The publication contends that competition between these creameries is responsible for this condition and points to a number of instances in which plants of each kind have failed on account of this competition. It says that the argument is often made by managers of co-operative creameries that it matters not on what basis the settlement for butter fat is made for the reason that there is distributed among the patrons in just proportion all the money there is for distribution and that it consequently makes no difference whether the price per pound butter fat is high and the test is low, or whether the reverse condition exists. It has been the custom, it seems, among some of these individual and co-operative creameries, to reduce the test or the per cent of fat in milk or cream in order that a high price per pound for the butter fat may be paid, on the claim that the patron lays greater stress on the importance of the price than on the test, and some creameries have worked this game to the point that four or five cents per pound more has been paid for fat than the price returned for the butter on the market would justify. To illustrate this point, a farmer sells 100 pounds of cream; the actual test is 40 per cent fat, producing, therefore, 40 pounds of butter fat; if this is worth 30 cents a pound, the value of the butter fat is \$12. If, in testing this cream, the test is manipulated and the farmer is paid on the basis of 30 per cent test or 30 pounds of butter fat in his 100 pounds of cream, the creamery could pay 40 cents a pound for the butter fat and still return to the producer the same amount of money. This is an example of the practice which this creamery publication condemns. It seems somewhat strange that either individuals or co-operative creameries should become a party to such a practice as this. Here is an example of the advantages of a dairy law such as Kansas has and by which licenses are issued to individuals who operate the Babcock test and which licenses are revoked never again to be issued to an individual who misuses the test. Thus, states having any considerable creamery business can afford to pass such a law as has Kansas and thus enforce the conduct of this line of business on the square.

Probably not more than one pure-bred bull of every ten born is needed for use in pure-bred herds. This means, therefore, that nine of every ten pure-bred bull calves are available for use in grading up and improving so-called common herds. If such calves are not used as bulls they are vealed or grown as beef steers. It is apparent, then, that pure-bred bull calves are available to a much greater number than we are using and that large numbers must be vealed or grown, fattened and sold for beef. Somewhere in the neighborhood of 3 or 4 per cent of the cattle of the United States only are pure-bred, and if we remember correctly some figures we recently read, only about 25 per cent of the cattle of the country—meaning both dairy and beef—are high grades or better than seven-eighths pure-bred. The use of pure-bred sires both in the improvement of dairy and beef animals has long been recommended. We believe we are each year increasing the number of pure-bred sires used, but the increase is not at all in proportion to the pure-bred sires available nor in proportion to the demands of the situation. It is difficult to understand why more pure-bred sires are not used. It is a fact that many pure-bred animals are not of superior breeding and are not of superior individual type, but the poorest of the pure-breds are in all probability not any poorer than the best of grades. Pure-bred dairy and beef sires sell at figures which will justify the farmer in their purchase and through the purchase of which he stands a very much better chance for improving his herd than through the use of grades. The pure-bred sire has not yet come into his day. That he will is certain, but the approaching day comes slowly.

Not long since we were attending a meeting of farmers at which we made an address, and the subject assigned us was, "What Is the Matter with Farming in Kansas?" We occupied the time allotted us on the program with some thoughts on this subject. After the meeting a farmer introduced himself and said a number of nice things about our talk, but said that in his judgment there was not a thing the matter with farming, but the matter was all with the farmers. This man went on to say that he was well pleased with the way he had been treated by Providence, by the soil, climate and rainfall which were available in his section. He believed that farming is as good a business as there is, and stated his two boys believed the

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## STANDARD BOOKS

For the farmer and breeder for sale at this office. Send for catalog. KANSAS FARMER, TOPEKA, KAN.

combined in proper proportions for a liberal milk flow economically produced. Not long since we made a trip of considerable length by wagon through one of the eastern counties of Kansas. On this round trip of 60 miles, going one way and returning another, we did not see more than half a dozen wind mills. We did, however, see 25 or 26 farms in the pastures of which were shallow wells with hand pumps. Surrounding conditions, we believe, justified our conclusion that on such farms these shallow wells and hand pumps were the principal source of the water supply for the farm live stock. We do not believe that we have ever yet seen the man who would pump even from a 10-foot well all of the water eight or ten head of cows would drink, particularly so in hot weather. The county over which we traveled is one in which there are numerous running streams and draws in which the water lies close to the surface. The point to be made is this: that feed of the right kind is an absolute essential to the economical and profitable production of all kinds of live stock and live stock products, but all of the best feed in the world without a sufficient supply of clean, pure water for drinking purposes is without avail. No farmer who has eight or ten head of horses and cattle can afford to be without a wind mill or some other mechanical means of pumping water unless he has an abundance of running water at all times available for that stock. The wind mill with a good big tank is generally considered the most economical means for supplying water. However, the gasoline pumping rigs are giving the wind mill a close race these days, and for an absolutely certain water supply the gasoline engine ranks at the top; but the best equipped farm will have both wind mill and engine. The wind mill will pump when the wind blows. The engine will pump when the wind does not blow and will do a lot of other work besides pumping. Do not go into the summer without having arranged for an abundant water supply, particularly if milk cows are kept on the farm.

### Meaning of Breeding Terms.

Subscriber L. A. H., Logan County, writes: "Please explain the meaning of pedigree, cross-bred, grade, and high-grade, as used in the dairy column of KANSAS FARMER."

A pedigree is the record of the breeding of the animal. It gives the registered name and registered number of the animal's ancestry for a considerable number of generations. Pure-bred animals are those only which have pedigrees. In the case of dairy animals the official records of females are included in the pedigree. In the case of males the number of heifers attaining distinction in milk production are shown. In the case of both beef and dairy cattle the pedigree is not only a certificate of pure breeding, but is an index to the breeding value of the animal by making a matter of record the accomplishments of the ancestry.

A cross-bred animal is the offspring of a pure-bred sire of one breed and a pure-bred dam of a different breed.

Grade animals are usually those of which one of the parents is a pure-bred and the other a "scrub," or at least an animal not pure-bred. This is the general meaning. However, the offspring of grade parents would be a grade, also.

The term, high-grade, applies to an animal from a pure-bred sire and from a dam that has much pure blood. However, in the case of both grade and pure-bred the conditions might be reversed and the dam be pure-bred and the sire a grade. This, however, is not usual. A high-grade herd of Jerseys, for instance, would mean ordinarily that a pure-bred sire had been used on a herd of common cows and that another pure-bred sire had been used on the heifers resulting from the use of the first sire, etc. The term, high-grade, begins to apply to the animals which have seven-eighths of pure breeding, or the result of the third pure-bred cross. The term, high-grade, is usually used in connection with the systematic breeding up from common stock.

### Wants Cows to Work for Him.

I cannot afford to work for a cow. I want the cow to work for me, but I never can tell whether she is doing it or not unless I keep a record. This I always do, and even my 10-year-old boy knows just what each of the cows is doing, the milk she is giving and the quantity of butter fat there is in the milk.—H. J. CANNON.

A part of the profit each year should be used to increase the household conveniences. The home is the most important part of the farm and that for which all the rest is operated.

# DE LAVAL CREAM SEPARATORS

## No Excuse for Any Cow Owner Being Without One

There is no reason why any cow owner who sells cream or makes butter should be without a cream separator, and there is no excuse why he should not have the best separator.

Any creameryman or experienced dairyman will tell you that a good cream separator will give you a great deal more and a great deal better butter than you can make with any gravity setting system, and equally, of course, more and better cream, if you are selling cream.

The DE LAVAL is acknowledged by creamerymen and the best posted dairymen the world over to be the "WORLD'S STANDARD" and the one and only separator that always accomplishes the best results possible and always gives satisfaction.

You cannot make the excuse that you can't afford to buy a De Laval, because it will not only save its cost over any gravity setting in six months and any other separator in a year, but is sold either for cash or on such liberal terms that it will actually pay for itself.

A little investigation will prove to you that the truth of the matter is that you really can't afford to make cream or butter WITHOUT the use of a DE LAVAL cream separator.

The nearest De Laval local agent will be glad to demonstrate this to your own satisfaction, or you may write to us direct.

**THE DE LAVAL SEPARATOR COMPANY**  
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

## I Want A Small Light Tractor — One I Can Operate Alone

That's what a prospective customer in Iowa wrote us the other day. Continuing, he said: "I just noticed from your ad in one of the farm papers that you are putting a small tractor on the market, and am anxious to get your catalog describing same. I have several catalogs of small tractors, but most of the concerns who are making them are new at the business and many of them are building only experiments."

This shrewd farmer is evidently familiar with Hart-Parr Quality and Service. Chances are he'll invest in a Hart-Parr "27"—the small, light tractor designed for 160 to 320 acres. It meets medium power needs.

With the Hart-Parr "Self-Lift" Plow (see illustration), it's a strictly One-Man Outfit. Plow is operated by a rope on the clutch lever. You run the entire outfit from the engine platform. Tractor is nearly all steel, strong but light. "Self-Lift" weighs one-third less than any other. Outfit will not sink and mire in soft soil.

Plow has independent self-lift and hand-lift attachments. Strongly constructed, with large clearance, light draft, no gears to clog or break. Special spring beam coupler enables bottoms to readily pass over or skid around obstructions and immediately return to line of draft.

Tractor takes the place of 12 sturdy horses, uses cheapest fuels at all loads and is oil cooled. You can use it for all kinds of work requiring power, from breaking sod to grinding feed.

Write for Special circulars describing both outfits.

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Each board double bolted between 4 pairs of ANGLE STEEL uprights and 4 TRIANGULAR TRUSS BRACES. Patent reinforced SELF-LOCKING HINGE. Gate swings easily both ways—always hangs square and plumb. Elevating Attachment (available at slight additional cost) permits gates to be raised over deep snow or allows small stock to pass under. Write for Free Catalog and FREIGHT PREPAID OFFER TODAY. Address: A.V. Rows, Pres. Rows Mfg. Co., 696 Adams St., Salesburg, Ill.

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Get the genuine—the one with the Quaker label.

With water first softened with Lewis' Lye—or with soap made according to the Lewis' Lye recipe, from grease scraps you'd ordinarily throw away—you can be sure of better results, and cleaner, whiter clothes next wash day.

**Lewis' Lye**  
The Standard for Half a Century

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Genuine Lewis' Lye is only sold in cans having the Quaker label as here pictured. Your grocer has it and vouches for its purity and strength. Write for free booklet of suggestions and new uses of Lewis' Lye in the home and on the farm.

Simply address:  
**PENNSYLVANIA SALT MANUFACTURING CO.**  
Manufacturing Chemists  
PHILADELPHIA

# LIVE STOCK



Word comes from Grant and Stanton counties in this state that the dust storm of Easter cost the sheep men heavily. About 1,300 sheep are reported to have been smothered by the dust in these two counties alone. Nothing is said about the dogs.

**A. R. O. Again.**

KANSAS FARMER frequently has inquiries as to the meaning and significance of the letters A. R. O. when used after the name of a Holstein cow. The meaning, Advanced Registry Official, has been explained, but the significance may be illustrated in the case of a Kansas bull, Tirania Lady Aonda 5th's King has a sister that is breaking the records. She is a heifer with her first calf, and her record for the first 15 days of the test was 52 pounds of butter fat. She gave 89½ pounds of milk in one day and produced 32.3 pounds of butter in seven days.

Raise the calves on the farm, have enough to ship in car lots, feed well and make money. In this way the risk is reduced, the investment lessened, the cost of production cheapened, rough materials are consumed and the land benefited. It don't cost much to raise well-bred calves to baby beef age, and it does keep the working equipment of the farm in profitable use the year round. A carload of home grown steers turned off each year will go a long way towards reducing the operating expenses of the farm.

This shows what breeding will do, and it also shows how much more economical it is to keep producers of this kind than those of the common sort. It also shows the very strong probability, amounting almost to a certainty, that her near relatives will be strong producers, the females at the pail and the bulls as sires of large producing females.

Dr. Paul Fisher, formerly professor of veterinary science in Kansas Agricultural College but now State Veterinarian of Ohio, says that losses from hog cholera are unnecessary because they can be prevented. He proposes a county unit plan of control and says it would look less formidable to the taxpayer. It would be much easier to put into operation, and if carried out by a single county, would at once be demanded by adjoining territory. Fact is, it can never be controlled except through co-operation.

Tirania Lady Aonda 5th's King is the senior herd bull in the Sunflower herd, owned by Frank J. Searle at Oskaloosa, Kan., and his calves certainly leave nothing to be desired by those who wish to secure animals bred for high production.

The average Kansas cow produces about 150 pounds of butter in a year, but the full sister of this bull produced over 60 pounds of butter in the first 15 days of her test, and this with her first calf.

Could any stronger argument be found for good breeding along right lines?

**Demand for Stock Yards Manure.**

The shipment of manure in carload lots from the Kansas City stock yards to the country seems to be on the increase, judging from the report for March, which shows that 95 carloads went out to points in three states. Kansas leads, with 55 carloads, 30 carloads going to Hutchinson alone, a distance of 210 miles. Missouri farmers took 35 carloads, and five carloads went to Arkansas, a distance of 225 miles, the longest distance shipped.

**Ship When Ready.**

Why not ship the cattle when they are ready? This thing of holding for a raise and trying to beat the market never did pay. After the cattle are ripe the added cost of feeding will more than offset any possible advance in market. Too often the feeder holds for a little higher price and, at the first sign of a break, he will rush his cattle to market utterly oblivious to the fact that everyone else is doing exactly the same thing. He simply puts the toboggan under the market and must sell under congested conditions and take what he can get.

If everyone who feeds cattle would ship when they are ready there would be no periods of congestion such as now occur, the market would be more evenly supplied and price fluctuations less variable.

**Thumps in Pigs.**

I thought I would write you and see if you know anything to give to pigs for the thumps. I have some fine ones about a month old and they were doing well until about a week ago, when they began to cough and thump. Their hair looks rough and they are getting thin. I am feeding the sows but little corn, and if you can give me a treatment for these pigs I will appreciate it very much.—CHARLIE RUSSELL, Devon, Kan.

KANSAS FARMER frequently publishes treatment for thumps, but is always glad to answer questions. Thumps in pigs are caused by some disturbance of the digestion. It may be constipation, a lack of exercise, or some unsuitable food. Thumps generally come when the sow is fed too much corn or kafir without any laxative feed, such as alfalfa. The best treatment is to empty the stomach and bowels by giving a purgative. Give from two teaspoonfuls to two tablespoonfuls of epsom or glauber salts, or from one to four tablespoonfuls of castor oil, according to the age and size of the pigs. Then follow this by a spare diet of laxative, nutritious food, such as milk and alfalfa. In order to stop the thumping, give one to four drops of laudanum with one or two teaspoonfuls of aromatic spirits of ammonia in one-half cup of hot water. Then be careful about the feeding.

**The Latin American Trade.**

Too many people are apt to think of the people of Latin America as "dagoes" with all that the name implies. The fact is that Latin Americans are very much like ourselves—keen, shrewd business men, progressive farmers and high-class professional men.

Latin Americans have the same mixture of blood lines that we have. The only difference is that their peoples are founded upon Latin races—Spanish, Portuguese or Italian—while ours are founded upon Anglo-Saxon.

These republics to the south of us are becoming awake to the value of pure-bred live stock and are making heavy importations from the United States and Great Britain. As a large share of their trade is with Europe, it is but natural that their first and heaviest importations of live stock should have been made from across the water.

Now they are turning to the United States, and it is freely predicted that the Panama-Pacific Exposition will see the opening of a trade in live stock with Latin America and the Orient which will amount to a new business. Oriental peoples are becoming interested in the American hog, which differs from anything they have ever seen, as well as in our dairy cattle, while Latin American interest is pretty much confined to our beef cattle and hogs.

As an illustration of this Southern interest it may be cited that one of KANSAS FARMER advertisers, W. B. Wallace of Bunceon, Mo., has just filled an order for breeding Poland Chinas from Tlaxcala, Mexico, while only a few weeks ago he shipped a similar order to Brazil.

**Come to K. S. A. C.**

Prof. W. A. Cochel of the animal husbandry department of the Kansas Agricultural College extends the following invitation to the public:

On Friday, May 2, the animal husbandry department of the Agricultural College will have completed their winter's work in maintaining calves. These five lots of calves were fed as follows:

Lot 1—Corn silage according to appetite. One pound cottonseed meal per head daily.

Lot 2—Kafir silage according to appetite. One pound cottonseed meal per head daily.

Lot 3—Sorghum silage according to appetite. One pound cottonseed meal per head daily.

Lot 4—Corn silage and alfalfa hay both according to appetite.

Lot 5—Alfalfa hay as fed to Lot 4. Shelled corn equivalent to the corn in the silage fed to Lot 4. Corn stover according to appetite.

On this date we expect to have an extremely interesting program, the main

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that will net you from 15c to 20c more on every sheep you shear with a Stewart No. 9 Machine. Don't labor with hand shears, in the old, hard, sweaty way. Don't have aching, swollen wrists. Don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts. Take off the fleece smoothly and quickly in one unbroken blanket with a

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and get a length and quality of wool that will bring the highest price. The Stewart runs so easily a child can turn the handle while you shear. Extra profits soon pay for it. It's the most perfect hand operated shearing machine ever devised. Has ball bearings in PRICE every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart pattern, only \$11.50

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**Stewart Ball Bearing Clipping Machine**

It's a valuable outfit that should be in every stable. Those who know the horse best have agreed that to clip him at the proper time improves him in every way. He looks and feels better, does more work, rests better and gets more good from his feed.

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It's not an easy task to dip sheep, and when it is done you want the satisfaction of knowing that the labor wasn't all wasted. You can have this satisfaction only by getting the best.

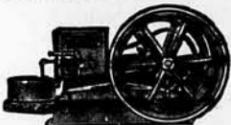
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cannot be improved. It has the Dr. Hess & Clark quality. Every ingredient is analyzed or standardized to absolutely guarantee uniformity. It is non-poisonous, non-irritating, kills ticks and at the same time heals the skin. It meets the U. S. Government's requirements as an official dip for sheep scab. Put it in the hog wallow to kill hog lice, and sprinkle it everywhere to kill germs of disease and clean up the premises. For the kitchen sink and drains it purifies and deodorizes. Get the best and remember it is guaranteed. One gallon makes from 50 to 100 gallons of solution.

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We make all sizes of mills and towers from 20 to 200 feet high. Write us to-day send us your order and save \$25 to \$30. Write to-day—Let us forget.

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also galls. Stuffed with medicated cotton; absorbs impurities of sores. Fit any shape neck. Will not sweeney the horse. If not at your dealer's, write us. Prices \$1.25 and up.  
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**THE POWERS MFG. CO., Dept. H6 Waterloo, Iowa**

feature of which will be a visit to our feed lots where feeders may form their own conclusions as to the relative value of feeds for maintenance in winter. At that time a complete statement will be given as to the cost of the calves, the value of feeds, the gains secured and everything else which may lend interest and instruction to those present.

You will note from the plan of the experiment that a man will be able to see the results from the feeding of silage made from three different sources, the comparison between alfalfa hay and cottonseed meal as a source of protein, and in addition a comparison of corn silage and corn stover or a succulent versus a dry feed. Everybody is invited.

### Manhattan Market Day.

Col. L. R. Brady, who is always on the alert for any good thing for his home city of Manhattan, Kan., writes as follows:

"Have noticed a couple of items in KANSAS FARMER relative to the market day sales at Abilene, Kan., and am enclosing you a copy of the Daily Mercury containing full page ad of the first anniversary market day sale at Manhattan. These sales have been averaging about \$3,000 each, and for the last three sales I have sold 38, 21 and 23 horses respectively. Other articles, such as cattle, hogs, implements, furniture, and anything else that has a commercial value are sold at these sales. The merchants tell me that they can see a great difference in their trade on market day Saturdays than other Saturdays. These sales are held every second Saturday, giving 26 sales for the year's work, and since the inception of the sales on the sixth of April a year ago I have made a sale every second Saturday."

In this connection it may be mentioned that Manhattan Grange is arranging for the establishment of a permanent public market house. On the anniversary sale day addresses were given by Prof. W. A. Cochel, head of animal husbandry, Kansas Agricultural College, and Dr. C. W. McCampbell, secretary Live Stock Registry Board.

### Pithy Pointers.

Despise not the nubbins—little things count.

Dwarf Essex rape can be sown soon. It is good pasture for the pigs, but if you have not a pasture fenced, the corners near the hog pens that now grow weeds will give you lots of rape. Buy a pound of seed and try it. Scratch any sort of little furrows with the corner of the hoe. Some years ago when my hogs had plenty of alfalfa they would clean up some armfuls of rape every time it was thrown over.

Are the sow-pen sheds tight, and pens well drained? Cold wet will do you out of a good bunch of little pigs very quickly.

Are you feeding the sows right for their farrowing? Concentrated corn diet will not do.

If everything all bright and sharp for the field work? Are the burrs on all bolts, and the doubletrees all ready? A day lost a bit later will mean a lot.

The cows are in that debatable period between hay and grass. Extra feed and care pays right now. Bright leafy alfalfa will help out, and a bit of oil-meal in the grain ration.

Starting in is the hard time for the work horse's shoulders. Care about clean collars and clean shoulders and necks will pay for time spent. And it does not pay to push them at first.

Boards and roofing material used to prepare good places for the little chicks and the hens are bringing in good dividends.

The last call for burning old trash piles, fence rows, grassy corners, is about here. They ought to be burnt.

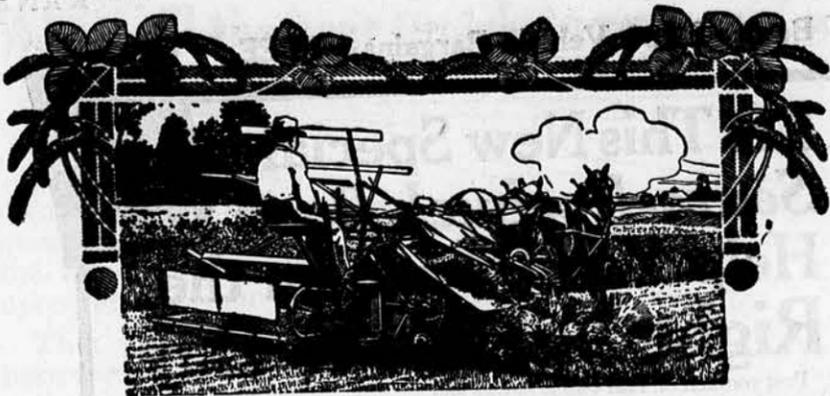
Country telephone lines should be cleared of brush, and the pole that is rotted off replaced.

How about this season's farm business? Are you going to keep an account that will show what pays and what does not? Lots of dead wood would be cut out of some places if that was done for a year.

Are you taking a live, practical farm paper? \*If put in the form of books, \$10 would not buy the information in the 52 issues of a good paper, and ten dimes, or \$1, buys it now.—ALFRED DOCKING.

### Sheltering Machinery.

When a man goes to the expense of buying costly machinery he ought to shelter it in the winter and take care of it. I usually oil all of my plows before storing away for winter, and if any of it needs paint I run over a coat of paint. I think paint is very necessary to preserve the life of your tools. It is good for houses, also, but it seems that there are but few farmers that have learned this.—R. G. LEE in Progressive Farmer.



## Safety at Harvest Time

**A**LL your work leads up to the harvest. At that point you plan to coin the season's labor.

Are you ready for the harvest? Are your machines all in good working order? If there is any doubt, now is the time to look into your machine shed and see.

It is far better to buy a new machine before harvest than after. Get your new machine with the I H C trade-mark and with one of these time-tried names on it—

**Champion Deering  
McCormick Milwaukee  
Osborne Plano**

Any one of these will save delays and insure a speedy harvest without loss of grain.

Now is the time to look over your equipment. If it takes a new machine, order now. Nothing is gained by waiting till the last minute when you cannot expect the service you can command now.

Remember the dealer can give you more time now. The machine you buy now has been made before the rush. You are safer with the machine at home properly set up early than hauling it home after the grain is ready to cut.

If repairs are needed, order them now. If your dealer does not have what you need, he will be able to secure it in time so that you can put it on at your leisure.

Be sure you get I H C repairs and not imitations. The I H C repair part is made the same as the original on your machine except that it is strengthened if found necessary.

Buy your twine early, then you will be safe against a possible shortage. Better have a few balls extra than not enough. You can always use it.

Buy **Champion, Deering, McCormick, Milwaukee, Osborne, Plano, or International**—Sisal, Standard, Manila, or Pure Manila twine—and know that it will work satisfactorily in your binder.

The best is always the cheapest in binder twine as in machines.

Captain Anson used to say, "It is good playing at critical moments that wins ball games." The harvest is the critical moment of the year for you. Play safe on all points by equipping your farm with I H C harvesting and haying machines and binder twine. Catalogues and full information are yours for the asking.

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(Incorporated)

Chicago

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THE TRINIDAD-LAKE-ASPALT

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gives lasting protection to all your buildings.

The natural oils of Trinidad Lake asphalt keep life in Genasco through all kinds of weather on all kinds of roofs.

This makes them proof against rain, sun, wind, heat, cold, alkalis and acids. It is the economical roofing for every building on the farm.

Ask your dealer for Genasco. The **Kant-Leak Kleet** comes with every roll of smooth surface Genasco—does away with cement and prevents nail leaks.

**The Barber Asphalt Paving Company Philadelphia**

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.  
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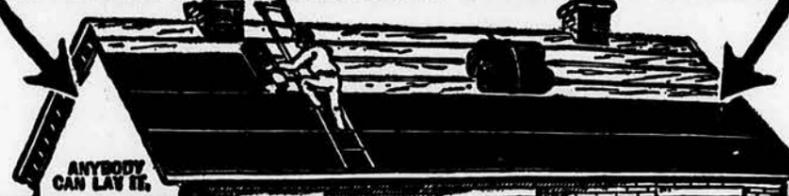
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This splendid buggy at \$59.90 has triple panel auto seat, genuine leather upholstery, highest type body construction, triple braced shafts, best wheels made, full wrought fifth wheel, real long distance self oiling axle. New style auto skeleton top. Shipped from warehouse near you.



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Will do the work right. They are easy on both man and team. They have the materials in them that insure years of hard work. The Buckeye Line is complete. You will find in it the Cultivator suited to your particular needs—a Cultivator that is sold under such a broad and liberal warranty that you run no risk in buying. Send for the new Buckeye Cultivator Catalogue, read it and then go to your local dealer and insist on seeing a Buckeye Cultivator.

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**THE AMERICAN SEEDING MACHINE CO. INCORPORATED**  
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You take no risk when you buy a buggy from us. We guarantee it to please you, and to be a bigger value for your money than you can get anywhere else, or you needn't keep it. Reference; S. Ill. Natl. Bank, East St. Louis, Ill.

**Mutual Buggies, Surreys, Wagons, etc.,** are the highest quality, handsomest, most stylish vehicles built. The only line guaranteed 5 years. We sell direct at wholesale prices—and save you \$25.00 to \$100.00. Write for catalog and delivered prices.

**MUTUAL HARNESS** at \$5.85 per set up; double \$14.10 up; work harness \$19. up, all genuine leather; highest quality; Fully Guaranteed 25 to 50% cheaper than retail. Catalog Free. Write today.

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**\$55.00 VALUE PRICE \$29.50**

# POULTRY



The brooders should be cleaned out every day, or there is great danger of the chicks getting sick by eating or inhaling the filth that accumulates every hour.

Classes in poultry raising are now being taught in some high schools in Nebraska. Guess there will be more money in studying live chickens than the dead languages.

When hens lay double-yolked eggs they are too fat or have diseased ovaries. Such eggs will rarely hatch, so they must be used for cooking purposes. Feed sparing for a time.

Do not forget that in the composition of an egg there is a great proportion of water, and the laying hen cannot produce eggs unless she has all the water she wants, and at the time she wants it.

The sex of eggs cannot be foretold, not one of the old-time theories in this particular having been proved. So there is nothing in the theory that a long, narrow, pointed egg will hatch a cockerel and a round, dumpish egg a pullet.

The price of eggs has been steadily declining and will get still lower as the weather gets warmer and the hens get to laying to their full capacity. Still the price will never get so low as to prevent all profit to the farmer, for the farm fowls turn so many of the otherwise wasted products into eggs that no one can compete with the farmer in the egg business, so far as the cost of production is concerned.

At the national egg-laying contest it was found that the hens lay best that had the greatest variety of food. They had 28 different kinds of feed placed before them all the time. It would be almost impossible to follow this method on the ordinary farm, but a suitable variety can be provided without much trouble. It is best not to have the grains mixed, but to keep them separate and feed one kind a day. Say corn one day, oats another day, kafir another, and so with as many grains as you can conveniently procure. Fowls like a change, and the change will be more appreciated in this way than feeding a number of grains at the same time.

A breeder of poultry that has a number of pens cannot give them free range and he is apt to forget that he must provide everything they need while confined. Just stop and think what they eat when they have free range. They have grass, and bugs, small stones, lime, and grains of different kinds. You should give your confined fowls the equivalent of these. Sprouted oats, cabbage or beets to replace the grass, meat or beef scraps to replace the bugs, and grit, charcoal and oyster shells to replace the miscellaneous articles that they pick up when they have free range. These, with good grains and plenty of fresh water, should provide all they need.

It is a good plan to watch the male bird at this season of the year and see that he gets a share of the feed. There is quite a difference in the actions of male birds at feeding time. Some will gobble up everything that is thrown into the yards without regard to what the hens get. But many others won't eat anything till the hens have eaten the food and then there is nothing left for the male bird. We have known many males to starve themselves nearly to death. When you have such males it is necessary at times to take them away from the hens and feed them liberally. Some put food for the male in a higher place than for the hens so that he only can reach it. But the better way is to feed him by himself for a while.

These days setting hens are more numerous than are required, and it is necessary to break them up. To douse them with cold water or tie them by the leg to a stake is inhuman and should never be practiced. The best way, when such hens are not wanted for incubating purposes, is to put them in a coop by themselves. The coops should be made of wire or lath and have slats for the bot-

tom. The coop should be placed on rocks or bricks several inches from the ground. This will permit a draft to blow through the fluff of the feathers, cooling the hens and lowering their fevered condition. If you have a tree on the place, with wide spreading branches, it would be well to wire this coop to one of the branches and let it swing with the breezes.

A poultry breeder says he cured limberneck in his fowls by giving them a dose of common borax and water. He mixed one and one-half tablespoonfuls of borax in one pint of water and gave the fowls two teaspoonfuls three times a day for the first two days and the same amount twice a day on the third and fourth day.

### Poultry Suggestions for April.

If you intend to use hens for hatching, set them in a dry place where the ventilation is good.

If you do not intend to use hens for hatching, break them up at once and get them to laying again.

A good way to break up a broody hen is to put her in a light airy coop with a wire or slat bottom that you can hang up. This permits free circulation of air, and as it blows up through the sluff it reduces the fever which is in their blood at this time.

This is the month to get out your winter layers.

If you have windows in the hen house, keep them clean, as the hens need all the sunlight they can get these days.

Hens suffer from a damp hen house, so it is well to keep the floor covered with litter.

Be sure to keep plenty of fresh water before the hens. A great amount of water is used to form the egg.

Put your thinking cap on and don't let other work crowd out the chicks.

Let the poultry have a share of the sour milk.

If you have not had the nerve to use the open-front house during the winter, you had better begin now by removing the windows on the south and use muslin.

Eggs from hens that have made a fair showing in laying this winter will be more fertile than those that did heavy laying.

Keep a flock of hens, a good cow or two, prepare for a good garden this year, and you won't have to complain of the high cost of living.

There never will be too many good poultrymen, but we can strive to be among the best.—North Dakota Agricultural College.

### A Remarkable Hen.

In your issue of March 29, page 14, I find an interesting account of the Rhode Island hens owned by Mrs. E. F. Lant, of Dennis, Kan., which leads me to mention a pullet owned by myself. Before going further, permit me to say that it has long been an axiom among horse breeders, as well as among horse dealers, that a good horse is always a good color. So it is with hens. Any profitable hen, no matter of what breed or strain, is a good hen. And now to my pullet: This pullet was hatched March 25, 1912, and began laying September 11, 1912. For 60 days she laid an egg every day, then laid a double-yolked egg and missed a day, then continued laying every day again for 20 days, when she again laid a double-yolked egg, again missing a day. After that she laid an egg every other day and is still doing so, never having shown any signs of becoming broody. This pullet is a full-blood Barred Plymouth Rock, her sire being one of the Bradley strain, and her dam (if that term may be used), of the Flech strain. In all my experience with hens, running through many breeds, I never met with so remarkable a record, and it is needless to add that we are saving her eggs with a view of improving the laying qualities of our flock.—G. S. BATTEY, Cawker City, Kan.

### Indian Runner Ducks.

Raising Indian Runner ducks is not only profitable, but very pleasant and profitable work. A flock of Indian Runners of standard weight and as near the true fawn and white as possible is a beautiful sight. One point in their favor, although they love a creek as well

# FITZ OVERALLS

FIT EVERY ONE FROM A THREE YEAR OLD BOY TO A THREE HUNDRED POUND MAN NEXT TIME YOU BUY INSIST ON FITZ.



BURNHAM MUNGER

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## Best ROUP Preventive



Try it at Our Expense We will send you a sample bottle containing enough to satisfy you that B-K is the best preventive and remedy for roup, cholera, gapes, white diarrhoea and other germ diseases.

10 Times as Powerful as Carbolic Acid. Colorless, Non-Poisonous Germ Destroyer and Disinfectant. Just put a few drops in the drinking water and sprinkle floors, roosts, coops and nests with a dilution of B-K. It solves your poultry disease problem. Does not cause hens to drink less or slack up in laying. Cost is trifling. Write for sample, (15¢) General Purification Co., 609 Pioneer Bldg., Madison, Wis.

World's Champion 140-Egg Incubator. Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder, \$4.25. Ordered together, \$11.50. Freight Paid (E. of Rockies). No machines at any price are better. Satisfaction guaranteed. Write for book today or send price now and save time. Jim Rohan, Pres. Belle City Incubator Co., Box 18, Racine, Wis.

## Harness & Saddles

At Wholesale Prices—Freight Prepaid. Save big money buying direct from the maker. Here is one item: Halter, 1 1/2 inch wide, extra heavy, three copper rivets each lap, \$1.50 retail, our price \$1.00. Simply send name for big free illustrated money-saving catalog. We prepay freight and guarantee goods for two years. Write today. H. & M. HARNESS SHOP, Dept. 57 Stock Yards, St. Joseph, Mo.



Pump Grind Saw Made for hard use. Wood Mills are Best. Engines are Simple, Feed Grinders, Saw Frames, Steel Tanks Catalogues free. Agents wanted. Perkins Wind Mill & Engine Co. Est. 1860 140 Main St. Mishawaka, Ind.

## Tells Why Chicks Die

J. C. Reefer, the poultry expert of 1649 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This remarkable book contains some new scientific facts on white diarrhoea and tells how to prepare a simple solution that cures this terrible disease over night; everyone interested in poultry should certainly write Mr. Reefer for one of these free books.

## Buy the PETERS STRAIN

Of Single Comb White Leghorns. Use the Peters method in handling your birds and you will never peter out in the poultry business. Select eggs for hatching, \$1.50 per fifteen. A. N. PETERS, Crane, Mo.

## PARCEL POST EGG BOXES

For mailing 3 dozen eggs. Made strong. Each egg has cotton lined compartment. Be first to keep your grocer supplied with fresh eggs. Price, 90¢; 3 for \$2.50, postpaid. Order today. Going like hot cakes. PARCEL POST EGG BOX CO., 700 West Eleventh St., Kansas City, Mo.

## EGGS -- EGGS -- EGGS

Cornish Games and Rose Comb Rhode Island Reds. Farm range birds, separate farms. Eggs, \$1.00 for 15. L. L. Clark, Meriden, Kan.

## White Plymouth Rocks

Again prove their superiority as egg layers in the National Egg-Laying Contest, one White Rock hen laying 281 eggs; 645 hens competing. I have bred White Rocks exclusively for 20 years and have them as good as anybody. Eggs from three high-scoring pens, \$2.00 per 15; \$5.00 per 45, delivered free by parcel post or express. Safe delivery guaranteed. A limited number of eggs from a specially fine mated pen, \$5.00 per 15. You will get what you order, or money refunded. THOMAS OWEN, Station B, Topeka, Kansas.

as any duck, and will go some distance, they never fail to come up at night for their supper and go to their house. The young ones are more easily handled than young chicks and show greater intelligence. At feeding time each set of young ducks knows its own feeding crop, and it looks odd to see them file into different coops waiting for food. I never saw a flock of young chicks that would do so and make as little trouble about handling. First feed bread squeezed dry out of milk or water, then corn bread, and later a mash twice a day of bran, shorts and corn meal. I raise mine on range and have never lost one except a few by crows. They cause less trouble and worry than chicks. If kept in a house with board floor, with clean, dry litter, and not let out in snow, they lay well in winter, and from February to July or August the number of eggs they lay is astonishing. These beautiful white eggs excel hen eggs for cooking, as they thicken more quickly and are not strong in flavor. For profit and pleasure the farmer's wife should raise Indian Runners.—Mrs. E. F. LANT, Dennis, Kan.

### Kansas Weather in March

Kansas experienced considerably cooler weather, with less precipitation than usual, and about the usual amount of sunshine during March, 1913. The average precipitation for the state was 0.94 of an inch, which is 0.48 of an inch below normal. Very few counties in the western third of the state received over a quarter of an inch of moisture during the month. Over the middle third the average was less than half an inch, but the eastern third fared better with from 1 to 5 inches generally reported.

At more than four-fifths of the stations reporting there was less than the normal amount of precipitation, practically the only counties reporting an excess being a few in the southeastern portion.

The snowfall during the month generally ranged from 1 to 3 inches, the state average being 2.4 inches. At most stations it remained on the ground but a few days.

The deficiency in precipitation was not serious in any part of the state, and the cool weather had the effect of retarding the growth of vegetation and decreasing the consequent liability of damage from late frosts.

### White Diarrhoea.

Dear Sir:—I see reports of so many losing their little chicks with bowel troubles, so thought I would tell my experience. I used to lose a great many of my little chicks from this cause, tried a good many remedies and was about discouraged with the chicken business. Two years ago they began to die and I thought I would try Walker's Walko Remedy. I used two 50c packages, raised 300 White Wyandotte chickens and never lost one or had one sick after getting the medicine. Readers can get it by sending 50c (M. O.) to the Walker Remedy Co., E-8, Lamoni, Iowa. I wouldn't try to raise incubator chicks without it.—Mrs. C. M. BRADSHAW, Beaconsfield, Iowa.—(Adv.)

### Sub-irrigation Thoroughly Practical

(Continued from Page Five.) any depth. This machine also makes, with one operation, a perforation in the form of a slot in the bottom of the tile. One man alone can make as much as 600 feet of tile per day.

An important feature of this kind of tile is that the perforation being on the under side, the earth will not settle into it and thereby clog the opening. This opening on the under side also allows the danger of freezing is eliminated, making it possible to thoroughly soak the ground during the winter. It is found that the most feasible plan is to lay the tile about eight feet apart so that the moisture is only required to soak back four feet each way. Following the plan the cost is about \$20 for cement to tile one acre.

"The average farmer would rather undergo a surgical operation than write a letter." Maybe so, but this is because he has no typewriter. Rebuilt machines of standard makes can be bought as low as \$25 and they sure do beat a rusty pen.

Nothing adds value and preserves value like the paint brush in activity. Dormant it don't help.

One of the best and most valuable farm implements is a lead pencil. "Figgerin' and farmin'" does pay.

What did the "rag doll" corn tester tell you this time?

# What will the year 1913 do to your car?



Every automobile owner must face the above question. At the end of the season the value of your car will depend almost wholly upon the condition of your motor.

That will depend mainly on the lubricating oil you have used.

Motor-wear is not accidental. It results from friction. Excessive friction is bound to follow the use of an oil whose "body" is unsuited to your feed system, or whose lubricating qualities cannot properly stand up under hard service.

- An incorrect oil causes:
- (1) Undue loss of power.
  - (2) Unnecessary repair troubles.
  - (3) Excessive consumption of fuel.
  - (4) Excessive consumption of lubricating oil.

To avoid these losses, your motor must be given:

- (1) An oil that will retain efficient lubricating qualities during the heat of service.
- (2) An oil that will wear well in use.
- (3) Oil of a "body" that will properly reach the various friction points.

Motors differ. No quick method can determine the oil that best meets the requirements of your car.

The construction of your motor must be analyzed and carefully considered.

We have undertaken this serious problem with the thoroughness that has established our standing in the general lubricating field.

Every year we carefully analyze the motor of each make of automobile.

Based on this motor-analysis, and on practical experience, we specify in a lubricating chart (printed in part on the right) the grade of Gargoyle Mobiloil best suited to your motor. If your car is not among those named, be sure to send for our complete chart.

The superior efficiency of the oils specified has been thoroughly proven by practical tests. In sheer lubricating quality, we can safely say that they stand alone.

If you use an oil of less-correct "body" or of lower lubricating efficiency than that specified, your motor faces unnecessary friction and ultimate serious damage.



The various grades of Gargoyle Mobiloil, refined and filtered to remove free carbon are: Gargoyle Mobiloil "A", Gargoyle Mobiloil "B", Gargoyle Mobiloil "D", Gargoyle Mobiloil "E", Gargoyle Mobiloil "Arctic". All are branded with the Gargoyle, which is our mark of manufacture. They can be secured from all reliable garages, auto-supply stores, hardware stores and others who supply lubricants.

VACUUM OIL CO., Rochester, U. S. A. BRANCHES: DETROIT, BOSTON, NEW YORK, CHICAGO, PHILADELPHIA, INDIANAPOLIS. Distributing warehouses in the principal cities of the world.



Explanation: In the schedule, the letter opposite the car indicates the grade of Gargoyle Mobiloil that should be used. For example: "A" means "Gargoyle Mobiloil A." "Arc." means "Gargoyle Mobiloil Arctic." For all electric vehicles use Gargoyle Mobiloil A. The recommendations cover both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CARS	1909		1910		1911		1912		1913	
	Summer	Winter								
Abbott Detroit	A	Arc.								
Alco	A	Arc.								
American	A	Arc.								
Apperson	A	Arc.								
Autocar (4 cyl.)	A	Arc.								
Autocar (6 cyl.)	A	Arc.								
Avery	A	Arc.								
Buick (4 cyl.)	A	Arc.								
Cadillac (4 cyl.)	B	A	B	A	B	A	B	A	B	A
Cadillac (6 cyl.)	B	A	B	A	B	A	B	A	B	A
Cartier	A	Arc.								
Cater	A	Arc.								
Chalmers	B	B	B	B	B	B	B	B	B	B
Clegg	A	Arc.								
Coke	A	Arc.								
Coupe	A	Arc.								
Elmore	A	Arc.								
Flanagan	E	E	E	E	E	E	E	E	E	E
Flanagan (6 cyl.)	E	E	E	E	E	E	E	E	E	E
Ford	B	B	B	B	B	B	B	B	B	B
Franklin	B	B	B	B	B	B	B	B	B	B
G. M. C.	A	Arc.								
Orsmen	A	Arc.								
Gramp-Logan	A	Arc.								
Hershey	A	Arc.								
Hewitt (4 cyl.)	A	Arc.								
Hewitt (6 cyl.)	A	Arc.								
Hudson	A	Arc.								
Hupmobile "20"	Arc.									
Hupmobile "30"	Arc.									
I. H. C. (6 cyl.)	A	Arc.								
International	B	A	B	A	B	A	B	A	B	A
Interstate	A	Arc.								
Jackson (4 cyl.)	A	Arc.								
Kelly	A	Arc.								
Kelly Springfield	A	Arc.								
Kline-Kar	A	Arc.								
Knob	B	A	B	A	B	A	B	A	B	A
Krit	A	Arc.								
Marion	A	Arc.								
Marmon	Arc.									
Matheson	A	Arc.								
Mazda (4 cyl.)	E	E	E	E	E	E	E	E	E	E
Mazda (6 cyl.)	E	E	E	E	E	E	E	E	E	E
Mercur	A	Arc.								
Michigan	A	Arc.								
Mitchell	A	Arc.								
Moon	A	Arc.								
National	A	Arc.								
Oakland	A	Arc.								
Oldsmobile	A	Arc.								
Overland	A	Arc.								
Packard	E	E	E	E	E	E	E	E	E	E
Paige Detroit	E	E	E	E	E	E	E	E	E	E
Patfinder	A	Arc.								
Pope Hartford	A	Arc.								
Premier	A	Arc.								
Pullman	A	Arc.								
Rambler	A	Arc.								
Rapid	A	Arc.								
Rayfield	A	Arc.								
Regal	A	Arc.								
Roo	A	Arc.								
Selden	A	Arc.								
Service	A	Arc.								
Speedwell	A	Arc.								
"Mead"	A	Arc.								
Stevens Duryea	Arc.									
Studebaker	A	Arc.								
Thomas	E	E	E	E	E	E	E	E	E	E
Walter	A	Arc.								
Warren Detroit	Arc.									
White (Gas)	A	Arc.								
Winton	E	E	E	E	E	E	E	E	E	E

## THE PAPEC

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Cut silage perfectly, and at a very low cost of operation. Papec knives cut smoothly and swiftly. They make a fine, uniform silage that is very palatable and nutritious. The combined throwing and blowing force that lifts the silage is generated from one fifth less power than is required by any other blower doing the same work. Mechanical perfection and high quality of material mean long life, no loss of power and low cost of operation. Our new illustrated catalog gives facts showing how "The Wonderful Papec" will save time and money at cutting time. Send for copy today. PAPEC MACHINE CO. Box 43 SHORTSVILLE, N.Y. 20 Distributing Points in the U. S.

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The book entitled "The History of White Diarrhoea, or Why Incubator Chicks Die," will be sent absolutely free by return mail, to anyone sending us the names of 7 to 10 of their friends that use incubators. This book can save you \$100 this summer. It describes white diarrhoea or bowel trouble, the cause, and tells the cure. BOOK ABSOLUTELY FREE FOR THE NAMES. RAISALL REMEDY COMPANY, BLACKWELL, OKLA.

MENTION KANSAS FARMER WHEN YOU WRITE.

# The Cook-Stove is the most used implement on the farm, yet—

some farmers' wives are content—and some husbands are content to let them—put up with the out-of-date, back-breaking, nerve racking, work-making coal range, for washing and ironing and cooking.

All the old-time discomforts of the cook-stove—its dirt, its ashes, its filling and refilling, its feverish heat, its uncertain baking, its delays and its expense—are now spared housewives who know the efficient, economical



## New Perfection WICK BLUE FLAME Oil Cook-stove

Uses oil. At two-thirds the cost of gas and one-half the cost of gasoline. Lights in a second. Intense blue flame. No odor.

Write now and let us send full descriptive booklet and give the name of your near-by dealer who handles the NEW PERFECTION and will gladly demonstrate.

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Please send me your 72-page Cook Book  
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(99)



## For Dainty Girls OR Husky Boys

### "Tess and Ted" School Shoes for Girls and Boys

Public School authorities declare that many of the ills of childhood are due to badly fitting shoes, but "Tess and Ted" School Shoes are recognized as the ideal footwear for children.

These famous shoes are made in about 100 different styles for boys and girls of all ages. They are designed to fit properly and the best of leather is put into every shoe. Ask to see Style 3385, for girls.

"Tess and Ted" School Shoes look better, fit better, and wear longer than ordinary shoes made for children. You may pay a few cents more for them, but the cost per day is less because they last longer.

Our 23 big "Star Brand" factories employ 10,000 expert shoemakers. The most skilled artisans on children's shoes have been selected to make "Tess and Ted" School Shoes.

"Tess and Ted" and other "Star Brand" Shoes are sold by 20,000 good merchants. Don't just go into ANY store and ask for them, but hunt up the "Star Brand" dealer, or write to us for name of nearest merchant who sells them.

Beware of shoddy shoes. Always insist upon having "Star Brand" Shoes. Every pair is made of good leather. No substitutes for leather are ever used.



This Star on Every Heel  
"Star Brand Shoes Are Better"



**ROBERTS, JOHNSON & RAND**  
MANUFACTURERS. Branch of International Shoe Co., ST. LOUIS

**In Wet Weather**  
You will find many uses for a  
**Fish Brand Reflex Slicker**  
The Coat that keeps out ALL the rain  
Roomy, comfortable, well made, and of such high quality that it gives longer service than ordinary slickers.  
**\$3.00 Everywhere—Pommel Slickers \$3.50**  
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If not at your dealer's, sent prepaid on receipt of price. Write today for illustrated folder.  
**A. J. TOWER CO., BOSTON**  
Tower Canadian Limited, Toronto

# HOME CIRCLE



## BRAD'S BIT O' VERSE.

### The Real Optimist.

It doesn't require a great effort to smile when prosperity comes to you all in a pile. It isn't so hard to be thankful and glad when you have all the good things there are to be had. You can be a great optimist all of the time and think of this world as a place most sublime, you can scatter the joys with a bountiful hand, you can love all the roses that bloom in the land, you can boost for the sunshine when skies are all fair—oh, it's easy to smile when you haven't a care. But when the hard times come and knock at your door, when the glooms bring a blanket and cover you o'er, when a smile seems to make a big crack in your cheek and your voice has a far-away sound as you speak, when the birds cease to sing and the day brims with grief, and your troubles hang on with no sign of relief, when you reach for a rose and get stung by a thorn and the years stretch before you all gray and forlorn, when you see the lean wolf coming out of his den—oh, it takes nerve to be a real optimist then.

To keep turnips from tasting bitter, boil a potato with them.

A sprig of mint put in the kettle when boiling new potatoes is said to improve their flavor.

Flies are said to have a great aversion for mignonette, so plan to grow some this summer and keep bunches of it in the different rooms.

If a little milk is added to the water in which potatoes are to be boiled it will not only make them whiter but give them a better flavor.

A very pleasing variety for a breakfast dish is to add a few very thin slices of smoked beef to the breakfast bacon and cook them together.

The next time you are scaling a fish, hold it up by the tail in scalding hot water a half minute and the scales or skin can be removed very easily.

It is said a good way to clean white buckskin shoes is to take a small brush and make a lather of good scouring soap. Brush the lather thoroughly into the shoes and when dry brush it off again.

A custard pie that is said to be delicious is made by adding a cupful of finely ground hazel nuts or pecans to the custard. They will rise to the top and form a crust that is most appetizing.

### Kodak Films Developed Free.

Send a roll of films to J. C. Wolcott, Topeka, Kan. They will be developed free for you, to show you his high grade work. Write for price list and sample print.—(Adv.)

French chalk placed for a few hours on a soiled spot in either a gown or drapery will remove the grease.

It is said that steamed icing is better than boiled icing when made in the following way: Beat well whites of eggs with five tablespoonfuls of granulated sugar; beat again. Put in a double boiler, cover and steam 10 minutes. Take from fire, beat with spoon till cold, flavor with vanilla. This will not run off the cake and will not crack. It will remain soft. A pinch of cream of tartar added while it is cooking improves any icing.

When buttermilk is scarce and you wish to keep it several days, an easy method for doing so is to fill the vessel with fresh water each time after using some of the milk, and pouring it off before using again. This is a simple but effective means of keeping the milk fresh.

### How to Test the Iron.

How can one tell when the iron is hot enough for ironing? It depends upon the fabric to be ironed. Linens and cottons should be ironed with a hot iron. Woolens and silk should be ironed with a moderately hot iron. To tell when an iron is hot enough, test it upon a crumpled piece of newspaper. If it smooths the paper without scorching it is hot enough for cotton or linen. When the iron is too cool for ironing linens and cottons well it is about right for ironing woolens and silks.—Home Economics Department, North Dakota Agricultural College.



No. 6071—Ladies' Blouse. This waist is one of the newest models in shirt blouses and has the latest style dropped armholes. It may be made with or without the center box plait and the neck is finished with a turn-down collar. The sleeves have novel cuffs and the general appearance of the blouse is chic and stylish. The pattern, No. 6071, is cut in sizes 34 to 42 inches bust measure. Medium size requires 2 1/4 yards of 36-inch material. Price of pattern, 10 cents.



No. 6062—Children's Frock. This dress may be made with high or low neck and with long or short sleeves. It fastens at the front and collar. Cuffs and wide belt are made of contrasting material. The pattern, No. 6062, is cut in sizes 2 to 8 years. Medium size requires 2 3/4 yards of 36-inch material and 1/2 yard of 27-inch contrasting material. Price of pattern, 10 cents.



No. 6065—Children's Dress. This dress has the fastening at the side of the front and has a dainty two-piece skirt. The neck is collarless and the sleeves may be long or short. The cuffs and belt are fashioned of contrasting material which gives the frock a pleasing trimming touch. The pattern, No. 6065, is cut in sizes 4 to 10 years. Medium size requires 2 3/4 yards of 36-inch material and 1/2 yard of 27-inch contrasting material. Price of pattern, 10 cents.



**Is**  
 — highest in quality  
 — surest in results  
 — moderate in price  
 Try it and see

### FEATHER BED BARGAINS

Send us this ad with \$10.00 Money Order and we will ship you one first-class New 40-pound Feather Bed; one pair 6-pound New Feather Pillows, worth \$2.50; one 6-pound New Feather Bolster, worth \$2.50; and one pair Full Size Blankets, worth \$3.50, all for \$10.00. All New goods and no trash. Biggest bargain ever offered. Satisfaction guaranteed. This offer is good for a short time only. Mail money order now or write for circular and order blanks. Reference, American Exchange National Bank, Address, Southern Feather and Pillow Co., Dept. 55, Greensboro, N. C.



**SILK REMNANTS**  
 Wonderful Bargains in Pound Boxes of beautiful Large Silk Remnants for fancy work, quilts, portieres, pillows, etc. One pound will make a grand bedspread. Send 10 cents for a big package of lovely samples. If not delighted, return them and get 25 cents for your trouble.  
 AGENTS WANTED  
 HAMMOND SILK CO., Box 36, Spangler, Pa.



**Cheap as Wood-Lawn and Farm Fence.** Sell direct, shipping to users only at manufacturers' prices. WRITE FOR FREE CATALOG. UP-TO-DATE MFG. CO., 916 10th St., Terre Haute, Ind.



**Evergreen Bargains**  
 \$4.50 and up per thousand. Hill's fine, hardy nursery-grown evergreens never disappoint. Protect crops—Increase value of land—make house and barn warmer—save fuel—save feed. Free Evergreen Book illustrated in colors tells how and lists 50 Bargain Offers. Write today.  
 D. Hill Nursery Co., Inc. Evergreen  
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**TRENT'S Seed Corn**  
 First prize six consecutive years at Manhattan State Corn Show —proves I have best strains Seed Corn in the West. Reid's Yellow Dent, Boone Co. White, fire dried, tested and guaranteed.  
**SPECIAL PRICE FOR REID'S YELLOW DENT.**  
 Write for free catalog.  
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**BILL BROOK FARM SEED CORN**  
 Boone County White and Reid's Yellow Dent. Well matured and well selected. Shelled and graded, \$2.25; in ear, crated, \$2.75.  
 H. O. TUDOR, HOLTON, KAN.

**COW PEAS**  
 Are great soil builders and money makers. Renew the fertility of your land and harvest a crop the same season.  
 Dwarf Kafir, Dwarf Milo, Broom Corn and other profitable crops suitable for the great Southwest. Quotations and 1913 Seed Book free for the asking.  
 ROSS BROTHERS SEED HOUSE,  
 317 E. Douglas Ave. Wichita, Kan.

**SEED CORN**  
 Plant the best. I have Boone County White, Hildreth's and Reid's Yellow Dent. Carefully selected, thoroughly tested, and graded. Write for prices and samples. I sell only my own growing. Money back if not satisfactory upon receipt of shipment.  
 M. T. KELSEY, NORTHWOOD FARM,  
 106 Arter Ave., Topeka, Kan.

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 Boone County White, Reid's Yellow Dent. Pure-bred, guaranteed, or send back at our expense. F. O. B. cars, \$1.75 per bushel, shelled and graded or crated ear. Five-bushel order or more is 25c less. Orders filled at once.  
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 R. F. D. 3 N. E. Phone No. 1515.

**PURE SEED CORN.**  
 Hildreth, Kansas Sunflower, Boone County, Commercial White, White Pearl, Kafir. Fully guaranteed. Write for sample and circular.  
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**SEED CORN.**  
 Reid's Yellow Dent. Manhattan test, \$4.5; yield per acre, 75 bushels. Selected from field before frost. Also Pride of Holton, White, test 100, yield 113 per acre. This is the best corn I ever saw. Price per bushel, sacked, \$1.50, f.o.b.  
 H. F. ERDLEY, Holton, Kan.

**FOR SALE—Scotch Collie Pups.** Sable and White stock farm.  
 U. A. GORE, Seward, Kan.  
 When writing advertisers, please mention Kansas Farmer.

### WORK AT HAYS STATION

Plans Methods and Results at Western Experimental Farm

SINCE the establishment of the Hays Experiment Station, KANSAS FARMER has been urging upon its Western Kansas readers the value of that station to the western farmer as an aid in working out his agricultural problems. We remarked along this line a few weeks ago, and within the last few days we received a letter from C. A. O., Rooks County, asking us to name one thing of benefit the Hays station had done for the western farmer, or for that matter anyone else, except those who profit by selling their time to the state for pretended work. This subscriber and others who may hold the same or similar view will be answered by a series of articles builded from material contained in 1912 Hays station report. The first follows:

A definite rotation, involving all of the general fields on the station farm, was put into operation in the fall of 1911. The rotation is for three years and is: Wheat, kafir, and summer fallow. This affords ample opportunity to store in the soil abundant moisture before crops are planted, which, supplemented by the regular rains, should insure profitable crops in all ordinary seasons.

Summer fallowed land produces the highest yield of wheat. The season of 1911 was abnormally dry, so it was not possible to accumulate the usual supply of moisture in the summer fallow. For these reasons the wheat on the summer fallow did not have an advantage over wheat sowed on other ground, as it normally has.

The principal crops produced for local consumption and for sale are those generally adapted to Western Kansas. These are: Wheat, kafir, alfalfa, corn, sorghum, barley, oats, and spring wheat—barley and oats and spring wheat on a comparatively small scale.

Winter wheat was grown on 375 acres in 1912. A part of this was summer fallowed, part old wheat ground, part corn land and part fallowed where cane had been plowed up early. Several methods of soil preparation were used in the fall of 1911, with these results:

Summer fallowed, early summer plowed and surface tilled, 36½ bushels an acre.

Partly fallowed, summer plowed, 22 bushels an acre.

Wheat after wheat, usual fall plowing, 26 bushels an acre.

Wheat after corn, fall plowed, 18 bushels an acre.

This does not mean the usual result in wheat growing with the methods described. The result given was brought about by a combination of soil handling, its condition in 1911, and the climatic factors of 1912. Russian Kharokof wheat has been generally grown on the larger areas, but Red Turkey and Ghirka received increased plantings last season and will be so continued. These are the varieties grown for seed distribution in Kansas.

Early disking of the ground increased the yield 4.4 bushels an acre. Land disked July 20 and plowed August 7 to 17 gave 24.9 bushels an acre, while similar ground plowed at the same time, but not disked, gave 20.5 bushels an acre.

Ground double disked July 18-20, and again August 24-26, gave 26.8 bushels an acre, or nearly two bushels more than that which had been disked and then plowed. Where the rainfall is not sufficient properly to settle the ground during the summer, as it was in 1911, better results can be obtained by shallow cultivation of the soil preparatory to seeding it to wheat.

Information regarding the use of the deep tillage plow is greatly in demand by Western Kansas farmers. An experiment involving the use of one type of deep tillage plow was started in the fall of 1911. A 60-acre field was fall plowed 12 inches deep. This field was summer fallowed in 1912. The station harvested 8,500 bushels of winter wheat of 1912 crop, a general average of 22½ bushels an acre. A part of this was sold at harvest time and considerable seed was distributed.

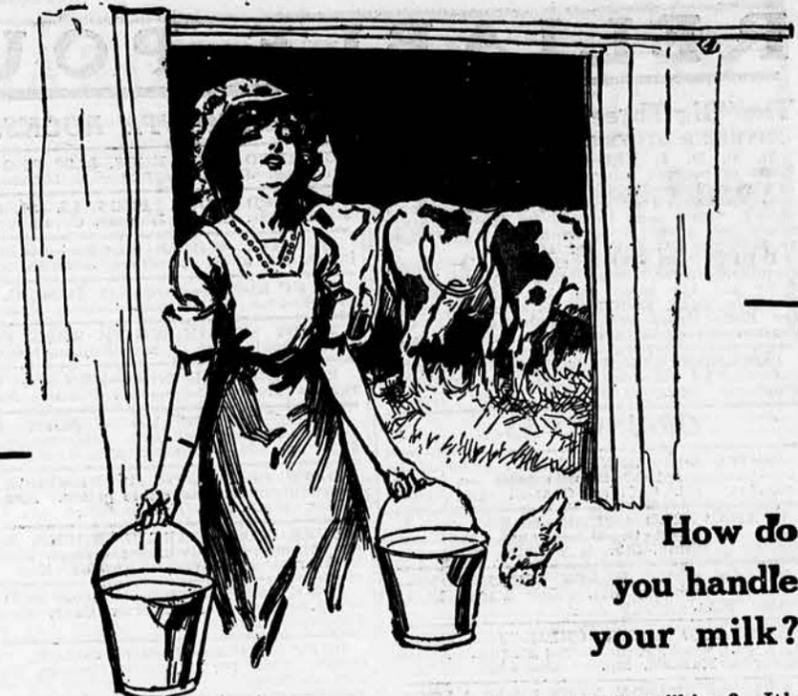
The station grew 280 acres of kafir in 1912. This is the most extensively grown cultivated crop at the station.

Late spring frost and hard showers, just as the young kafir plants were starting, demanded considerable reseed-

ing.

Why not fix up the fair grounds for a park and use them every day in the year instead of only a few days each fall?

Don't hurry about getting rid of the old bull if he is a good sire. It is sometimes better to change the female part of the herd than to risk a new bull.



How do you handle your milk?

ARE you getting every cent, per quart, out of your daily milking? It's all a matter of method. When you know that you are disposing of your dairy products in the most profitable way—only then can you take the interest in your dairy that will make it a complete success. Make a comparison by actual figures of your present dairy earnings and what they would be with a

# SHARPLES

## TUBULAR CREAM SEPARATOR

This is easy to do. There is a Sharples agent near you who can quickly bring the facts down to a basis of dollars and cents. Have a talk with him.

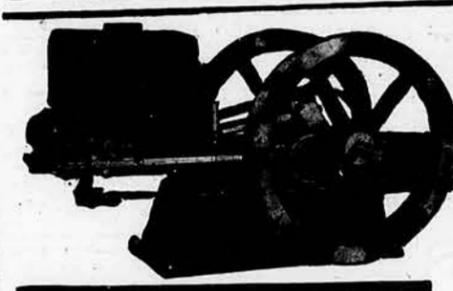
He will demonstrate the Sharples to you—the unequalled skimming power of its wonderful tubular bowl—the bowl that has only 3 simple parts, which naturally makes the washing and cleaning a very simple matter.

To buy a Sharples is not an expense. You simply apply your money to a most profitable investment so that you make it over and over again, year after year. And the Sharples name is your bond—as it has been for hundreds of thousands of farmers and dairymen for 32 years. Write for our Separator literature. And if you do not know our nearest agent, mention the fact in your request.



**THE SHARPLES SEPARATOR CO.**  
 West Chester, Pa.  
 Branch Offices: Chicago, Ill. San Francisco, Cal.  
 Portland, Ore. Dallas, Tex.  
 Agencies Everywhere

If you milk twenty or more cows, the Sharples Mechanical Milker holds out wonderful new prospects for you. Write for catalogue.



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Get The Most For Your Money

The cost of a farm engine in the end depends upon the length of time it will last and its economy of operation. A good farm engine lasts a lifetime, always does good work, and costs but little to operate. By getting a good engine you save both money and trouble.

"INGECO" Farm Engines are not high priced, but in design and construction they are the highest grade engines made. Remarkable for their economy in fuel—on steady work they soon pay for themselves. Reliable, quick to start, simple to operate. They run as long as fuel is supplied.

FROM 1½ H. P. UP TO 60 H. P. PORTABLE, SEMI-PORTABLE, STATIONARY.

Write at once for the name of the nearest dealer and catalog describing "INGECO" Engines, and the reasons why you should consider this engine. By all means do not buy until you have found out all about "INGECO" Engines. The "INGECO" is the best all round farm engine made. It is the kind of farm engine you need on your farm.

International Gas Engine Company  
 161 Holthoff Place, CUDAHY, WIS.  
 (Suburb of Milwaukee)



## \$50 REWARD \$50-\$50 REWARD \$50

KANSAS FARMER will pay a reward of \$50 to the person who names the winner of the big \$275 Yale Motorcycle Contest just started by KANSAS FARMER and announced in the full page advertisement on page 2 of last week and on page 19 this week. Send in your name or the name of a friend to be a contestant. If you enter yourself, and win, you get the MOTORCYCLE and \$50 IN GOLD besides for naming the winner, or if you name some friend and that friend wins the Motorcycle, then you get \$50 in gold for naming the successful contestant. This is a fine chance to make \$50 easy and win a \$275 Motorcycle besides. Each contestant gets paid liberally in cash for each subscription secured. All names must be received within 30 days. Send YOUR name and address on the Coupon below TODAY (it costs nothing to enter), and the name and address of the contestant on the blank under the Motorcycle Ad, to Contest Manager KANSAS FARMER Motorcycle Contest, 625 Jackson Street, Topeka, Kan.

My Name .....

My Address .....

# RELIABLE POULTRY BREEDERS

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**MYERS & STOVER, FREDONIA, KAN.**  
**E. C. R. I. RED CHICKENS**—Choice birds of correct color, shape and markings. 52 premiums—30 firsts—color and shape specials and silver specials in this season's shows. Five pens headed by Kansas State Show and other show winners. Eggs, \$1.00 to \$5.00 per 15; \$4.50 per 100.

**INDIAN RUNNER DUCKS**, American standard, light, fawn and white. Eggs, \$1.50 per 15; \$8.00 per 100. Pure White Runners, eggs, \$3.00 per 12. Both varieties are high class, prize winning birds. Oft showed—never defeated. Erect, racy carriage, heavy layers, white eggers.

**BOURBON RED TURKEYS**—Big, hardy, domestic as chickens. Fine color, yearling breeders. Eggs, \$3.00 per 11. Free catalog.

### ORPINGTONS.

**WHITE ORPINGTON EGGS**, \$2.00 PER 15—\$10.00 per 100. Special price on larger amounts. Ed. LeClere, Central City, Iowa.

**GUARANTEED PURE-BRED S. C. White and Buff Orpington eggs**, \$1.50 per 15. J. A. Blunn, Sta. A, Wichita, Kan.

**SINGLE COMB BLACK ORPINGTONS**—Write for mating list. Roy Park, Yates Center, Kan.

**BUFF AND WHITE ORPINGTON EGGS**, \$1.00, 15. Cook, Kellerstrass strains. Addie Edwards, Kahoka, Mo.

**BEST OF SEASON, EGGS FROM LARGE White Orpingtons**, 15, \$1.00; 100, \$5.00. Mrs. Helen Lill, Mt. Hope, Kan.

**CRYSTAL WHITE ORPINGTONS**—Kellerstrass strain, \$1.00 per setting. Mrs. Ida Holt, Morrill, Kan.

**KELLERSTRASS WHITE ORPINGTONS**—Pen eggs, 15, \$1.25, delivered parcel post; 100, \$5. Mrs. John Jevons, Wakefield, Kan.

**BIDE-A-WEE BUFFS**—EGGS FROM winners. Mating list free. Roy J. Lucas, Agra, Kan.

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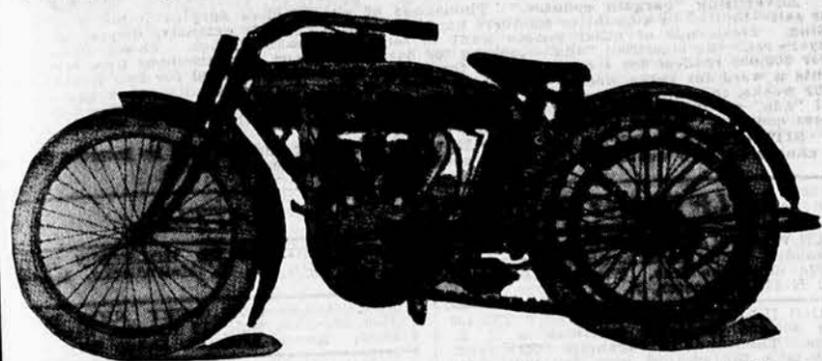
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ROSE COMB REDS—WON EIGHT firsts, four seconds and one third last season. Eggs, \$1.50 and \$2 per 15; cheaper in larger numbers. Mrs. H. F. Martindale, Madison, Kan.

S. C. R. I. REDS—WINNERS WHEREVER shown. Stock for sale. Eggs from \$1.50 to \$4 per setting. Won more premiums at state shows than any two competitors. R. S. Steele, Route 7, Topeka, Kan.

OUR EGGS ARE NOT ALL FERTILE, but we make good to our customers. If you want the best R. I. Reds, write for mating list at once. Our guarantee is satisfaction or money back. E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

## TURKEYS

BOURBON RED TURKEYS—GOOD SIZE and color. Nine eggs, \$3.00; eleven, \$3.50. Mrs. J. E. Bundy, Goodrich, Kan.

BRONZE AND BOURBON TURKEYS, Runner Ducks, White Wyandottes, Light Brahmas. Stock and eggs. Mrs. Emma Ahlstedt, Roxbury, Kan.

EGGS FROM PRIZE WINNING M. B. turkeys at Kansas State Show, \$3.00 for nine. Also Buff Orpington eggs. Mrs. E. D. Ludwig, Waynoka, Okla.

PURE MAMMOTH BRONZE TURKEY eggs from standard birds at \$2.50 per nine or \$5.00 per 20 eggs. Maud E. Lundin, Columbus, Kan.

# BARGAINS IN LAND

EXCHANGES EVERYWHERE. Get our fair plan of making trades all over the United States. Graham Bros., El Dorado, Ka.

WE TRADE OR SELL ANYTHING ANYWHERE. The Realty Exchange Co., 18-23 Randall Bldg., Newton, Kan.

TO EXCHANGE—Western Kansas land and other property. Submit propositions. WEST & CO., Ransom, Kan.

KINGMAN 1,120 a. solid body, 350 cult., 500 COUNTY bot., fair bids, near market; KANSAS price \$2.50, half cash, bal. at 5 RANCH per cent. JOHN P. MOORE LAND CO., Kingman, Kansas.

OUR NEW YORK IMPROVED FARMS are great bargains at present low prices. Send for free list. McBurney & Co., 703 Fisher Bldg., Chicago, Ill.

WILL TRADE my \$3,700 automobile for a Kansas farm. Must be unincumbered. Auto is in good condition. One of best makes. Address Auto Man, Care Kansas Farmer, Topeka, Kan.

TWO BARGAINS. 100 acres near Olathe, well improved, fine, \$110.00 per acre. Fifty-seven acres, improved, best of Kaw bottom land, greatest bargain in the county, AT KANSAS CITY'S DOOR. Write for lists. T. H. MILLER, Olathe, Kansas.

FORCED SALE—480 acres improved, 160 in cult., balance in pasture, plenty of water; a good home, close to Catholic church and school. Price, \$8.00 per acre. D. F. Carter, Bonded Abstractor, Leoti, Kan.

CENTRAL KANSAS FARMS—320 a., fine large buildings, good well and wind mill, at \$50 per acre. 160 a. cultivated only, would make a fine home, for \$9,000, and others, all close in. WALDO HANCOCK, Beverly, Kan.

FARM—One section for sale, 3 miles town, 400 acres wheat, 100 alfalfa, 100 pasture, bal. this spring crop. All goes. Possession this spring. For price and terms write S. A. Y., Box 75, R. F. D. 3, Plainville, Kan.

OUR RED LETTER SPECIAL. Will trade your property. Get into touch with live wires. Guaranteed deal. List today. Write for particulars. MID-WEST REALTY EXCHANGE, Riverton, Nebr.

400 ACRES near Whitewater. No buildings. 240 in cultivation, balance pasture with wind mill. All tillable. 80 may in wheat. Phone line and R. F. D. Will raise anything. Price, \$55 per acre. Owner, G. B. HANSTINE, Whitewater, Kan.

MAKING MONEY. Is no trick if you invest in Plains, Kan. town lots where prices are certain to advance. Today's prices, \$17.50 to \$50. Easy monthly payments. Only a few to be sold at these low prices. Act quick if you want to make a profitable investment. Write today. JOHN W. BAUGHMAN, Plains, Kansas. Drawer "B."

FINE HOME. One mile Eureka, Kan., county seat and high school town. 240 acres; 140 a. good grass, 100 a. cultivation, 20 of this alfalfa; good improvements; plenty water; orchards; and everything in good shape. Am selling this to buy small ranch and will sell worth the money. This ad will not appear again, so act at once. G. J. LEHNHER, Eureka, Kan. Phone 917-2. Route 3.

## MUST SELL THIS

Fine combination stock and grain farm. Only have 30 days at this sacrifice price. 280 acres, 1 1/2 miles from city limits; fat improvements; 115 acres fine bluegrass pasture, 25 acres of fine oak and walnut timber, 100 acres of good creek bottom land. Your price, if you know a bargain, will buy it. Act quick. F. L. NEWTON, Clay Center, Kan.

320 ACRES of smooth wheat land in Logan County, clear, to exchange for merchandise. Price, \$15 per acre. W. C. BRYANT, Elk City, Kan.

## PURE BRED POULTRY

### DUCKS AND GEESE.

TOULOUSE GOOSE EGGS, 25c EACH. A. T. Atkinson, Arkansas City, Kan.

INDIAN RUNNER DUCKS—FIFTEEN eggs, \$1.25. Gertrude Haynes, Meriden, Kan.

INDIAN RUNNERS, FAWN AND WHITE. Eggs, \$1 per 15. Baby ducks, 25c each. J. W. Fretz, Bosworth, Mo.

FAWN AND WHITE RUNNERS—EGGS, 13, \$1.25; 40, \$3.25. W. Hillands, Culver, Kan.

WHITE INDIAN RUNNER DRAKES, Fishie strain, \$2.00 each. J. B. Hunt, Oswego, Kan.

INDIAN RUNNERS—BLUE RIBBON fawn and white. Color, shape and size right. George Wasson, Anness, Kan.

AMERICAN FAWN AND WHITE RUNNERS—Eggs, 13, \$1.25; 40, \$3.25. W. A. Hillands, Culver, Kan.

WHITE INDIAN RUNNERS—THIRTY-nine premiums. Cleared \$50 per duck. Book-let free. J. H. Drake, Nickerson, Kan.

INDIAN RUNNERS OF QUALITY—Light fawn and white. White egg strain. Send for egg circular. Ed H. Killian, Manhattan, Kan.

INDIAN RUNNER DUCKS, AMERICAN Standard light fawn and white. Prize winners. White eggs, \$1.50 per 15, \$4.00 per 50. Mrs. D. A. Pryor, Route 3, Fredonia, Kan.

INDIAN RUNNER DUCK EGGS—FAWN and white, both light and dark. Heavy layers of white eggs. \$1.50 for 13 eggs, \$5. \$6 and \$7 per 100. Mrs. Annie E. Kean, Route 1, Carlton, Kan.

WHITE INDIAN RUNNERS, SPENCER and Dun strains. Eggs, \$3.00 per 13; \$5.00 per 26. Golden Fawn and White Runners, Pen 1, \$1.50 per 13 eggs; Pen 2, \$1.00 per 13. Absolutely white egg strain. Circular. Mrs. E. F. Lant, Dennis, Kan.

## "Crescent Lawn Home"

Absolutely the finest around Topeka. Finely improved, 24 acres lying perfectly, between two main avenues on macadam road, 16 blocks west of Washburn College. \$17,500.

R. A. HENRY, 632 Kansas Avenue, Topeka, Kansas.

## BEST TOWN TO LIVE IN.

If you would like to live in the most beautiful city in the West, with unsurpassed educational, business and religious advantages, in a city clean, progressive, where real estate values are low but steadily advancing, where living expenses are reasonable, a city with natural gas at lowest price, address the SECRETARY of the COMMERCIAL CLUB, Topeka, Kansas.

## FINE DAIRY FARM

240 Acres, highly improved, in high state of cultivation; good orchard, silo, alfalfa; near best college town. \$52 per acre. Write for farm list. T. B. GODSEY, Emporia, Kan.

## FOR SALE—A BARGAIN

Eighty to 160 acres in the famous Memphris Valley of N. M. Have two farms and can not farm both. Farms well improved. Address Lock Box 462. SAM S. McADAMS, Deming, New Mexico.

Live Trades. Would you trade if suited? Write for our list of snappy exchanges and listing blank. Describe property first letter. Eberhard & Moller, Whitewater, Kan.

BUY or Trade with us—Exchange book free. BERSIE AGENCY, El Dorado, Kan.

FARMERS, TAKE NOTICE. Do you want to sell, exchange or buy farms? I can locate you in any state. W. F. Broadus, Leavenworth, Kan. P. O. Box 77.

EXCHANGE—Will trade my equity in 80 acres, Salina County; 6-room house, barn, well and mill, cistern, chicken house, some fenced hog-tight, 50 acres cultivated, 1 1/2 miles to school, 3 1/2 miles to two towns; mortgage, \$3,500, at 6 per cent. For live stock, hardware, or clear rental. ED. A. DAVIS, Minneapolis, Kansas.

FINE 160 A. FARM, lime stone soil, good house, barn, etc. Nicely located. Will produce wheat, corn, clover, alfalfa. Part cultivated, balance pasture, meadow. Close to Fredonia, Kan., in oil gas belt. Will take \$40 a. and is worth \$75. Address Owner, Lock Box 807, Fredonia, Kan.

ABILENE, KANSAS. 106 acres, unimproved, all fine river bottom land, no overflow, 1 1/2 ml. to good R. R. town; rich black loam soil; 86 acres now in wheat, all to go to purchaser if sold soon. Good terms at 5 per cent. Write for list. Briney, Fantz & Danford, Abilene, Kan.

CASH SNAP.—160 acres, all smooth level bluestem bottom but about 20 acres taken out by stream. A great bargain for home-seeker or investor, at only \$1,000 cash. Ten miles to town. Be glad to resist this from you at \$1,600. BUXTON LAND CO., Utica, Ness Co., Kan.

A GREENWOOD COUNTY 160 ACRES—Well improved farm, 7 miles from Hamilton. New 5-room house, new barn, about 90 acres under cultivation. Good orchard, some timber, good land. Price, \$6,000. Good terms. A. F. DOVE, Hamilton, Kan.

Franklin County Farm for Exchange.—204 acres, 2 miles town; 7-room house, two barns; 120 acres cultivation, remainder in bluegrass pasture; 60 acres timothy and clover; clear of incumbrance. Will exchange for a larger farm in Central Kansas and will give some difference. MANSFIELD, Ottawa, Kan.

## PURE BRED POULTRY

### FISHEL'S WHITE INDIAN RUNNER

Duck eggs, half price. Twelve for \$1.85, delivered. National Duck Farm, Letohatchie, Ala.

INDIAN RUNNERS, AMERICAN Standard and English Penciled. Great laying ducks, mated to racy type drakes. Eggs, 15, \$2; 30, \$3.75, charges prepaid. Mrs. Ed Bergman, Route 9, Paola, Kan.

## LANGSHANS.

BLACK LANGSHANS—PEN, \$1.50 PER 15, \$2.75 per 30; open range, \$1 per 15, \$1.75 per 30. Good hatch guaranteed. D. W. Wolfe, Route 2, Carrollton, Mo.

BLACK LANGSHAN EGGS, 15, \$1.50; 100 \$7.00. Baby chicks, 15 cents. Mrs. George W. King, Solomon, Kan.

BLACK LANGSHAN AND HOUDAN cockerels, \$1.50 to \$5 each. Write for mailing list. E. D. Hartzell, Rossville, Kan.

FOR SALE—WHITE LANGSHAN EGGS, 15 for \$1; 100 for \$5. Henry Neidig, Madison, Neb.

BUFF AND BLACK LANGSHAN EGGS—\$2.00, 15; \$6.00, 100. Positively no better Langshans in America. John Lovette, Mullinville, Kan.

BLACK LANGSHANS—EGGS, 15, \$1.25; \$1.50 by parcel post; 100, \$6.00. Baby chicks, 15 cents. Mrs. J. B. Stein, Smith Center, Kan.

EGGS—WHITE BLACK LANGSHANS, \$3.00 per 50, \$5.00 per 100. Bronze Turkeys, \$2.00 per 11. Toulouse Geese, \$1.50 per 7. Rouen Ducks, \$1.25 per 13. W. L. Bell, Funk, Neb.

## BABY CHICKS.

BUFF ROCK CHICKS, 10 CENTS EACH, hen hatched. Marian Ralston, Holton, Kan.

STOCK EGGS, BABY CHICKS, LEADING varieties. Circular free. K. I. Miller, Box K, Lancaster, Mo.



### The Weakest Link

YOU CAN MAKE THE GATE THE STRONGEST SPOT IN YOUR FENCE BY USING THE Cyclone Victor Gate

HEAVILY GALVANIZED High-carbon, tubular steel, unbreakable frames. Large, heavily-galvanized, rust-proof wire fabric wrapped on the frames—no holes in the frame to weaken it—Double raise device; automatic stock-proof latch; adjustable stretcher bar; and other important exclusive features.

COSTS LESS THAN OTHERS not as good. Guaranteed for life.

CYCLONE ORNAMENTAL FENCE is built in various designs for durability as well as beauty. Rust and Sag Proof; easy to put up and cheaper than wood. Your dealer has them—See him



## \$150 A MONTH

and expenses easily made selling our modern line of family medicines, extracts, spices, soaps, perfumes, stock food, etc - nearly 100 different articles in all.

We Start You in Business for Yourself

A Reliable Established Company, with a capital of \$200,000.00. No capital required. We furnish the goods on credit. You pay us after customers pay you.

No experience necessary. We teach you the business. Position permanent. Exclusive territory. Only line of goods sold on a sanitary free trial plan. For full particulars, write at once to

Furst-McNess Company 23 Liberty St. Freeport, Ill.



### The Jayhawk HAYING TOOLS.

MADE OF Wood or Galvanized Steel

Send for Free Catalog

F. WIATT MFG. CO. Salina, Kan.



Also a full line of implements on which we can save you money. Sold direct. Write for big free bargain book.

### MEN AND BOYS

all over the country are riding the big 1913 YALE Motorcycles. The YALE is the biggest and strongest built motorcycle on the market, bar none. The motor is the best cooled and best oiled, with power and speed to meet every requirement.

"BUILT LIKE AN AUTOMOBILE." You will want our "Big Y" literature.

J. C. HARDING CO., 106 E. Sixth St., Topeka, Kan.

I am interested in the big YALE.

Name..... Town..... R. R. ....

R. C. RED EGGS. Pens headed by four grand Buschmann-Pierce roosters, sons of Wildfire 2d, first pen cock Chicago, 1912, he by the \$2,500 Wildfire. Other pens mated to roosters as well bred. Fifteen eggs, \$1.50; 30, \$2.50; 50, \$4.00. Range flock, 50, \$2.00.

W. R. HUSTON, Americus, Kan.

### HORSES AND MULES.

BAY PERCHERON STALLION, 3 YEARS old in June. Weight, 1,600. Bargain if sold at once. I. E. Sevier, Lamar, Colo.

A SPLENDID MAMMOTH JACK COMING 6 years old. Measures 15 1/2 hands, weighs over 900 pounds. Ear measure, 3 1/2 inches. Heavy bone, black with mealy points. Good back, very active, will serve as quickly as any horse. Sure foal getter. Positively guaranteed in every way. Breeds large, showy mules. Will show his colts. Price for quick sale, \$400, or will exchange for young mules, draft colts or cattle worth the money. W. H. Mott, Herington, Kan.

## The GRANGE

DIRECTORY OF THE KANSAS STATE GRANGE OFFICERS.

- Master.....A. P. Reardon, McLouth Overseer.....J. L. Heberling, Wakarusa Lecturer.....L. S. Fry, Manhattan Secretary.....A. E. Wedd, Lenexa Treasurer.....W. J. Rhoades, Olathe Chairman of Executive Committee.....W. T. Dickson, Carbondale Chairman of Legislative Committee.....O. F. Whitney, North Topeka Chairman of Committee on Education.....E. B. Cowgill, Lawrence Chairman of Insurance Committee.....I. D. Hibner, Olathe Chairman of Women's Work Committee.....Adella B. Hester, Lone Elm NATIONAL GRANGE OFFICERS.

Master.....Oliver Wilson, Peoria, Ill. Lecturer.....N. P. Hull, Diamonddale, Mich. Secretary.....C. M. Freeman, Tippecanoe City, O. Sec'y.....C. M. Freeman, Tippecanoe City, O.

Let us gather the flowers abundantly about us that we may help to scatter His smiles and benediction.

### Farm Adviser.

As our master and overseer are accidentally president and vice-president of our county institute, we had the honor of escorting Prof. H. J. Bowers to three different "plats" and getting him in touch with the soil. He simply offers "advice free" (very many do). We tried to locate one plat on the county farm under his direction, but it was too far away (20 miles), but it will be carried on under the direction of three practical men, our county commissioners. It will be a great object lesson. We are all curious as to results. The "treatment" is to be ground limestone, two tons per acre. On other "plats" the soil of old fields of alfalfa or sweet clover are to be sown broadcast to "innoculate" the field for nitrogen bacteria. On corn fields the treatment is to be top dressing with stable or farmyard manure. This inspires faith. The farmer stands all the expense for lime, etc., and furnishes all labor, in fact furnishes everything but "advice," which comes free. We have great faith in the Grange. This is a new era for agriculture and a new generation is coming to develop it to greater perfection. However, distribution must go hand in hand with production, with plenty of money to sustain a level of prices that will leave a visible profit. This is the "problem" for the farmer and the Grange to work out.—GEORGE PURDY, Fort Scott, Kan.

### Some Results.

Sharp and clear among all the great orders of the western hemisphere stands out the record of the Grange. For five and forty years it has been a living power in this land. Good times and bad times, united or divided, weak or strong, it has worked steadily toward one goal—better America. Results? What fraternal order can claim greater? The passage of the interstate commerce law—is not that sufficient achievement for any society? Or had the Grange done nothing but to win a place for agriculture in the nation's cabinet, would not this be enough cause for pride? Then add to these the victories won by its aid in state after state for better schools; for decent highways; for reform ballot laws; for equal suffrage. Give it credit for its share in gaining postal savings banks; establishing the parcel post; passing pure food laws; extending rural free delivery; promoting international arbitration; advancing the initiative and referendum and popular vote for United States Senators. List, if they can be listed, half the halls the grangers have built, half the libraries they have founded, half the roads they have bettered, half the taxes they have saved, half, yes, one-tenth of the light and cheer and new hope of ambition they have brought to the struggling farmer and his weary wife in the never-ending battle for standing room upon this earth.

The work of the Grange has not ended. It has just begun. May the great order move forward, unchecked till it has brought a hundred new blessings to the hearth of every farmer in the land.

The news press of to-day is ready to praise the Grange because it realizes that it is playing a great part in rural life to-day. It has earned the praise it is receiving.

Another mighty good tool on the farm is neatly printed stationery. A few dollars spent for letter heads and envelopes, with a picture of the home or of some favorite animal, is an inducement to write letters, and then if you have a typewriter you can't help it.

Many a man who was the architect of his own fortune now needs the building inspector.

Why clean up the barnyard where the hogs live and neglect the house-yard where the wife lives?

## Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items or 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 for one week; 8 cents a word for two weeks; 12 cents a word for three weeks; 14 cents a word for four weeks. Additional weeks after four weeks, the rate is 3 1/2 cents a word per week. No "ad" taken for less than 50 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.

RAILWAY MAIL CLERKS WANTED—\$90 month. May examinations everywhere. Sample questions free. Franklin Institute, Dept. N-85, Rochester, N. Y.

FREE ILLUSTRATED BOOKLET TELLS about 300,000 protected positions in U. S. service. Thousands of vacancies every year. There is a big chance here for you, sure and generous pay, lifetime employment. Just ask for booklet S-809. No obligation. Earl Hopkins, Washington, D. C.

GOVERNMENT POSITIONS OPEN TO men and women. \$90 month. Annual vacations. Short hours. No "lay-offs." Parcel post means thousands of postal appointments. "Pull" unnecessary. Farmers eligible. Write immediately for free list of positions open. Franklin Institute, Dept. N-85, Rochester, N. Y.

SALESMAN—TO SELL HIGH GRADE guaranteed groceries at wholesale direct to farmers, ranchmen and all consumers. Earn \$4 to \$10 and up per day. A big chance to get into business for yourself. Save the buyers the retailer's profit. Every customer is a permanent one. Demand constantly increasing. Latest plan. K. F. Hitchcock Hill Co., Chicago.

GOOD PAY AND PERMANENT BUSINESS connection for one man in each county in Kansas, Nebraska and Oklahoma to look after established business. \$25 or better per week at start can be made, working small towns and rural routes. Good chance for rapid advance in earnings. Complete outfit free and credit given. Previous experience unnecessary. Write at once. Fireside Sales Co., 623 Jackson St., Topeka, Kan.

### SEEDS AND PLANTS.

SEED CORN—LAPTAD STOCK FARM, Lawrence, Kan.

ALFALFA SEED, GARDEN AND FIELD seeds. Grubb & Purmort, Enid, Okla.

BOONE COUNTY WHITE SEED CORN, fine quality, \$1.50 bushel. J. B. Hunt, Oswego, Kan.

FOR SALE—100 BUSHELS OF WHITE Wonder seed corn. Call or write to E. S. Saylor, Route 3, St. John, Kan.

FOR SALE—VELVET BEANS. PRICES and sample on request. F. C. Hester, Lady Lake, Fla.

KAFIR—HIGH YIELDING, EARLY, black-hulled, white. Absolutely pure. \$1.00 bushel. Jeff Burt, Macksville, Kan.

YODER'S CORN MULCHER IS A NEW invention for corn growers. Write for circular. M. S. Yoder, Shipshewana, Ind.

CATALPA TREES FOR SALE, 1 YEAR old. Genuine Spectosa, \$4.00 per thousand. H. G. Adams, Maple Hill, Kan.

WHITE-HULLED KAFIR, GROWN from heads selected in 1911. Cleaned and graded, \$1.00 per bushel. Schuyler Nichols, Herington, Kan.

PURE BLACK HULLED RECLEANED kafir corn seed, free from smut. Write for sample and price. August Johnson & Sons, Norwich, Kan.

BLACK HULLED KAFIR SEED, FANNED, sacked, \$1.00 per bushel. Heaviest yield in county. Clawson States, Route 4, Lawrence, Kan.

CHOICE BLACK-HULLED WHITE Kafir and Dwarf Milo, recleaned and graded. Kafir, \$1.00; Milo, \$2.00 per bushel. A. L. Beely, Coldwater, Kan.

SPANISH PEANUT SEED AND WHIP-poorwill peas, carefully selected, recleaned, fanned, and hand-picked at our own mills. Get next to these splendid crops, today. Williams-Hubbard Peanut Co., Texarkana, Ark.-Texas.

PLANT OUR KAFIR CORN. RIPE, selected seed from 80-acre field, averaged 56 bu. per acre. \$1.00 per bu., sacked, Topeka. Grand Champion white seed corn from \$280 prize corn, \$3.00 per bu. Snyder Seed Co., Topeka, Kan.

### MISCELLANEOUS.

E. R. BOYNTON HAY CO., KANSAS City, Mo. Receivers and shippers. Try us.

ROOFING COMPOSITION, SLATE, TILE, sheet metal, tinwork. Rinner & Warren, Topeka, Kan.

WE PRESS, CLEAN, DYE, MAKE AND repair clothes. Glenwood Cleaners, Topeka, Kan.

WANTED—POSITION AS BARBER IN a small farming town. References given. Box 43, Jamison, Iowa.

H. W. BOMGARDNER, FUNERAL Director. Excellent new chapel. Best attention. Topeka, Kan.

MAIL PRESCRIPTIONS TO GIBLER'S drug store. Filled correctly, sent parcel post. Topeka.

SEND KODAK FILMS TO US TO BE finished. Will develop and print first roll free. Percy S. Walker, Sixth and Jackson, Topeka, Kan.

LUMBER—ENORMOUS SAVING IN Buying direct from mill. Send list of material for estimate. Write today for catalog number 48. Keystone Lumber Company, Tacoma, Wash.

### HOGS.

I HAVE SOME VERY NICE DUROC Jersey pigs, either sex, 6 months old, \$12 and \$15, out of Osage Chief, he by Tarrax by Ohio Chief. Enoch Lungren, Osage City, Kan.

### CATTLE.

FINE REGISTERED HOLSTEIN BULL calf for sale. J. T. Meierdircks, Marlon, Kan.

FOR SALE—ONE VERY NICE D. S. Polled Durham bull, 12 months, dark red, \$125.00. Enoch Lungren, Osage City, Kan.

SOME CHOICE JERSEY BULLS THAT must be sold quick. Two nearly ready for service. Chester Thomas, Waterville, Kan.

FOR SALE—REGISTERED HEREFORD bull coming four years old; fine individual, no faults. Must sell to prevent inbreeding. Harry W. Johnston, Route 4, Caldwell, Kan.

FOR SALE—ONLY A FEW MORE FINE Double Standard Polled Durham bulls for sale. Inspection invited. C. M. Albright, Overbrook, Kan.

FOR SALE—35 COWS, JERSEYS, Guerneys and Holsteins, all young, with milk records. A few fawn Jersey heifers, bred. Will sell reasonable. Satisfaction guaranteed. Jack Hammel, 215 Adams St., Topeka, Kan.

### TYPEWRITERS

OLIVER VISIBLE TYPEWRITER FOR sale cheap. Perfect condition and does nice writing. Could send on trial. Charley Rickart, Route 5, Rosedale, Kan.

### BEE SUPPLIES.

BEE SUPPLIES, NEW, SECOND HAND. Send for catalog. Topeka Supply House, Topeka, Kan.

BEE SUPPLIES, ROOTS GOODS. SEND for catalog. O. A. Keene, 1600 Seward Ave., Topeka, Kan.

### CHICK FEED.

CHICK-O, FOR BABY CHICKS. A BAL-anced ration. 25c, 50c or \$1 per sack; \$2.10 per hundred pounds. Write D. O. Coe, Topeka.

### PATENTS

PATENTS SECURED, YOUR INVENTION may be small but valuable if patented. Cook & Cook, Victor Bldg., K, Washington, D. C.

SEND FOR FREE BOOKLET, ALL about patents and their cost. Shepherd & Campbell, Patent Attorneys, 500-R Victor Bldg., Washington, D. C.

PATENTS SECURED, IDEAS BRING wealth. Prompt service. Personal attention. Harry Patton Co., 323 McGill Bldg., Washington, D. C.

### GOATS

TOGGENBURG, FAANEN; HEAVY milkers. Perch, fowl, Fekla ducks, mink. Prospectus 4 cents. Golden Goat Reserve, Combs, Ark.

ANGORA GOATS FOR SALE—FINE trio. Particulars of Mark Havenhill, Fox, Illinois.

### DOGS.

WANTED—WHITE ESKIMO SPITZ puppies under 8 weeks old. Brockway's Kennels, Baldwin, Kan.

SCOTCH COLLIES—WESTERN HOME Kennels, St. John, Kan.

SCOTCH COLLIE DOGS AND PUPS, near Deer Creek, East Sixth, or write A. W. Smith, 1200 East Sixth, Topeka, Kan.

### REAL ESTATE.

FOR SALE—EIGHT CHOICE BUILDING lots adjoining college grounds. Riley In-graham, Manhattan, Kan.

SELL YOUR PROPERTY QUICKLY FOR cash, no matter where located. Particulars free. Real Estate Salesman Co., Dept. 77, Lincoln, Neb.

FOR SALE OR EXCHANGE FOR EAST-ern property, 5 lots in Fredonia, Kan., on prominent corner, worth \$1,000. Address Merchant & Co., Station G, Louisville, Ky.

TEXAS STATE LANDS, \$150 to \$5.00 acre; one-fortieth down, balance 40 years. Information and Texas map free. Journal Publishing Co., Houston, Texas.

BARGAIN—A NICE SMOOTH 80 ACRES of tillable land, only 7 miles from Salina; \$3,200.00. Write for list. V. E. Niquette, Salina, Kan.

FOR SALE—BEST ALFALFA 10-ACRE tract for location 4 blocks church, college, car line, out city limits, Winfield, Kan. Address F. B. King, Owner, Route 2, Atlanta, Kan.

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

GET YOUR CANADIAN HOME FROM Canadian Pacific. One-twentieth down, balance in 19 equal annual payments. Loan up to \$2,000 to improve your farm—can be paid off in 20 years. Six per cent interest. Good, rich land in Western Canada—for every kind of farming—from \$11 to \$30 an acre. This offer only to farmers or men who will actually occupy or improve the land. We supply best live stock at actual cost—give you the benefit of expert on our demonstration farms—equip you with a ready-made farm prepared by our agricultural experts if you don't want to wait for a crop. All these lands on or near railways—near established towns. Free booklets on Manitoba, Alberta or Saskatchewan. Ad-dress J. M. Thornton, Colonization Agent, 112 West Adams St., Chicago.



JERSEY CATTLE.

JERSEY CATTLE

WESTVIEW JERSEY FARM

HERD BULLS—Financial Countess Lad, grand champion Jersey bull, Dairy Cattle Congress, Waterloo, Iowa, 1912, the largest Jersey show ever held in the United States. Sold for \$2,600 when 90 days old, and again as a two-year-old for \$5,000. Dam, Financial Countess 155100, the 1908 national butter champion, 13,248 pounds milk, 935 pounds 10 ounces butter.

Ruby Financial Count 87211, a grandson of Financial King, dam a Register of Merit granddaughter of Financial King; milk record of 56 pounds per day. Herd founded on Finance, Interest and Gamboge Knight families. Cows milk, as three-year-olds, 40 to 56 pounds per day. Every cow in herd on test. No dairyman ever considered a cow beautiful unless she is a heavy producer. Constitution first, production second, beauty third.

J. E. JONES, PROPRIETOR, NOWATA, OKLAHOMA.

Register of Merit Bull—Born May 11, '12. Solid fawn, black tongue and switch. Sire, Flora's Golden Fern 89584 (son of Golden Fern's Lad), sire of four in R. of M. Dam, Sultan's Beauty 231914, R. of M. 1719, test 512 lbs. 1 oz. butter one year, 23 months old at start of test. Daughter of Oakland's Sultan. Sire 3 in R. of M. Second dam an imported granddaughter of Miss Viola, P. S. 9644, H. C. (sister of Noble of Oaklands). Cannot be excelled. Price, \$150.00. B. J. LINSBROOK, Holton, Kansas.

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Choice Young Shorthorns

Several blocky, sappy bulls, in age from 7 to 12 months. Females all sold. 25 choice strictly big type Poland China fall boars and gilts. \$20 to \$25 each. IMMUNE FROM CHOLERA. S. B. AMCOATS, Clay Center, Kan.

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10 head of young stallions from 2 to 3 years old. 4 head coming 3 years old that weigh from 1650 pounds to 1800 pounds. 4 head coming 2 years old that weigh from 1500 to 1600 pounds, blacks and dark greys. They are the big bone kind. 2 head standard bred and weigh from 1250 to 1280 pounds. 4 head of large young jacks, Mammoth bred, from 15 to 15 1/2, well broke. 2 black registered Percheron mares and 1 imported German Coacher, Mikus 4861 (132105), weight 1550, stands 16 1/2, and 7 years old. A warrantee goes with every animal as to soundness and breeding. O. L. THISLER & SONS, Chapman, Kan.

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Owing to the fact that I own another good son of Expansive and have considerable of his get, I will sell EXPANSIVE CHIEF. Will be glad to show this boar and his get to any breeder that desires to place an outstanding boar at the head of his herd. Also 15 fall boars, sons of Expansive Chief, Long King's Best and Expansive Wonder. Inspection invited. H. B. WALTER, EFFINGHAM, KAN.

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Of the large type, with quality. Heavy boned, well balanced pigs at right prices. JAS. ARKELL, Route 4, Junction City, Kan.

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Durocs with length, bone and quality. Some good males for sale, also a few choice sows to farrow in June. Immunized against cholera. C. G. DITMARS & COMPANY, Turney, Missouri.

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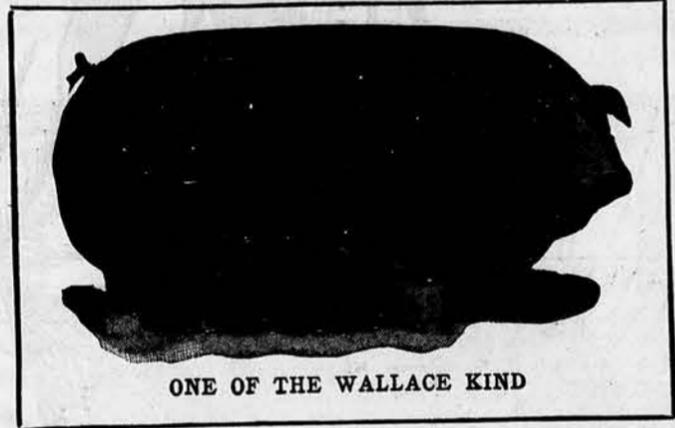
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## Bunceton, Mo., Thursday, April 24, 1913

In this my fourth annual spring sale of bred sows, I am putting up an offering of

### 75 Head of Big Type Poland China Sows

that I think are probably more attractive and more valuable than any former offering I have made from my herd. These are mostly of my own breeding, which means that they are royally bred. They are well grown out and are in splendid thrift and health and are ready to raise large, healthy litters of money making pigs. The offering consists of mostly big, fancy yearling sows that are large framed and big boned; they are sired by my great herd boars and are out of my choicest brood sows. They are showing down safely in pig to the service of my four great herd boars—Grand-Leader, Expansion-Wonder, A Monarch and Big Wonder.



ONE OF THE WALLACE KIND

This sale will afford a great opportunity to buy good money-making sows cheap, as I am getting up the sale hurriedly and will only have time to advertise one week ahead. The catalogs will not be ready to send out in advance of the sale, so I expect to sell a great lot of sows very cheaply. Don't write for catalog, but come to the sale and get some of the bargains. If you can't come, write Mr. O. W. Devine to buy for you.

R. L. HARRIMAN, Auctioneer

**W. B. WALLACE, BUNCETON, MO.**

## BRANIC'S DISPERSION POLAND CHINA SALE

### HIAWATHA, KANSAS, WEDNESDAY, MAY 7, 1913

SIXTY — HEAD OF FOUNDATION HERD SOWS, FALL BOARS AND GILTS — SIXTY

Owing to sickness in my family and for business reasons I am compelled at this time to disperse my entire herd of registered Poland Chinas. I am loath to take this step, but feel that the breeding fraternity will appreciate the great sows that are being catalogued and buy them at least so I can afford to sell, and the buyer make money and lots of it, for the conditions were never better.

Twelve Foundation Herd Sows, sired by such boars as Gold Metal, O. K. Lad, Union Leader, Prince Hadley, Nebraska Jumbo, etc. All of these have litters at foot by the great O. K. Lad. They will also be bred back for fall litters.

Twelve Extra Choice Fall Boars, sired by O. K. Lad.

The remainder Summer and Fall Gilts, choice individuals, good buys for breeders wanting sows for next winter's sales.

O. K. LAD WILL BE OFFERED PRIVATELY SALE DAY.

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I have now for sale a lot of personally selected coming 2 and 4-year-olds as good as France and Belgium can produce. Good heavy bone. Straight draft type with quality and the best of breeding. I give a gilt-edge guarantee, good for two years, with each horse sold. All in just good breeding condition and will be a good investment to the purchaser. I can save you some money on a stallion. Barns four blocks from the A. T. & S. F. depot.

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Forty Percheron Stallions, 2 to 4 years old; several a ton or over.

Fifteen Belgian Stallions, the good kind.

Thirty Percheron Mares, 22 showing heavy with foal.

Ten Shere Mares and Stallions.

Ten head of good Jacks.

If you want a Stallion, Mare or Jack, come and get a bargain. I mean business.

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An A. R. O. herd, where records are made, and since December, 1912, am placing all A. R. O. cows in semi-official yearly test. Inka Hijlaard DeKol 76076 has produced from December 1 to March 1 over 6,700 pounds milk and over 200 pounds butter fat and still milking above 70 pounds a day. Cows in this herd have A. R. O. records as high as 18 pounds butter seven days at under two years to 25 pounds at full age. Young bulls and service bulls from this herd will add materially to the value of your present herds.

Several nice, straight, registered cows for sale that are due to calve soon. Tirania Lady Aouda 5th King 61250 and Sir Pontiac Artis De Kol 77152 head this herd, a combination hard to beat.

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AT LANCASTER, KANSAS, THURSDAY, APRIL 24, 1913

Twenty bulls, in age from 8 to 24 months, mostly roans. Nice individuals and sired for the most part by my herd bull, BALLECHIN ARCHER 308225 by Ceremonious Archer and out of Imp. Ballechin Maid.

Thirty choice cows and heifers, mostly sired by this bull or in calf to him, a number with calves at foot by him. The cow herd all trace to Young Mary and Rose of Sharon. The offering will be presented in ordinary flesh and sold absolutely upon merit. Write for catalog.

**W. H. GRANER, LANCASTER KANSAS**

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