KANSAS FARMER

For the improvement of the Farm and Home

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EARTH ROAD MAINTENANCE

Secret of Good Dirt Roads is to Use Every Scheme to Keep Them Dry

From Address by B. H. Piepmeier, Maintenance Engineer, Farm and Home Week, Manhattan

ABOUT 90 per cent of the roads in Kansas are earth roads and will likely remain as earth roads for a great many years. The greatest problem, particularly that of the township or road district, is to properly construct and maintain the existing earth roads.

Earth road construction and maintenance is comparatively simple, and perhaps this is the reason for its neglect. In view of the tremendous amount of earth road work that is to be done and of money to be spent for such work, it is quite important that every effort be directed along the lines that will accomplish the best results and that will be a part of further improvement.

It must be kept in mind that the larger per cent of work done in constructing earth roads is permanent. If the grade is properly established, with proper cross section, drainage, etc., it will not have to be done over or altered for future improvements. This being true, it can readily be seen that earth road construction is just as important as brick or concrete road construction and just as much engineering skill is required to insure the best results.

A great many earth roads are constructed in a haphazard way and with very little regard for any future improvement. The time and money thus spent is practically wasted. Improperly worked earth roads result in a greater loss than the time and money that is wasted. Many roads are worse after working than before, and the loss to the public in the use of same cannot be measured in dollars. Improper construction often puts the earth road in such shape that a very large per cent of the best soil is washed away by heavy rains and this is a serious loss to the road.

The greatest fault that could be found with the bulk of township road construction today is that the road and bridge money is spread out over all the roads in the township each year and there are but very few roads that receive the proper amount of time and money to put them into first class condition. The bulk of the road and bridge money is really spent in maintenance work on the existing earth roads, when a large per cent of such roads need constructing before any money is spent in maintenance.

A majority of the townships have sufficient income to maintain the earth roads if they were once put into proper condition for effective maintenance. The most economic work that could be undertaken by a great many townships would be to finance some scheme that would permit all the earth roads in the township to be properly graded and drained and the necessary culverts and bridges constructed of a permanent material. After the majority of roads were once put into first class condition, many of them could easily be maintained under good management by dragging and oiling, with the money that is available.

Earth roads properly maintained by use of the road drag and oil will materially improve and will serve the needs of the bulk of the local traffic for a number of years. The improving and maintaining of good earth roads in a community will serve all the tax payers alike, and will be a means of getting their support in improving, with some hard surfacing material, some of the heaviest traveled or through connecting roads.

The main principles, making for efficiency in earth roads, are proper drainage and maintenance. There is no material so easily affected by improper drainage as earth. When dry, it will readily support the heaviest concentrated loads of traffic that will be imposed upon it. The same material, when thoroughly saturated with water, will not support the slightest load. The secret, therefore, in constructing and maintaining such roads, is to utilize all possible schemes for keeping them dry.

A prominent farmer in Illinois made the remark that if he just had a roof over his earth road from the farm to the market, he would not ask for anything better. This farmer knew what the earth roads needed, but his experience was limited as to how such results could be accomplished.

The skilled road builder can, with the most modern methods of construction and maintenance, drain earth roads by removing the underground seep water and treating the earth surface so that the road is practically dry the large part of the year and in such condition that it will serve moderate traffic economically.

The first step in the construction of an earth road is to have it surveyed and a permanent grade line and cross section established. The grade line should be established so that it will provide for the necessary drainage to the natural water courses. It should also provide for cutting down the grades and filling the hollows so there will be a permanent road bed that will not have to be disturbed for further improvement. The cross section for the road will depend somewhat upon the drainage and whether it is a first, second or third class road. Special attention should be given to side ditches to insure that they will carry all surface water and remove it rapidly. Many wide ditches on long steep grades should be paved with concrete, rip-rap or similar material to prevent serious washing.

All culverts and bridges should be constructed of as permanent material as can be conveniently secured. They should be of such size that they will readily provide for all surface water.

Drain tile should be laid at points that have underground seepage and on flat swampy roads where the water has no chance to flow readily into the side ditches. Drain tile should be used only when absolutely necessary. The open side ditches, properly constructed and kept clean, will give better satisfaction where there is sufficient fall for the water to flow.

Earth roads can usually be constructed at a very low cost, but they require constant maintenance which on many very heavily traveled roads becomes expensive. The earth roads require maintenance and should not be neglected. A low first cost road with high maintenance expense is often just as economical as a high first cost road with practically no maintenance. The main purpose of a road is to satisfy the requirements of traffic. The earth road in some sections may do this as well as brick pavements in other sections. If this is kept in mind, more attention will be given to the earth roads and the money spent on them will not be thought of as lost.

After earth roads are once constructed, maintenance should begin at once. It is neglect that makes earth roads bad and causes two dollars to be spent where one should have done the work. On account of the necessity of giving earth roads constant attention, it is important that every township arrange for a patrol system of maintenance, where someone can give his entire time to a section of roads and be held responsible for their condition.

Earth roads should be maintained by keeping a good crown in the road, keeping side ditches opened and the surface smooth so the water will readily drain to the side ditches and so traffic will be distributed over the entire surface. The distribution of traffic will keep the road uniformly compacted and free from ruts.

The systematic use of the road drag on a road that has been properly graded will show better results for the amount of money spent than anything else that can be done to the road. It has been shown that systematic dragging can be done for a cost of not to exceed $15 a year per mile of road, after the road has once been properly graded and the drainage adequately cared for.

There has been a great deal of discussion as to how a road should be leveled or dragged. Many claim that it can be done very efficiently and effectively with a tractor and a large leveler, others claim that the light two-horse drag is more economical. There is no question but that both have proved satisfactory in different places. The most economic scheme depends a great deal upon the local conditions. It is not so much the method as the results that count. The main thing is to keep the surface of the road perfectly smooth, well crowned, and the ditches clean.

WELL KEPT ROAD.—IT IS WELL CROWNED, THE SURFACE IS PERFECTLY SMOOTH AND THE DITCHES CLEAN

Clearing Stumpy Land

J. W., Neosho County, asks if it would be advisable to clear up a patch of stumpy land and put it to some crop this year. He does not know exactly how to go about this job.

We believe this is a year in which it will pay to clear up such patches and get them to producing. They are nearly always the richest land on the farm. Such patches are usually virgin soil. There are stump pullers now on the market that will very successfully pull stumps of considerable size. Dynamite is also very successfully and economically used in blowing out stumps. In using it, it is of course necessary to understand the proper methods to employ. This information can be secured from the firms furnishing the material.

Occasionally old hedge rows have long been allowed to keep a valuable strip of land from producing. The soil along these hedge rows is always fertile because of the decay of vegetable matter and the drifting in of soil from the fields. These hedge rows might well be brought into full production in a year in which crops of all kinds are likely to be high in price.

FARM POWER

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

THIRTY-NINE per cent of the tractor owners investigated by the Federal Department of Agriculture in Illinois used four-plow tractors. The next size in popularity was the three-plow outfit. Judging from the figures available last year, more three-plow tractors were sold in Kansas and Illinois in 1915 than any other size.

It is pointed out in the report on this Illinois tractor investigation that where modern self-lifting gang plows are used, one man ordinarily handles the entire outfit in plowing, no matter what size gang is used.

The four-plow size seems to meet best the tractor requirements of the average farm in Illinois; it enables plowing to be performed at a much faster rate than is usual when horses are employed. The man labor is also reduced when using this size tractor, as one man attends to four plows at one time, instead of only two, as is ordinarily the case where horses are used. Furthermore, this size of tractor is generally powerful enough to operate practically all of the machines which are commonly found on the average farm, including the silage cutter and medium-sized grain separator. At the same time it is not too expensive in operation to prohibit its use for many odd jobs which do not demand a great deal of power. These facts probably account, to a great extent, for its popularity.

There are, of course, factors other than the size of farm which must be considered in order to determine the best size of tractor to buy. In cases where these factors to not exist or are of no effect, however, it would seem advisable to procure the sizes of outfits recommended by men who have had experience with tractors on farms of practically the same size, provided, of course, that the conditions were similar in each case.

In deciding as to the size of outfit to purchase, careful consideration should be given to the various jobs for which the tractor will be used, and care exercised to obtain one with ample power for the heaviest work which will be required of it. This may be either field or belt work; probably it will be the latter more often than the former. Quite frequently the work of a tractor in driving a grain separator or silage cutter requires more power than the plowing, and in such cases the tractor bought should be powerful enough to handle the belt work properly.

On the other hand, if the belt work which will be required of the tractor will not demand a great deal of power, while there may be a considerable amount of plowing which it will be desired to complete within a limited season, the tractor should be capable of pulling enough plows to enable the work to be performed within the time available.

Then, too, there are cases where only a small amount of belt work is required and most of the field work will be done with horses, the tractor being wanted merely to make extra power available in rush seasons, or to relieve the horses during hot spells. In such cases the small two-plow outfits frequently have proven most satisfactory. Such an outfit has the additional advantage of not necessitating a large investment and on this account is frequently recommended by experienced men as a good size to buy in order to learn how to operate a tractor without going to too great expense in the beginning.

Cost of Grinding Limestone

Farmers are becoming more and more interested in the use of lime for agricultural purposes. Along with this interest has come a demand for cheap lime. Experiments have shown that lime is profitable only where it can be placed on the ground for a moderate price per ton. In many places the price of commercially ground limestone is prohibitive owing to long freight and team hauls. In some places where native limestone is abundant, farmers have expressed a desire to grind their own supply. It is obviously not profitable to invest in equipment unless a saving can be effected by home grinding.

The Missouri College of Agriculture has made an investigation of the cost of home-ground limestone. The figures which follow were obtained from men using portable crushers in Missouri. While the estimates which were obtained vary widely, a fair statement of the cost of the separate items under what might be termed favorable conditions would be as follows:

Engineer and 18 h. p. engine per day	$ 7.50
Fuel, about one ton coal	3.00
Labor, three men at $1.75	5.25
Depreciation and repairs	3.00
Cost of grinding 25 tons	$18.75
Cost of grinding per ton	.75
Cost of quarring per ton	.50
Total cost per ton	$ 1.25

Whether it is cheaper to grind limestone in the neighborhood or buy it and ship it in will depend upon the delivered price at the station, the length of the haul, the quality and accessibility of the limestone in the community, and the cost of grinding.

Care of Starter Batteries

The storage battery is a necessary part of all electric starting and lighting systems. Though greatly improved in recent years the storage battery very often fails because of lack of care. A neglected battery does well to last a year while if cared for it should last for years.

Keep the battery filled to the proper level with distilled water. The same can be secured at drug stores. Well water will not do. Take a bottle of distilled water with you on long trips.

Have a garage test the battery frequently with hydrometer or purchase a hydrometer syringe and test your own battery. A charged battery should test about 1.28 and the same, discharged, 0.12 lower or 1.16. A battery is in danger of damage whenever it stands for any length of time not fully charged. Much city driving, particularly at night, is liable to cause an under-charged battery.

Watch your battery if you wish to keep it for any length of time.—E. W. HAMILTON.

The profits of the year are still in the ground, and we win or lose depending upon the kind of a campaign we begin. When we start on the great spring drive, we must have decided in which fields we are going to put the different crops. We must have our seed ready, of a quality we know will grow. We must feel sure that we have our plows, disk harrows, drills, and planters in shape for ready use, and what is most important of all, we must be sure that we have the power to put in our crops at the time they should be, in the time we are liable to have for the job, and in the way that they will return the biggest yields.

One man with a tractor capable of pulling a tandem disk harrow with a drag or smoothing harrow behind will cover practically twenty acres in ten hours, doing all the work required in getting the ground in shape by a single operation. This same operation would require twelve head of horses and three men working twelve hours to do the same amount of work, and at the end of the day the horses would be fagged while the tractor would not know it was time to unhitch for rest and feed.

After the cropping season has passed, we have all been guilty of the statement, at one time or another, that we would have plowed deeper, disked the ground again, or given it another dose of the smoothing harrow, had we not been forced to favor our horses, and it is this fact that horses have a limit of endurance that has cost the farmers of this country many real dollars in crop returns.

With a light tractor of eight or ten drawbar horsepower pulling three plows, we can turn over eight and one-half acres in ten hours at a depth that would put our soft horses out of commission in short order. The tractor is not soft to begin with and does not tire, our ground is plowed faster and deeper, and can therefore be made into a better seed bed.

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Food Production and Conservation Program

AN EMERGENCY appropriation of $25,000,000 to be made available immediately for the use of the Secretary of Agriculture to meet the extraordinary needs of agriculture; an urgent call to all farmers to increase production and to housewives to avoid all food waste; the mobilization of over two million unemployed boys between the ages of fifteen and nineteen years for service on the farms and in the production of food supplies and munitions; the enlistment of men unfitted for military service as an officially recognized force for the production of necessities; a complete survey of the food supply; national systematic publicity of food prices; effective control of agencies for the manufacture and handling of foods, and price fixing, if necessary—these are among the leading recommendations of sixty-two officials representing state agricultural colleges and commissions of thirty-two states, from New York to the Rocky Mountains, who met at the request of the Secretary of Agriculture to confer with representatives of the United States Department of Agriculture in St. Louis, April 10 and 11. The conference, after dealing with the general problems of financing agriculture and organizing the federal and state agencies for effective co-operation, made a special appeal to the patriotism of farmers and recommended a definite program particularly looking to the increase of cereal and leguminous food and meat and animal products. Home owners and their children were urged to produce as much food as possible in back yards and vacant lots and to can or preserve all surplus. Extracts from the recommendations and conclusions of the conference follow.

PRICE PUBLICITY AND PRICE CONTROL

A thoroughgoing survey of the food, labor, and other resources of the country and of the needs of local communities is recommended. The conference advises that the Secretary of Agriculture, in co-operation with the Federal Trade Commission, be given power, as far as practicable, to secure full information regarding the food supply of the nation and all business enterprises related thereto.

The Secretary of Agriculture should be authorized by law to license warehouses, packing plants, mills, cold storages, produce exchanges, co-operative and other shipping associations, commission merchants, auctioneers, brokers, jobbers, wholesale distributors, and other individuals, partnerships, associations, and corporations engaged in the business of marketing and distributing farm and food products. When directed by the President, the Secretary should have power, after advising with the Council of National Defense as to the necessity of such a step, to take over and operate such of these businesses as may be warranted, in a manner similar to receivership.

Government agencies should do everything in their power to bring about an adequate supply of cars for moving food and other necessities.

Communities, counties, and cities should be urged to take steps that will lead toward a larger degree of local and district self-support, especially in perishable products.

To bring about a greater equality of distribution with reference to the consumptive demands of population centers, the Department of Agriculture and the several state departments should extend and make as effective as possible their facilities for disseminating market information. This extension should include the publishing as widely as possible of average prices of foods, feeds, and live stock, particularly the prices paid by the War Department where its purchases are made in the open market.

Effort should be made to expand local production to care for the needs of all training camps. Steps should be taken to facilitate the delivery of agricultural implements and machinery, particularly for seeding and harvesting, and, if necessary, to require that preference in filling orders be given to urgently needed equipment of this character. Steps should be taken at once to secure preferred movements of freight shipments of farm machinery, seeds, fertilizers and spraying materials.

The very low food reserves of the world, due to last year's short crops, the increased demands due to the consumption and waste of war and the disappointing condition of the winter grain crop give ample assurance of profitable prices to producers this year. Therefore, the fixing of maximum or minimum prices need not be undertaken at this time, but the fact that such a course may become necessary in the future makes advisable the creation of agencies which will facilitate government action when the necessity may arise. To this end, it would be well for the Congress of the United States to authorize the Council of National Defense, if deemed necessary, to purchase, store and subsequently distribute food products, or to fix prices in any national emergency caused by a temporary or local overproduction, or by a sudden ending of the war, or by restraint of trade, manipulations or uneconomic speculation, in order that producers may not be required to suffer loss on account of the extraordinary efforts they are now asked to make, and in order that consumers may not be required to pay oppressive prices in case of disorganized or inadequate transportation.

MOBILIZING FARM LABOR

One of the principal limiting elements of food production is the labor supply on the farm. Indiscriminate enlistment from the farms with no plan for labor replacement will reduce food production below its present low level.

The plan for public defense should include as definite a provision for enlistment for food supply as for service at the front.

The plan for military enlistment should be broadened to include in the national service those who, by reason of their age or physical condition, are permanently or temporarily incapacitated for active military duty but who are able to render the government equally indispensable service in the production of food, supplies and munitions.

This enlistment should include three classes of men—men beyond military age, men of military age but not accepted for active military duty, and boys under age for enlistment.

The government should make plans at once for the mobilization of this important resource for the production of food and other necessities. This proposed enlistment in the national service should be regarded as part of the public patriotic service in the present war and be given proper official recognition.

* * *

Price Fixing to Protect Farmer

LAST week a momentous conference was held in St. Louis to consider the part agriculture is to take in prosecuting the war which the United States has at last been compelled to enter in order to defend the world-wide cause of democracy. Secretary of Agriculture Houston, who called the conference, is a member of the National Council of Defense, which is charged with the duty of mobilizing to the fullest extent possible the resources of the nation. Thirty-two states were represented.

Kansas may well be proud of the constructive work done at this conference by President H. J. Waters and Dean W. M. Jardine of the Kansas Agricultural College. These men know and appreciate the high motives that actuate the farmers of Kansas, and were able to assure Secretary Houston that the farmers of our state would cheerfully "do their bit" in this national crisis that is now upon us. It was also made clear to the secretary, however, that the farmers upon whom in large measure rests the responsibility of winning the war, will expect the government to give them a square deal. Willing and anxious as they are to do their part, they will not go the limit to increase production without the assurance that the government will so handle the transportation, storage and distribution of food products as to absolutely eliminate the corrupt and disgraceful practices of the past few months. The producers of this country do not ask more than a fair profit, but they are not eager to make any great sacrifices to increase production as long as the leeches who produce nothing can so manipulate the handling and distribution of food products as to take heavy toll from the consumer who is absolutely unable to protect himself.

Price fixing was one of the most important subjects discussed. Secretary Houston knows he has the farmers solidly back of him, but he also realizes that he must have the power and authority to give them absolute protection from the price fixer who produces nothing. We were present in the meeting of farm paper editors which Secretary Houston called, and were much impressed with his earnestness of purpose along this line. As a result of the suggestions offered at the conference, he will demand emergency legislation and already dispatches under Washington date line are being sent out announcing that such demands have been made.

There should be no misunderstanding as to what is meant by price fixing. The men who counseled with Secretary Houston did not believe that the time had yet come for official price fixing, but recommended that sufficient authority be given the secretary to act wisely in any emergency that might arise. In a crisis like this it is important that food production be stimulated to the fullest extent possible, but while the farmer is just as patriotic as any other class, he is just as liable to hold back if he is in danger of meeting serious loss. The purpose of price fixing is to assure the producer that he will not be left with a big crop on his hands that he would have to sell at a ruinously low price.

The European warring nations have reached the price-fixing point and are guaranteeing the farmers even for two or three years to come a minimum price. If the price should go higher as a result of the law of supply and demand, the government guarantee would not be operative, but if the price should tend to naturally go lower, the government guarantee would hold it at a fixed point.

The government in this crisis must guard against a food shortage and taking measures to protect the producer against loss is essential to the stimulation of increased production. Of course, if the time comes when the government must fix minimum prices, it must also protect the ultimate consumer from the unscrupulous food speculator and maximum price for food products would also have to be fixed. This would mean fixing a fair margain between the price the farmer receives and that the consumer would have to pay. The result would be to squeeze out the speculator by absolutely preventing him from increasing the price out of proportion to a fair return for the service rendered.

These are drastic measures and we hope they may not be necessary, but the government should be in a position to act wisely if the emergency arises. In the fixing of minimum prices the government would of necessity have to take into consideration the cost of production, allowing a fair profit to the producer, just as in regulating railroad rates the cost of transportation must be considered and a fair percentage allowed on the capital invested.

From our meeting with Secretary Houston last week and as a result of a careful study of the suggestions which he took back to Washington with him, we feel that a most serious attempt is being made to enable the farmer to produce to the fullest extent of his ability without facing the possibility of a serious loss.

* * *

PRESIDENT APPEALS TO NATION

In an appeal addressed to every American citizen, President Wilson says:

"The supreme need is an abundance of supplies and especially of foodstuffs. The importance of an adequate food supply, especially for the present year, is superlative. Without abundant food the whole great enterprise upon which we have embarked will break down and fall. The world's food reserves are low. Not only during the present emergency but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America. Upon the farmers of this country, therefore, in large measures, rests the fate of war and the fate of the nation. The time is short. It is of the most imperative importance that everything possible be done to make sure of large harvests. I call upon young men and old alike and upon able-bodied boys to accept and act upon this duty and make certain that no pains and no labor is lacking in this great matter.

"The federal government and the governments of the several states stand ready to co-operate. They will do everything possible to assist farmers in securing an adequate supply of seed, an adequate force of laborers when they are most needed at harvest time, and the means of expediting shipments of fertilizers and farm machinery as well as of the crops themselves when harvested. The course of trade shall be as unhampered as it is possible to make it, and there shall be no unwarranted monopolization of the nation's food supply by those who handle it on its way to the consumer. This is our opportunity to demonstrate the efficiency of a great democracy and we shall not fall short of it."

EXPERIMENTS BRING RESULTS

Facts Learned Through Experiments of Great Value When Used on the Farm

IN HUNDREDS of ways the Kansas Experiment Station is rendering valuable service to the people of the state. A blackleg serum which will cure calves in the early stages of blackleg and a germ-free fluid vaccine which will give healthy calves permanent immunity from this dreaded disease, can be obtained by anyone in Kansas at a nominal cost. The size of the dose needed depends upon the weight of the calf, but the average dose of either form of treatment costs 50 cents per head. Directions for its use are sent with the vaccine and anyone can administer it by following the instructions.

Approximately 100,000 doses of these blackleg vaccines have been sent out by the Kansas Agricultural Experiment Station in less than two years with unusually effective results. The deaths of calves treated amount to only a fraction of one per cent. A circular giving the method of manufacture and directions for the use of these vaccines may be had for the asking.

Effective methods for controlling other diseases of farm animals have also been worked out, but this is only one phase of the valuable investigational work which is being done at the station. The feeding and breeding of farm animals for better types and higher production receive considerable attention.

Canary Bell, an Ayrshire cow owned by the station, produced 17,406.4 pounds of milk and 786 pounds of average butter in the past year. This is six times as much as the ordinary dairy cow in Kansas produces.

An experiment is now being carried on to determine what feeds are best for the development of young heifers. Three years ago twenty-four calves were divided into three lots and all fed skim milk until six months of age. Since then one lot has received alfalfa hay alone; another alfalfa hay and silage; and the other alfalfa hay, silage, and grain. Accurate records of the costs of the different feeds are kept in order to determine which feed is most efficient for the money. The animals are weighed and measured each month and records kept of their development. This experiment will be continued until the animals are six or eight years of age.

The problem of economically feeding cattle for the market has been studied from many different angles. Every kind of feed used for cattle has been tried in different combinations with other feeds to determine its efficiency. Many of these experiments and their results have been published.

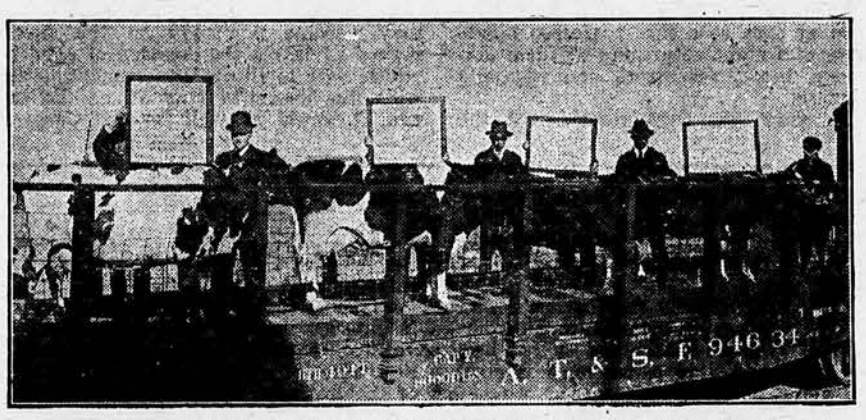
In producing baby beef for the market, it was found that grinding corn for young animals does not pay. The calves in this experiment that were fed a ration of ground corn and cottonseed meal, with alfalfa and silage for roughage, matured earlier, showed more finish and bloom, and dressed out a higher per cent, but cost the most per hundredweight of gain. Those fed on corn and cob meal made good but cheap gains; and those fed kafir heads were not finished at the end of the feeding period. More investigations are being carried on to substantiate these results and reach more definite conclusions.

That corn alone cannot develop growing pigs was shown by a nutrition experiment carried on for several years. The results of this investigation have been published. Corn must be supplemented by tankage, growing alfalfa, milk, dried blood, or other food containing protein and ash.

To find which type of beef cow will produce the best beef calf is the object of an experiment begun in 1915. Twenty Shorthorn cows, which have shown their ability to produce beef calves of exceptional merit and show no deficiency of mammary development, were chosen to be bred to bulls of exceptional merit from good milking cows.

Interesting results have been obtained in an effort to increase the production of the offspring of mongrel flocks of hens by mating them with pure-bred males from high-producing strains. In the case where the pure-bred single comb Leghorn was crossed on the hens of mixed breeding, the increase in egg production of the first generation of offspring was more than 100 per cent; with the pure-bred White Orpington male, 47 per cent; and with the Barred Plymouth Rock male, 32 per cent. The marketing of poultry and eggs is also being studied and a revised edition of the circular on caponizing was issued recently.

Drouth resistant strains of all the common field crops are being developed by the station. By selection of the most promising plants of different varieties and crosses of wheat for ten years, a new wheat has been produced which in a six-year average yielded 4.6 bushels more per acre than Turkey wheat and 5.2 bushels more per acre than Kharkof during the same period. This new wheat has been named Kanred—"Kan" to signify that it was originated in Kansas, and "red" to denote that it is a red variety. The milling and baking qualities of Kanred, as well as those of other varieties in the state, are determined each year.



FOUR dairy cows from the agricultural college herd were carried on the Santa Fe Dairy and Poultry Special. The Ayrshire, Canary Bell, standing at the left, has a year's record of 17,406.4 pounds of milk containing 668.16 pounds of butter fat. The next cow, College Daisy, is a grade Holstein. Her year's record is 13,463 pounds of milk and 501 pounds of butter fat. A pure-bred Jersey stands next. She is a 14-year-old cow and her best year's record is 10,148 pounds of milk and 592 pounds of butter fat. Her yearly average for the past three years has been 9,473 pounds of milk and 543 pounds of butter fat. The Guernsey is a cow imported from the Island of Guernsey. She has a record of 8,950 pounds of milk in one year, containing 429 pounds of butter fat.

A strain of corn has been bred which in different experiments required from 122 to 184 pounds less of water to produce one pound of dry matter than did Pride of Saline or Iowa Silvermine. Several years of careful selection and crossing are necessary to produce the desired kind of a plant and a few more years are required to produce a sufficient number of seeds to distribute to farmers of the state. An effort is also being made to determine why the sorghums are better able to withstand severe climatic conditions than the corn plant. The plant diseases of the state are being studied in order to find methods of controlling them; and an effort is being made to develop disease resistant strains of cereal and forage crops.

This is only one phase of the crop improvement work being done. Another has as its aim the conservation of the soil by rotating crops and applying fertilizers. Several rotation or cropping systems produced remarkable results in 1915. Corn after corn preceded by alfalfa yielded 70.3 bushels per acre; corn after wheat preceded by corn, 63.9 bushels; corn after wheat preceded by cowpeas, 66.2 bushels; and corn grown continuously, 53.7 bushels per acre. Soil samples taken from fields treated in different ways are analyzed to determine the effects of different crops and methods of cultivation upon the elements in the soil. The rotations are then planned so that one crop puts back into the soil what the preceding one removed.

Different methods of seed bed preparation have also been found to influence the yield. The highest returns have been obtained when the field was double disked in July and plowed early in August, in other words the earliest methods of preparation have given the best results.

The application of two and one-half tons of manure per acre annually, in the years 1911-1915 inclusive, increased the average yield of wheat 35.2 per cent and the average yield of alfalfa 80.2 per cent. Complete commercial fertilizer—that containing nitrogen, potassium, and potash—has never given returns sufficient to pay for its use; but two and one-half tons of manure per acre in combination with 380 pounds of raw rock phosphate increased the average yield of alfalfa 97.4 per cent. The enforcement of the fertilizer inspection laws, as well as the feeding stuffs and live stock remedies laws, is being done by the station.

Alfalfa hay cut at different stages of its growth—the bud, one-tenth bloom, full bloom, and seed—has been fed to work horses to determine the physiological effect upon the horses; and also to observe the results of these different treatments upon the alfalfa plants. At the last cutting the alfalfa cut in the bud stage was 80 per cent foxtail and crab grass seedlings and there were a few patches of grass in that cut in the one-tenth bloom; but there were no weeds in that cut in the later stages of growth. It has been found that alfalfa cured in the sun is much more nutritious than that cured in the shade and that the leaves contain two and one-half times as much digestible protein as the stems.

A study of silage made from different kinds of feed with reference to keeping qualities and feeding value are being continued. It has been found that the primary condition in keeping silage is the rigid exclusion of air.

The problems of pasture management are studied in order to determine how the desirable grasses may be increased. Investigations of farm management and the business of farming are being conducted. Data on labor incomes, percentage distribution of farms by tenure, and methods of leasing have been obtained from many farms in Kansas. Investigations have shown that the majority of farms are in need of more and better paying live stock. Better methods for marketing crops are also being worked out. In connection with this work, co-operative organizations are being encouraged. A bulletin is now being written containing valuable information on marketing.

Orchard management with an aim to producing the highest yields is being studied under two heads: soil treatment and training of plants. Variety trials with garden vegetables and fruits are also carried on, while the problems of pruning, spraying, and cold storage receive no small amount of attention. Tests of commercial fertilizers in potato growing are being carried on in co-operation with potato growers in the Kaw Valley. Closely connected with this work is that of experimental tree planting. That maple and pecan trees can be profitably grown in some parts of the state has been proved by experiment. It is probable that pecan growing and maple sugar production may some time be profitable in parts of Kansas. Literature on trees for Kansas may be had for the asking.

Methods of controlling pests that infest plants in Kansas are being perfected by the station. Much work has been done in the field to help orchardists and other agriculturists to get rid of these pests. The Hessian fly and chinch bug investigations have produced a method of procedure by which a community, by co-operating, may control these pests. Efforts are being made also to perfect methods of controlling rodents such as prairie dogs and gophers, as well as other injurious mammals.

That many thousands of the citizens of Kansas take advantage of the opportunities offered by the experiment station is shown by the fact that more than 45,000 copies of station bulletins and circulars were mailed out during the past year in response to miscellaneous requests. This does not include the publications sent to 21,000 persons whose names appear on the regular mailing lists. In addition to this, 70,000 letters were written by the station staff, giving advice and information on every conceivable phase of agriculture. Between 700 and 800 days were spent by the members of the staff in the field helping agriculturists of Kansas to solve their problems.

The station stands ready to co-operate with the citizens of the state and solicits their patronage. Printed lists of publications that are ready for distribution may be obtained by asking for them. When one of these lists is obtained, it is easy to look over it carefully and then address a communication to the Experiment Station, Manhattan, Kansas, and give the numbers of the bulletins or circulars desired. A post card will answer the purpose. It is a simple matter, also, to ask to be put on the mailing list to receive literature as it is ready for distribution.

Feed for Live Stock

The live stock farmer finds it necessary to plan farther ahead than the man having but little stock. An abundant supply of feed is essential to success with live stock. Nothing is more detrimental to the profitable handling of stock than to have the feed supply run short. Since the seasons are variable, enough feed crops must be planted to provide an ample margin of safety. It is better to have a lot of feed left over than to be compelled to put stock on short rations before the winter season is over.

In the western part of the state it is necessary to plan for a reserve supply of feed. The farmer who always has plenty of feed in reserve will never be under the necessity of rushing stock to market at sacrifice prices when an unfavorable season cuts the feed supply short. We have known of many instances where men with such reserves of feed have been able to buy up stock cattle at bargain prices in short years and thus realize good profits on the feed they have saved.

The sorghums, properly handled, will make some feed every year and there are years in which they produce unusual yields. In such years much feed goes to waste because there is not enough stock on the farm to consume it. If properly stored and fed to cattle later, the unusual crop could be turned into profit.

No method of storage is equal to that of making silage of these feed crops. By using silos to store feed, there never need be a shortage. The time to plan such reserves is when the feed crops are being planted. Be sure and plant enough so that even if the season is an unfavorable one there will be sufficient to carry the stock through, and, having made the planting plans, try and arrange to store the feed grown in silos. In Western Kansas pit silos can be *made* at a very low cash outlay.

When a ewe will not allow her lamb to suck she should be held and the lamb permitted to get milk as often as it needs it, or the mother may be tied up to prevent her from butting her lamb. An examination of the udder should be made because inflammation of that part sometimes causes a ewe to fight her lamb.

Starting Plants from Seeds

There are many flowering plants ordinarily purchased that we can grow ourselves from seeds if we do not have access to the greenhouses or prefer to save the expense. Most of the plants used for bedding and sold by the florists are grown from cuttings, even of such plants as verbenas, salvias, sweet alyssum, mignonette, ageratum, and petunias. Others are grown from divisions and rooted runners, as Shasta daisies, pansies, violets, dahlias, cannas, and a few others that cannot be grown from seeds outside a greenhouse. Some of those I have mentioned are rather difficult to grow from seeds, but most of them will grow readily, and some of them are grown mostly from seeds by the floriste.

Pansies are the first to be sown, for they grow so slowly that they need a very early start. Seeds sown in February will make the best plants, but seeds sown in March will bloom nicely if kept growing right along. A small box will hold seedlings enough to set quite a bed, but the little plants should be lifted when they have two or three leaves and set further apart in new boxes of rich soil, or in small pots. Florists usually plant their pansy seeds in the fall and winter the little plants in a cold frame, and such plants will bloom somewhat earlier than the spring plants unless started in February in the house.

Verbenas, ageratums, and such plants should be sown five or six weeks before the ground will be warm enough to plant them outside. Mignonette cannot be transplanted if the roots are disturbed, so they must be grown entirely in pots or the seeds must be sown outside. They grow rapidly so there is no reason why they should be sown inside.

Shasta daisies, picotee pinks, plumarius or grass pinks, sweet williams, columbines, and many other perennials that are beautiful garden flowers are very easily grown from seeds, but these will not bloom the first season. It is not necessary to sow these seeds in the house, for they make a good growth if sown in beds in the garden in May. Sometimes they are sown in the early fall and the plants will bloom the following season, but they will be much better if given the full season's growth.

Dahlias and cannas both bloom the first season from seeds, and dahlias are very easily grown. The seeds start readily and quickly, and the plants grow rapidly, and are large thrifty plants from the start. Canna seeds must be filed until the white shows through, and it is best to soak them in warm water for twenty-four hours in addition. The seed shells are very hard and they will lie dormant unless this precaution is taken. I sow the seeds in a bed of warm sand, just burying them, keeping the sand wet, and then when the seed starts I take it out and plant in the box of soil. The little plants are so hardy that you can handle them without much danger of damaging them if you are reasonably careful. While the cannas and dahlias grown from seeds will not make as large clumps the first season, the dahlias will make bushes plenty large enough, and will bloom well in the fall if started early. They should not be started more than a month before they can be planted outside, for they grow rapidly.—L. H. Cobb.

Germination of Garden Seed

The average time required for garden seeds to germinate is given in the following table:

Bean	5 to 10 days
Beet	7 to 10 days
Cabbage	5 to 10 days
Carrot	12 to 18 days
Cauliflower	5 to 10 days
Celery	10 to 20 days
Corn	5 to 8 days
Cucumber	6 to 10 days
Endive	5 to 10 days
Lettuce	5 to 8 days
Onion	7 to 10 days
Pea	6 to 10 days
Parsnip	10 to 20 days
Pepper	8 to 12 days
Radish	3 to 6 days
Salsify	7 to 12 days
Tomato	6 to 10 days
Turnip	4 to 8 days

Ayrshire Records

The summary of the Ayrshire Advanced Registry records for the quarter ending March 15, 1917, have just been announced.

For the quarter, 102 animals of all classes qualified, as against 114 in the previous quarter. The results show a gratifying increase both in milk and butter fat production. The 102 total entries averaged 10,587 pounds of milk, 420.87 pounds butter fat, test 3.98 per cent, an average increase of 742 pounds milk and 20.44 pounds butter fat over the average of the previous quarter.

Kansas Farmer Dairy Club

Advanced Class For Our First Dairy Club Members

SEVERAL members of the Dairy Club will close their year's record in the next few weeks and all will end on on before September 1. We are sure you have been surprised to find out how quickly a good dairy cow can pay for herself. Perhaps some of the bankers who loaned the money have had their eyes opened to the possibilities of dairying as a profitable business. We know of one banker who expressed some surprise when a girl who borrowed money and bought a cow for the club work, paid her note in eight months instead of requiring the two years which the banker gave her. He assured her that whenever she wanted money to buy another cow he was ready to loan it.

We are enrolling members for a new Kansas Farmer Dairy Club, but we have become so much attached to the members of the present club that we hate to think of their dropping out. We feel that a bond of sympathy and interest has developed between the editors and every member of the club, and we do not want it to be severed. We trust you feel the same as a result of our year's work together.

Will you not enroll for a second year's work? Of course, the members of the new club would not want you to compete with them because with your experience of the past year you would be able to do better work than a beginner could be expected to do. We would like to see all the members of the present club continue the work, forming an advanced class. Some of you have been disappointed in your cows. You will know better how to select good cows as a result of your experience. We want you to have the best cows possible for the second year's work. Perhaps the banker did not care to loan enough money last year so you could buy a really good dairy cow. You should be able to convince him now that there is much more profit in milking good cows and that it will pay to invest a little more money and thereby greatly increase the possibilities for profit.

If you can borrow enough money to buy a better cow when you have completed this year's record, sell your present Dairy Club cow at the end of the year's work and make a new loan for enough to buy the better cow. Some of you have pure-bred cows that have proven their worth and you will not care to part with them. If all of you who had to milk cows that were not entirely satisfactory, could plan to get better ones for a second year's work, we could have a race royal in this advanced class of the Dairy Club.

If you would like to enroll for a second year's work with the cow you now have or a better one purchased later, send us your names for membership in the advanced class of the Kansas Farmer Dairy Club. The profit you will make and the training you will get will make it well worth while to continue the work. In addition, we can assure you that sufficiently valuable prizes will be offered to make the second year's work decidedly interesting.

Visited the Special

I sent another bottle of milk to Manhattan April 3.

I went to see the hen and cow train and found it very interesting. I saw all of the cows and all of the poultry.

I found the mistake in my record for last month.

I have been looking over my records that I have to finish the year's work and find I have no more feed records to finish my year's work, but I have enough milk records. I wish you would tell me what to do about this.—Ernest Wendel, Leavenworth County.

We are glad to know Ernest visited the Santa Fe Dairy and Poultry Special and hope all of the club members living near the stations at which this train stopped made an effort to visit it. We know those who did were interested in what the speakers on the train had to say, and also in seeing the four good dairy cows and the car of poultry of the different breeds.

Shall He Buy Hay?

My cow is doing pretty well considering the feed she has. I have run out of alfalfa hay but the meadow pastures are up and I let my cow run on them. I also let her out at night after I milk.

Do you think I had better get more hay? It is high and scarce around here.

I bought some shorts the other day in Leavenworth for $2.30 a hundred pounds. I think my cow will increase in her milk flow now as she will get plenty of green grass in the meadow.

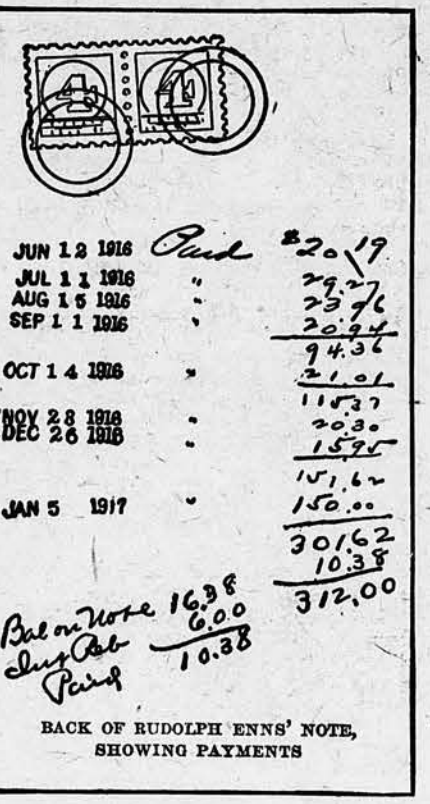
I will try to come to see you before September.

Enclosed you will find my records for March. Hoping you had a happy Easter. —Ernest Asbury, Leavenworth County.

We have advised Ernest not to buy more hay since it is so very high in price and his cow is almost dry. In addition to the pasture he should feed three pounds of shorts each day and should put with the shorts at least one pound of bran, or enough so that the shorts will not stick to the cow's mouth as she eats it. The bran will probably cost no more than the shorts and the mixture will be more palatable to the cow and therefore will bring better results.

His Was First Note Paid

Rudolph Enns, of Harvey County, was the first one of our Dairy Club members to pay his note at the bank. Anyone could well be proud of his seven and a half months' record. Rudolph's cow is a pure-bred Holstein and she has certainly proven a fine investment for him. The banker who loaned Rudolph the money to buy his cow is so well pleased with this record that he has asked the county agricultural agent to furnish him the names of all boys and girls who are deserving of assistance in buying cows to join the second Kansas Farmer Dairy Club. Rudolph's letter, dated January 15, 1917, follows:



BACK OF RUDOLPH ENNS' NOTE, SHOWING PAYMENTS

"Please allow me to tell you that I have today taken up my note with Mr. Suderman, my cow is paid for and I have some money out on interest.

"With December 31 I have milked Daisy exactly seven months and twenty days. In this time she has given me 11,932.2 pounds of milk, 1,387.5 gallons, which I sold here in the city of Newton for $269.90. The calf I sold to Mr. Loyd, of Loyd, Kansas, for $150, making me a total income of $419.90. My expenses have been $300 for the cow, $12 interest, $68.93 for Daisy's feed, and $23.38 for calf feed; total $404.31, leaving me still $15.59 for which I now get interest. Enclosed please find the condensed statement, note, and chattel mortgage.

"I find that Daisy's milk—1,387 gallons—containing 430.2 pounds butter fat or 516.2 pounds butter, has cost me only $68.93, or about five cents per gallon."

GENERAL FARM NOTES

THE extravagance of using large quantities of grain in feeding live stock is being pressed home in these days of high prices for foodstuffs of all kinds. Grain is necessary in the feeding of live stock but we have formed the habit of feeding a great deal more than is absolutely necessary—to some classes of animals, at least. The world-wide demand for grain for human consumption is such that we can hardly afford to use more than is absolutely necessary in growing meat animals and finishing them for market. Animals are an indispensable source of human food, but their chief function is to convert into human food, rough, coarse feed that cannot be so used directly.

Under old methods of finishing steers for market, it was nothing uncommon to use from 900 to 1,000 pounds of corn to every 100 pounds of increase made during the fattening period. No one would think of arguing that a pound of beef has as much value for human food as nine or ten pounds of corn, and when it is remembered that the increase during the fattening period is largely fat which is a source of waste when the meat is brought to the table, the extravagance seems even greater.

From all over the world comes the insistant demand for greater supplies of human food. Conservation of that which is produced requires that the full value of the forage part of our crops be converted to human use. This can be done most completely and effectively by putting up silos and preserving the corn, kafir and cane as silage. By this method the maximum value of the crop will be saved and grain will be released for direct human consumption. The use of the forage crops as silage will greatly increase the possibilities for meat and milk from an acre of average Kansas land.

The silo is one of the greatest conservation agencies and it not only means increasing the amount of human food produced but increases the farmer's profit as well, through this utilization of the crop.

Last winter John Cottrell, a Marshall County farmer, fed 1,200 tons of silage which he grew on 120 acres of ground. He estimates that through the use of this silage he was able to save $10,000 worth of hay and grain. His cost for putting up this silage was $900, which left him more than $9,000 net for the corn as it stood on the 120 acres, unhusked, or an acre profit of more than $75. Mr. Cottrell's experience of three years has convinced him that it is more profitable for him to feed his corn crop through the silo than in any other way, and he is planning to put up two more silos having a capacity of 300 tons each, this summer.

Live stock production can be greatly increased on our Kansas farms through the use of the silo, and in addition to producing more meat and milk there will be more grain available for human consumption.

In the present crisis conservation and full utilization of that which is produced is of even greater importance than increasing production. The silo must be recognized as a most important food conservation agency.

Grow More Strawberries

Strawberries should be grown in more of our gardens. There are many localities in Kansas where the soil is adapted to the growing of strawberries.

Strawberries demand a moderately rich loamy soil for the best success, but they are being grown in a wide range of soils and conditions. Almost any soil can be put into condition for them.

It is preferable to set the strawberries in the spring in most instances. The plants which produce the fruit are the ones which form the previous season, and the work of the grower is directed to securing a sufficient number of good plants each year.

New varieties are grown from seed but all are propagated from runners. Plants are best grown in new beds, and if they are taken for setting from old beds, special care should be used to get the young thrifty plants. Where space is abundant they are grown in rows four feet apart in what is known as the matted row system.

The ground should be thoroughly and carefully prepared. Usually it is best to set in the early spring, but conditions may change. If the ground is dry and the weather is bad, it is best to wait until later. The only plant worth anything is the one that grew the year before.

In setting plants, care must be taken that the roots are well spread, and that the crown is high enough so that the earth will not be washed over the buds. The plants are usually set twelve to eighteen inches apart, according to variety. Leaves and roots are usually clipped when the plants are set. After the plants have been set they should be given frequent and thorough cultivation.

Runners should be cut off until the plant is well established. Usually this will be by the last of June, unless the weather is especially favorable. Blossom buds should be removed as soon as they appear for the first season, as the bearing of fruit is almost certain to exhaust the plant. It is well to prevent the plants setting too thickly during late summer and fall. Unless the soil is especially rich, plants should be six inches apart. Thin out when the plants are too close.

As soon as the ground is well frozen the bed should be well mulched with straw or hay. Stable manure may be used on thin poor soils. Whatever the material, it should be well shaken out and spread evenly to a depth of three to four inches. Care should be taken to see that it is free from weed seed. The object in the mulch is to prevent sudden changes in the soil temperature. Frequent freezing and thawing is an unfavorable condition for a strawberry bed, causing heaving.

In the spring, as soon as danger of freezing is past, the mulching should be raked off the row to the middle, leaving sufficient straw to protect the fruit from being soiled by the earth. Weeds should be kept pulled. Care must be taken in pulling them not to scatter soil on the fruit.

After the crop is picked the preparations for the renewal of the bed should be made. If the stand is poor they may be hoed out, cleanly cultivated, and mulched in the fall as before. Where a good stand has been secured, the best plan is that of cutting down the row. In a small bed, a garden line is stretched in setting the row over. The ground should be cultivated thoroughly. If plants are at all affected with fungus or insects, it is well to mow and remove tops from patch. Thorough cultivation and thinning must then be given as for a new bed. This renewal may be kept up indefinitely, but when berries are grown in a commercial way it is not usually profitable to let the bed stand more than three years.

The blossoms of many varieties are imperfect, lacking the stamens, and it is necessary to plant near these some variety which produces an abundance of pollen and which will blossom at the same time. Good varieties to plant, in this locality, are Senator Dunlap, Klondike, Gandy, and Grand Marie. The strawberry is one of the most profitable and certain of fruits.—M. F. AHEARN, Associate Professor of Horticulture, Kansas Agricultural College.

Sudan Grass for Seed

Sudan grass seed seems to be wanted by many farmers, but it is hard to find. The price is so high that few people will plant for pasture this year in the way they would like to plant it—twenty pounds per acre put in with a grain drill. Since it has proved its value, the practical thing to do now is to work to produce plenty of seed for use in 1918.

In 1914, Charles Harmon, of Manitou, Okla., grew 300 pounds of good seed from fourteen ounces of seed which he planted in rows three feet apart and cultivated just enough to keep the weeds down. One pound of seed will plant an acre, if planted in three-foot rows. Why not buy just one pound and grow your own seed for next year?—J. E. PAYNE, Oklahoma.

The brood mare should have plenty of exercise prior to foaling time. She should also be closely watched. The normal gestation perior is of eleven months duration, but mares often give birth to colts a week or ten days before such time elapses. A clean, well-bedded box stall should be provided. As soon after birth as the colt is found, the navel cord should be dipped in iodine to prevent infection. Following foaling, the mare should be fed lightly, a small amount of water from which the chill has been removed being allowed. A bran mash may be fed following foaling, to cool the mare's system.

Replacing Winter-Killed Wheat

THERE are few localities having so many chances for paying crops as does the wheat belt of Kansas. There is still time to plant a crop of corn or kafir or some other feed crop after giving up the wheat as hopeless. Of course, a farm organized and planned for exclusive wheat production cannot always make abrupt changes of crops, but we are learning that it is safer to plan the farming operations along a more diversified line.

H. M. Bainer, Santa Fe agricultural agent, recently made the statement that poor wheat years are frequently first class corn years. Wheat failure has unquestionably left a large acreage for corn and other cultivated crops, in fact, too large on many farms. Kansas is not much of a spring wheat country and oats is not a paying crop ordinarily. The larger part of the surplus acreage must be planted to corn and kafir. This wheat land will need but very little additional preparation before planting it to another crop. A large acreage of corn or kafir can be handled by one man and teams, provided two-row implements are used in its planting and cultivation. The employment of some extra help during the cultivation season, but no more than the extra help used in harvesting a crop of wheat, will care for almost as many acres of corn or kafir as wheat.

Corn is far from a sure crop over much of Kansas. While wheat has failed this year to a large extent, we believe Kansas farmers should not place too much confidence in corn alone, to take its place. Corn is a good crop if weather conditions are favorable, but we should remember last year's corn failure, which may repeat itself this year. Corn must have rain at certain seasons or fail, while kafir, milo and feterita will wait for rain and finally mature, if the season is long enough.

Plant part of the acreage available to dwarf white kafir, dwarf red milo and feterita. These grain sorghum crops, especially the dwarf varieties, mature in shorter season than the larger or standard varieties. Dwarf kafir will mature three weeks ahead of the kafir commonly used in Kansas. Half of the corn acreage of the state should be given to these grain sorghums. The farmer who plants some of each of these, in addition to corn, cannot fail to produce some fodder as well as some grain, no matter how unseasonable the year.

Seed for these crops is scarce and we would urge every man having any surplus of good seed of any of the varieties of kafir or other grain sorghums, to make a serious effort to place this seed where it will be used for production this year. There are many agencies, such as local granges and farmers' unions, agricultural agents, bankers, and business men, that can be used to spread information concerning seed available for spring planting.

It can well be considered a duty we owe our country to see that any surplus seed gets into the hands of farmers needing it and who will be hampered in their ability to produce by lack of good seed.

Prices of Kansas crops and live stock have never been so high as at present. The living expenses of farmers are also the highest ever known. War prices are met, coming and going. If wheat fails, something else must take its place. Every acre of tillable land should be made to produce something. The crying demand of the world today for food supplies must be partly supplied by Kansas farmers. There has never been a condition more urgently tending to stimulate increased production than exists at the present.

Leave Half Stands of Wheat

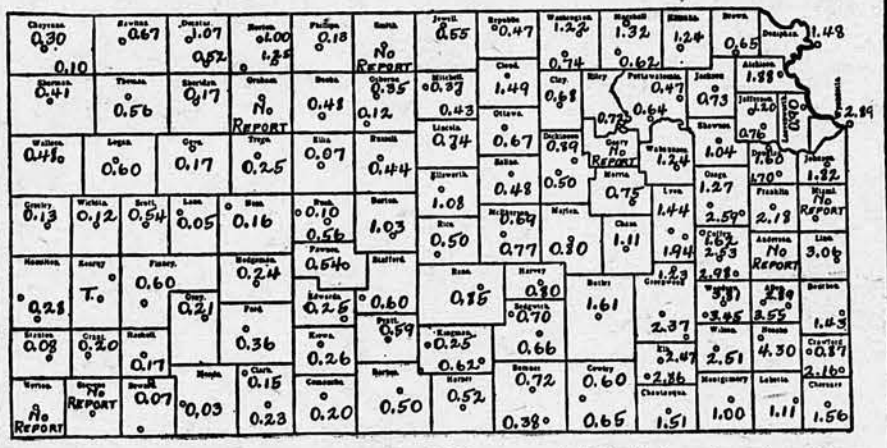
Ordinarily it is not profitable to leave a half or a third stand of wheat. The expense of harvesting is too great in proportion to the value of the crop. The situation this year is such, however, that even a third of a stand may yield a good return. There is sure to be a shortage of wheat and this means continued high prices. A crop that would be unprofitable to harvest with low prices could easily be profitable with the prices that are likely to prevail.

These poor fields can be left as late as May 1 and if by that time they show that they will be absolute failures there will still be time to plant corn, kafir, or some other feed crop. Wheat has great recuperative powers and some very poor stands may be worth saving in view of the shortage that is likely to exist.

The most common test for determining if soil is acid or sour is by means of blue litmus paper, which can be obtained at a very small cost from nearly every druggist. A small quantity of moist soil from the field is compacted into a ball, the ball broken into halves, a strip of litmus paper laid across one part and the parts pressed firmly together again. After an hour or so the ball of soil should be again broken apart and the paper removed. If the paper shows a decided pink color, the sample of soil is acid. If a deep-rooted crop such as alfalfa is to be grown, it will be well to test samples taken from both the surface soil and the subsoil.

Rainfall Over Kansas, for March

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



THE precipitation of March, 1917, was deficient in almost every county in Kansas and the dryness of the month was accentuated by the fact that in most of the central and western counties the precipitation has been below normal for nine months in succession and the four months just closed are, with one exception, the driest period of that length in the meteorological history of the state. Wheat was in a critical condition when the month began and deteriorated steadily as the weather became warmer and drier until a large per cent of it was killed when the month ended and arrangements were being made to plow up or disk a great deal of it for other crops.

GRAIN SORGHUMS FOR FEED

IN THE development of the live stock industry greater use could profitably be made of the grain sorghums. With the increasing demand for meat products the farmer of the western part of our state might well give serious consideration to growing more sorghums and the handling of greater numbers of cattle. More than the usual amount of wheat has probably been winter-killed this year. This makes it possible to handle greater acreages of spring crops than ordinarily.

The question of finding a market for the grain sorghums seems serious to some. As the merits of these crops become better known and the acreage increased, there has been a growing surplus to dispose of commercially. There has always been some difficulty in marketing this surplus promptly at profitable prices.

The value of this grain for feeding in beef, milk, pork, and egg production is not yet fully recognized. In some seasons it has been almost a drug on the market until the following spring, when the growing scarcity and increasing price of feeding corn turned attention toward it. If it is to be in any sense the money crop of certain districts it must be readily and profitably convertible into cash. This means that the surplus must be able to move freely, at good prices, soon after being threshed.

Since it is a feeding grain, it is reasonable to believe that it can be fed as profitably where it is grown as elsewhere, other things being equal. Freight charges on the crop shipments are thereby avoided, as is also the wagon haul from farm to railroad. It is much more readily and cheaply transported to market in the form of beef or pork.

It seems especially unfortunate that these crops should be grown in the midst of the greatest stock-producing section of the country and it is in the development of the live stock business that the grower of the sorghums has the surest outlet for his crop. The feeding of grain sorghums is already being carried on quite extensively in some sections of the Southwest, but the financing of extensive stock-feeding operations is a slow and somewhat difficult matter. The start has been made, however, and progress should be aided and encouraged by every commercial agency concerned.

At the present time a large part of the cattle grown in the grain sorghum producing districts are fed in corn belt states farther north and east. They are fed likewise on corn. As conditions now exist, the cattle proceed to market on a feeding-in-transit rate. If sorghum grain is to be used largely in feeding these cattle, it must follow them by rail to the feeding districts. There is no feeding-in-transit rate for grain sorghums. They must not only compete with corn in feeding favor, but must bear heavier transportation rates because of the longer distances from which they come. This can be remedied only by encouraging local feeding.

The recent rapid increase in the number of silos in the Southwest will be a direct aid to cattle feeding operations. The combination of home-grown silage and feeding grain, with readily accessible cottonseed meal, ought to aid in making feeding profitable in the grain sorghum belt.

Beef Consumption Increasing

Since the outbreak of the European War there has been a surprising increase in immigration into the United States from the several European countries. It was generally assumed that the warring nations would restrict emigration and it was also assumed that there would be many thousands returning from the United States to take part in the conflict. But it appears from records that after the first rush, following the outbreak of the war, the number returning from the United States to Europe was very limited, but that the emigration from Europe to the United States has shown a positive increase. This leads to the conclusion that when the war is over there will be a strenuous increase in emigration from Europe.

The population of the United States already considerably exceeds 102,000,000 and the prospects are that the next decade will witness a very large increase caused primarily by the drift from Europe to our shores. This will mean a growing home market for American beef. There seems to be no difference of opinion among those who have studied the meat production of the world that there is not only a shortage the world over, but that the United States will find a market within its own borders for all of the beef it will be able to produce. This forecast cannot fail to encourage the man whose investment is in a breeding herd of beef cattle.

The unprecedented call for Shorthorn breeding stock in all sections of the country is evidence of the desire on the part of farmers to engage in diversified farming with beef raising or combined milk and beef production as the basis. The call for breeding stock increases. In a recent period of two weeks in Central Illinois and within a limited territory, 500 Shorthorn bulls were disposed of and these largely taken by Illinois farmers.

For years the corn belt farmers have been leaning toward grain farming and beef production has declined. Finally the situation became acute and generally recognized, with the result that there is now a tendency to restock the farms with cattle. A rapidly depleting soil and a decreasing beef supply have combined to emphasize the importance of engaging in the growing of cattle. And now with increased consumption the situation is doubly important and the returns the more remunerative.—FRANK D. TOMSON.

When lambs have lost their mother they can be raised satisfactorily by hand by feeding fresh warm milk from a bottle with a nipple attached. The milk should be fed often and in small quantities. When troubled with scours, the milk should be boiled or a little lime water added.

It may be of interest to the hog raisers of Shawnee County to know that there has been established in Topeka a station where hog serum will be kept on hand at all times. Several years ago the agricultural college became interested in the hogs of this section, and treated all cases of cholera which were reported to them. For the convenience of the users a station has been established in Topeka and the college has placed this in the charge of Dr. L. A. Howell, who is located west of town and can be reached through the Silver Lake telephone exchange.

It is best to locate the fuel tank for a gasoline or oil engine outside the building, preferably underground.

We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

To plow a straight furrow on Monday, or dust a room well on Tuesday, or kiss a bumped head on Wednesday, is worth more than the most ecstatic thrill under Sunday eloquence.—MALTBIE D. BABCOCK.

Reading aloud is of great value to the child. Let him read something that is interesting to him and ask him to tell the story when he has finished reading it. This will teach him to pay close attention and get the meaning of the words as he reads. This much individual attention cannot be given at school, but the school work supplemented by the home interest may develop a dull, monotonous reader into one it is a pleasure to hear.

If the son or daughter finished the work offered at the district school this last term, now is the time to decide upon the school to which this boy or girl shall go this fall. If there is a high school near it will not be so hard to make this decision, but the fact that there is not such high school should not mean that the boy's or girl's schooling should stop at this time. Of course, if the child is very young and would have to be wholly among strangers, it would not be wise to send him away to school and a year or two out of school will not have a bad effect upon him. Even under these conditions home study should be encouraged. It is the home the members of which know the value of educational advantages and make these possible, that sends out into the world the most useful citizens.

The Toothbrush Brigade

Do you know the proper way to brush your teeth? Toothbrush drill is a regular part of the hygiene calisthenics of New York schools. The boys line up in rows with their toothbrushes, dentifrice and paper cups of water, and are taught to brush their teeth thoroughly with a motion up and down—from the lower to the upper gum and back again—instead of brushing across the teeth. On the lower teeth, brush from the gums upward. This causes the bristles of the brush to cleanse the spaces between the teeth, the place where most dental decay commences. The pupils are also taught the necessity of visiting the dentist twice a year for a general inspection of the teeth and cleaning. By arresting the decay and filling the tooth before the decay has made much headway, a great deal of trouble later on can be avoided.—The American Boy.

To Remove Blood Stains

The substances in blood are largely of an albuminous nature, and their removal from fabrics that are difficult to launder may be effected by methods which make use of the properties of albumins. One method is to soak the fabric in lukewarm water until the stained part is softened, then place a little pepsin on the stain. The albuminous part of the blood is by this means digested so that it can be readily washed out or mopped up.—C. E. VAIL, Colorado Agricultural College.

Our Homes

These should be more than walls and furniture, more than places to eat and sleep. Unless they are more than this they are not fulfilling the mission for which they were instituted. The home should be a retreat for the tired laborer, a place of quiet and rest, of fun-making, of family companionships, and a place of thought and study in preparation for the problems and work of the coming day.

Home should be the storehouse of good influences which will be thought-provoking concerning those questions our attitude toward which have an important bearing on the usefulness of our lives. These influences should be impressed upon us to the extent that the thought of home will never cease to be dear to us.

The requisites for establishing a home of this kind are consecrated lives with an earnestness of purpose and early training that help us to rightly value the essentials and non-essentials.

How the Children Can Help

Our nation is entering into a crisis and our attention is constantly being called to the necessity for practicing economy in every line of our living. Those who have long been studying economic questions and who are in a position to know—as well as any human can know—tell us that only by individual and united effort will we be able to feed our nation in the days ahead.

In the last issue of the Kansas Industrialist, Edward C. Johnson, dean of the extension division of the Kansas Agricultural College, showed how additional food products valued at 400 million dollars, could be produced through united family effort. These figures were based on results accomplished last year by the Glenwood Mother-Daughter Canning Club of Leavenworth County in our own state. The mother-daughter teams of that club last year averaged 366⅔ quarts of canned products each. These results stand for a systematic effort in one community to allow no waste of garden or orchard products, and give a hint as to what might be expected from the same effort in all communities.

In a campaign for maximum production and conservation of food, we can rightly expect much help from the children for they have proven their ability in this direction. For several years the state garden clubs have attracted many children and the yields obtained by them from small patches of ground have been more than gratifying to the young workers and to those who have directed the work. The nation now needs badly the products which the children can contribute and by utilizing the spare time of the children in this way they will be taught good gardening methods and the value of thrift.

As our editor has said, we are entering this world war with heavy hearts, but since it is inevitable let us fan our patriotism to the point of doing what we can to lighten the burden, and let us instill in the minds and hearts of our children that they, too, have a duty to perform in making possible the nation's strictest economy.

The Perfect Girl

The following are the attributes of the perfect girl as seen through Harvard eyes, some fifty bachelor graduates having recently, and after considerable discussion, agreed on them for the "girl that's worth while":

She is attractive, graceful and healthy, but not necessarily pretty.

She can dress tastefully and entertain anyone and make him feel at ease.

She can make bread as well as fudge, and cake as well as a "rare-bit."

Her dancing is not necessarily latest, her tennis is not necessarily up to the standard, but she is appreciative of the dance and of the sports.

She is broad minded, sympathetic, tactful, unselfish, optimistic, thrifty, of good disposition, and moderate in all things.

She can stand reverses without worry.

She is gentle to children and kind to older people, especially to her parents.

She has a broad education, but not necessarily a college one.

She is modest and true and home loving.

She has good social standing, is of a religious nature, and not "too proud to pray."—Baltimore Sun.

Colors in Cloth

So far as color is concerned, there are three different grades of cloth—fiber-dyed, thread-dyed, and piece-dyed. Only the best fiber can be handled in the dyeing process and therefore only the best materials are dyed in the fiber. By this

If a hard crust forms over the seeds in the garden before they come up, loosen it lightly with a hoe.

means the most lasting colors are produced because the dye penetrates the fiber evenly. The best serges, high class silks, and Zephyr ginghams are fiber-dyed. By untwisting the threads of these textiles the evenness of the color will be noted.

Linens, pongee and rajah silks are thread-dyed. Untwisted threads of these will show undyed or partially dyed fibers and torn or cut edges will show a gray effect.

Piece-dyed cloth when unraveled will show a cross-bar effect on the threads where the dye did not penetrate and the surface will show light and shaded or spots. Calicoes, the cheaper linens, pongee and rajah silks are piece-dyed.

These interesting facts were brought to the attention of the women visitors at the agricultural college during Farm and Home Week by Miss Fecht, instructor in domestic art.

At this time when we hear so much about the poor colors in materials, by applying the tests given we can at least know more about the lasting qualities of colors than if we buy them without giving this matter thought.

The unpainted building decays much faster than the one protected by good paint.

Apple-Pimento Salad

Add a few strips of canned pimentos, chopped fine, to sliced apples and mix with mayonnaise salad dressing. This combination is delicious—and different. Canned pimentos can be bought in small quantities.

One-Egg Cake

¼ cupful butter
½ cupful sugar
1 egg
½ cupful milk
1½ cupfuls flour
2½ teaspoonfuls baking powder

Cream butter, add sugar gradually, and egg well beaten. Mix and sift flour and baking powder, add alternately with milk to first mixture. Bake thirty minutes in shallow pan. Spread with chocolate frosting.

The parent who has a kindly interest in the school and manifests it by regular visits during school hours, is one of the strong influences for good in a community. He cannot keep in touch with the school to this extent without working for it, because its needs will be forced upon him and he will not want to overlook them. And the children of such parents will get more out of the school than will those whose parents are indifferent to their educational advantages.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

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

No. 8112—Children's Dress: Cut in sizes 4, 6, 8 and 10 years. As pretty a little dress as you ever saw for a small girl is shown in this picture. Just adding a tab to the top of a box plait made in each half of the front and back gores, makes the two-gore skirt one of beauty. An embroidered belt passed under the tabs proves its worth where the waist is joined. **No. 8116—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. If you like style and comfort in a blouse for wear with a nice skirt, you will not look long at this model before you decide to have one just like it. It is of the kimono cut and has almost surplice style front closing. A unique little pocket in the lower part of each front shines out as a smart novelty. **No. 8133—Boys' Russian Suit:** Cut in sizes 2, 4 and 6 years. The Russian style continues to be the favorite with mothers and with Fashion, for the small boy's suit. It is decidedly a boy's style, and when the blouse is made like that in the picture, with a smart closing outline, fitted with a pocket, belted at a lowered waistline and trimmed with contrasting goods, any little fellow will feel proud. **No. 8118—Ladies' House Dress:** Cut in sizes 36 to 42 inches bust measure. Simple in cut, smart in detail touches, neat and becoming, is what you want your house dress to be. Here it is exactly. The garment is cut in one piece, has the new collar, flare cuffs, triangle pockets, full-length front closing, and with the fullness belted where it ought to be. **No. 8131—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist maisure. The clever blending of style features makes for the success of this attractive walking skirt. It is cut in four gores and has the front and back gores gathered to yokes introduced at center front and back. A plait at each seam is a good point and the button and loop decoration to almost hip length is an up-to-date trimming feature. **No. 7565—Ladies' Apron:** Cut in one size. This one-piece garment is remarkable in taking very little material. It is cut in one piece, but may be seamed at the shoulders. Body and sleeves are in one and the fullness is gathered on a tape or an elastic at the waistline. The opning of the neck allows of slipping on the waist over the head.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

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

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

THOUSANDS U. S. GOVERNMENT JOBS now open to farmers—men and women. $65 to $150 month. Common education sufficient. Write for list positions easily obtained. Franklin Institute, Dept. B82, Rochester, New York.

DAIRYMAN WANTED TO TAKE charge of small herd. Single, competent, reliable and sober. Must milk and take care of all utensils. State salary wanted. Give references and experience. Blue Valley Farms, Roff, Okla.

REAL ESTATE.

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

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate—crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

HORSES AND MULES.

JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

MISCELLANEOUS.

BLACKSMITH SHOP AND GARAGE with good tools, up to date, for sale right. R. C. Watson, Altoona, Kansas.

FOR SALE—16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

FARM SIGNS

PAINT YOUR OWN FARM SIGNS. EASY with our patterns and instructions. Send for copyrighted booklet entitled "Naming the Farm" containing 200 suitable names and sample pattern and introductory offer. C-N Sign Co., Box 15, Jackson, Minnesota.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

DOGS.

REGISTERED SCOTCH COLLIES AND fox terriers. Western Home Kennels, St. John, Kansas.

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

TREES, SEEDS AND PLANTS.

SEED CORN—LAPTAD STOCK FARM, Lawrence, Kansas.

SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

EVERBEARING STRAWBERRIES—PEDigreed, Progressive Superb varieties. $1 per hundred. J. A. Dowden, North Bend, Neb.

SEED SWEET POTATOES, PUMPKIN yams, 3c pound, $1.50 shipped in bushel boxes. J. Medford, Wheatland, Okla.

SEED CORN—DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

SUDAN SEED, RECLEANED, FREE from Johnson. Delivered. Above fifty pounds, 30 cents; under, 35 cents. J. K. Burke, Idalow, Texas.

COMMERCIAL WHITE SEED CORN, $2.50 bushel. "Meadow fesque," 7c pound. White clover, 35c pound. Alfalfa, $8. E. D. King, Burlington, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

BEAUTIFUL FLOWERS—BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

BERMUDA GRASS—HARDY, RANKgrowing variety. Stands drouths, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

EVERBLOOMING STRAWBERRY plants—Americus, 100 strong healthy plants true to name, only 90 cents; 500, $4. Have tried Americus, Progressive and Superb. Americus proved the best bearer. Big stock flowering and vegetable plants. Write for descriptive price list. Henry Jefferies, Ottawa, Kansas.

ALFALFA AND KAFIR SEED—RElcleaned, home-grown, non-irrigated. Alfalfa seed, $5, $6, $7, $8 and $9. White Flower sweet clover, hulled, $12; unhulled, $7.50. Pure white kafir, $2; good growing kafir, 1% cane seed, $1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.

FOR $1 WE WILL SEND YOU TEN APple, pear or peach trees, two-year four to six feet, or eight Compass Cherry or twelve Keifer pear or twenty-five gooseberry or twenty-five assorted or Concord grapes or 100 blackberry or raspberry or 200 spring or fifty everbearing strawberry plants or ten extra fine field grown roses. Manhattan Nursery, Manhattan, Kansas.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES—TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

THE STRAY LIST.

TAKEN UP—BY C. E. ELLWOOD, OF Marquette, Harper Township, McPherson County, Kansas, on January 17, 1917, one sow, color red, weight about 200 pounds. No marks. W. E. Rostine, County Clerk.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

WHITE HOLLAND TURKEY EGGS FOR HATCHING
From Madison Square Garden, New York, winners. 40c each, $4 per twelve.
FRANK J. HICKS, Route 8, Onarga, Illinois

Bowel trouble among young chicks is often caused by too much wet and sloppy food. Most of the feed should be fed in the dry state. In case the little chicks become afflicted with the trouble, the feed should be changed from meal or mushy food to boiled rice for a few days. Once each day put a little charcoal in the boiled rice. If the trouble continues, add a tablespoonful of clover tea to each pint of drinking water.

Proper Feeding of Chicks

PROPER feeding of young chickens is a most important step to success in making poultry profitable. N. L. Harris, superintendent of the agricultural college poultry farm, is unusually successful in feeding baby chicks. He states that it is impossible to give any special ration that is best under all conditions. Several combinations have been used with much success. The one essential is to furnish all the elements necessary to build up the body of the chick. It may be easily seen that no one grain will supply all the elements necessary for the different parts of the body.

A ration should contain a sufficient amount of fat producing food which will give heat and energy. Feed should be given that will produce feathers. Corn, kafir, and feterita are the most important fat producing feeds in this state and should furnish the basis for a growing ration.

Feeds to give the growing elements are bran, shorts, alfalfa leaves, and something to take the place of bugs and worms which nature ordinarily furnished. There is nothing that so thoroughly takes the place of bugs and worms as sour milk. If possible a supply of this should be before the chicks at all times. It is preferable to feed the milk sour as the acid aids in the digestion of other feeds.

When no sour milk can be procured it will be found profitable to purchase commercial beef scrap. This is a by-product of the packing house and is high in the elements that go to make up muscle and tissue.

One ration which has given satisfaction at the college poultry farm is composed of 21 pounds of wheat bran, 18 pounds of corn meal, four pounds of bone meal and two pounds of commercial beef scrap increased to four pounds at the end of the second week. With this ration is given a scratch feed of equal parts of cracked wheat and cracked corn or kafir.

As the body of a baby chick is composed of 75 per cent water, a sufficient supply of good clean water should be kept before it at all times. One of the first requirements of a chick is grit. Common sand is preferable to commercial grit, as it is not quite so sharp and is not inclined to irritate the delicate digestive tract.

Nature has provided within the chick sufficient food for the first 36 to 48 hours in the form of the yolk of the egg. This is absorbed just before the hatching. For this reason no feed should be given for the first few hours or until the chick shows indications of being hungry.

At no time during the first two weeks should the chick be given all the feed it will eat. In order to get the best results in raising baby chicks, it is necessary to make the artificial conditions under which they are raised correspond as nearly as possible to those which would have prevailed in the wild state.

Hopper Feeding Best Method

Using self-feeders or hoppers has much more to commend it than the mere matter of convenience and labor economy. The use of hoppers for feeding both grain and dry mash after the chicks are six weeks old is a good practice. By this time they are usually on free range in coops or colony houses provided for that purpose.

In discussing the hopper method of feeding, T. E. Quisenberry makes the statement that if you continue to feed the chicks by hand when you open the house each morning to let them out, they will wait and follow you and beg you to feed them. They will fill up on grain or feed which you give them. They will then sit around and wait until the noon feed and repeat the performance in the afternoon. The result is that they follow around after you every time you come in sight, and they are never satisfied or contented and do not hustle and get the exercise or develop as they should.

In hopper-feeding you place the feed in hoppers and when you turn them out of the coops and hovers each morning, they pay no more attention to you than if you were not there. They rush by you and on by the hoppers containing the feed and out into the clover or cornfield or orchard in search of worms, bugs, etc. They soon learn than the feed is always there when they want it. They also learn that the "early bird catches the worm," and they go in search of them first. They then come back to the hoppers and fill up on grain and dry mash. If you hand-feed, unless you are an expert, the chicks fill up on your feed and then sit in the shade of a tree until they see you coming in sight again. The chicks know much more about their wants than does the average person who attempts to raise poultry. By actual test they do not eat any more where they are hopper-fed than where they are hand-fed.

Avoid Crowding Chickens

In raising chickens by artificial methods there is always danger from keeping too many together in small brooders or coops. A brooder big enough for the first week or two is entirely too small later. Overcrowding is one of the chief causes of death in young chicks. Chickens cannot sweat, as they have no sweat glands in the skin, therefore the impurities and moisture must be crowded out through the breath. If the chickens are overly-crowded and there is not sufficient ventilation in their roosting quarters, the air becomes filled with impurities and ladened with moisture, which places an unusual strain on the system of the bird in many ways, especially upon the kidneys, which results in a weakened system. The chickens come from the coop in the morning weak and tottering, and with no appetite. This accounts for much of the lack of vitality in many flocks.

A common cause for high mortality in the early period of a chick's life is the shock it receives when taken from a highly heated incubator and placed in a brooder where the temperature is from ten to twenty degrees lower. The atmosphere of an incubator at hatching time is saturated to some extent with moisture, which resembles the steam bath. The delicate system of the chick receives a serious shock when it is moved from the incubator to an ordinary brooder. The result is a weakened vitality and digestive troubles.

It has been conservatively estimated that the cost of feed and labor to care for a good laying farm hen should not exceed one dollar per year. A good well-bred hen that is well cared for will produce 120 eggs or ten dozen a year. Ten dozen eggs at 20 cents a dozen, a low average price, will bring a gross return of $2 a hen or $1 net. A net return of $1 from each hen, and all feed and labor paid for at good prices, furnishes an excellent investment. If the hen is valued at the high price of $1, then a return of $1 net is equal to 100 per cent interest on the investment.

Before being removed from the incubator, chicks should be accustomed to the outside atmospheric conditions by gradually opening the incubator door. This operation will perhaps require twelve hours. A brooder, if properly built, can be made to maintain a temperature of 100 degrees in the warmest part and 75 degrees in the coolest compartment.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Save Your Chicks—Free

Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

BARRED PLYMOUTH ROCKS — FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

WHITE ROCK EGGS, HALBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, $3, fifty; $5.50 hundred, prepaid. Mrs. John Ramsey, Route 5, Ft. Scott, Kan.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

WEIGHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting; flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

BABY CHICKS—PURE-BRED BARRED Rocks, White Leghorns, Buff Orpingtons. Heinschel, Smith Center, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

WHITE ROCKS, EXTRA GOOD. EGGS prepaid, $1.50 fifteen, $6 hundred. Pleasant Vale Poultry Farm, Effingham, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, $5 per hundred. Minnie Clark, Haven, Kan.

GUARANTEED EGGS FROM PURE-bred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

BARRED ROCKS—73 PREMIUMS, TOpeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE ROCKS—GOOD LAYING EXHIbition strain. Eggs, $1 per fifteen, $5 per hundred. Selected pens, $4 and $2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

RHODE ISLAND REDS.

FINE ROSE COMB REDS—EGGS, $4.00 hundred. Adda Walker, White City, Kan.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Jansen, Box 242, Geneseo, Kan.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

PURE SINGLE COMB RHODE ISLAND Red eggs, 5c apiece. Prepaid. C. A. Madden, Abilene, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

NEEF'S FAMOUS BRED-TO-LAY S. C. R. I. Reds, prize winners, $1.25 per setting, $5 per hundred. Jno. H. Neef, Boonville, Missouri.

SINGLE COMB REDS — CLEAR, BRILliant color, heavy laying, big boned. Eggs, $1 and $2; $7 per hundred. G. E. Gregory, Reading, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, $1; hundred, $5. Careful selection and packing, John Smoley, Marengo, Iowa.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, $1.50 setting. Special mating of blue ribbon winners, $3. J. J. Pauls, Hillsboro, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

GOLDEN WYANDOTTE EGGS FOR sale, $1.25 for fifteen. Pens headed by high scoring cockerels. Della B. Bilson, Route 3, Eureka, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

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SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

PRIZE SINGLE COMB BUFF LEGhorns—Eggs, $5 hundred; $13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

BEAUTIFUL S. C. BUFF LEGHORNS—Eggs, fifty, $3; hundred, $5. F. L. Baldwin, Cascade, Iowa.

S. C. B. LEGHORN EGGS—GOOD STOCK. Fifty, $2.75; 100, $5. Carriage prepaid. Cornelius Phillips, Route 9, Emporia, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, $4 hundred. Baby chicks, 10c each. Mrs. Will Brooks, Beattie, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, $1 per setting, $5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $6. Agnes Smiley, Braddyville, Iowa.

SINGLE COMB BROWN LEGHORNS — Fifteen eggs, 75c; 100, $4. Postpaid. W. A. White, Sarcoxie, Missouri.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

FOR SALE — THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, $1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

ROSE COMB BROWN LEGHORNS WON five prizes, two state. Eggs, fifty, $1.90; hundred, $3.75. Rufus Standiferd, Reading, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

RHODE ISLAND WHITES.

100 ROSE COMB RHODE ISLAND WHITE eggs, $5. Will Tonn, Haven, Kansas.

RHODE ISLAND WHITES—EGGS FROM these grand layers, $2 for fifteen. Shetland Pony Farm, Coffeyville, Kansas.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, 100, $4.50, postpaid. Sarah Peters, Nashville, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

DUCKS AND GEESE.

PURE BUFF ORPINGTON DUCKS—EXcellent layers. Eggs prepaid. Pleasant Vale Poultry Farm, Effingham, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

WHITE LEGHORNS

EGG-BRED S. C. WHITE LEGHORNS—100 eggs, $4. Will Tonn, Haven, Kansas.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kansas.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, $4; 15 eggs, $1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

FRANTZ-BRADSHAW SINGLE COMB White Leghorns. Cooks Owens Buff Orpington eggs, fifteen, $1; 110, $4.50. S. A. Warren, Reger, Missouri.

OUR SINGLE COMB WHITE LEGHORNS are real layers. Bred exclusively 15 years. Eggs, 100, $4. Ed N. Regnier, Wamego, Kansas.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds. $4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

SINGLE COMB WHITE LEGHORNS—Farm range. Heavy laying strain. Hens, $1.50 each. Eggs, $1, fifteen; $5 per hundred. Mrs. Lloyd Kifer, Route 2, Bolivar, Missouri.

SINGLE COMB WHITE LEGHORN EGGS —Heavy winter layers. Won all blues at two exhibitions. Fine pen, fifteen, $2; farm range, 100, $5 prepaid. George Schroeder, Frederic, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

ORPINGTONS.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

S. C. BUFF ORPINGTON EGGS, $4 PER hundred. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.—Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

STONE'S FAMOUS BUFF ORPINGTONS win at large shows. Eggs from well selected birds, $1.50 per fifteen, $4.50 per fifty, $8 per hundred. J. M. Stone, Palmyra, Missouri.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

SEVERAL BREEDS.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Penciled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PURE-breds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

(Continued on Next Page.)

PURE BRED POULTRY

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS EXCLUSIVEly. Eggs—Fifteen, $1; 100, $5. W. T. Likes, Williamsburg, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

TURKEYS.

BOURBON RED TURKEY EGGS FROM best selected stock. Mrs. D. A. Rodgers, Concordia, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Eleonora Poultry Ranch, Brighton, Colorado.

Real Estate For Sale

EXCHANGES.
I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. $34 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

FARM AND HERD NEWS NOTES

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

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CLAIM SALE DATES.

Aberdeen-Angus Cattle.
April 24—Aberdeen-Angus Association, St. Joseph, Mo.
April 25 — Aberdeen-Angus Association, Omaha, Neb.
April 26—Aberdeen-Angus Association, Sioux City, Iowa.
May 1—Aberdeen-Angus Association, East St. Louis, Ill.
May 2 — Aberdeen-Angus Association, Chicago, Ill.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Durocs and Polands.
April 25—Fred G. Laptad, Lawrence, Kan.

Inquiries for catalogs indicate unusual interest in the Aberdeen-Angus bull sale and show to be held at St. Joseph, Missouri, April 24, by the American Aberdeen-Angus Association, under the management of Charles Gray, secretary of the association.

Seventy-five bulls and eighteen cows and heifers have been catalogued for this sale and the offering represents the reliable and popular families of the breed.

Interest in advance of the sale manifested by Jersey breeders all over the country indicates that the Jersey dispersion sale to be held by R. J. Linscott, of Holton, Kansas, May 31, 1917, will be the big event in Jersey circles this season. The Linscott Jersey herd was established in 1878 and is the first Register of Merit herd in Kansas. This herd was established with the best foundation stock to be obtained at that time and from its foundation to the present time the bulls used in the herd were of record breeding and the result is that the butter records of this herd for several generations place it among the greatest producing herds now assembled in this country. One hundred and twenty-five head of Jerseys will be catalogued for this sale and the offering will include more world's champion breeding than has ever been offered in a western sale and it is to be hoped that at least a large per cent of it will remain in Kansas.

The consignment sale of Holstein cattle held at Newton, Kansas, April 7, under the management of W. H. Mott, of Herington, Kansas, was one of the successful sales of the season. The fifty-five head consigned averaged $240 per head with a top of $400. A one-day-old calf sold for $165.

J. F. Converse & Co., of Woodville, N. Y., owners of one of the choice herds of Ayrshire cattle in that state, report their herd making a fine record this year. A feature of their herd at this time is the choice lot of young stock, both sexes, all of record breeding.

Charles E. Greene, of Peabody, Kansas, owner of Townview Farm and one of the outstanding herds of big-type Poland Chinas in Kansas, reports his herd doing well. He also reports a very heavy demand for Poland China breeding stock. A feature of his herd at this time is the choice lot of young stock, including a number of choice young boars.

C. E. Hill, of Toronto, Kansas, owner of one of the good herds of Scotch Shorthorns in this state, reports his herd doing well. Mr. Hill has succeeded in building up a herd of richly-bred profitable-type Shorthorns. A feature of his herd at this time is the choice lot of bulls and heifers from 7 to 18 months of age.

R. C. Watson, of Altoona, Kansas, is one of this state's good boosters for pure-bred live stock, and his herds of Shorthorn cattle and Duroc hogs are among the best in Kansas. His herd of Scotch and Scotch-topped Shorthorns is made up of choice individuals of the best blood lines of the breed. His Duroc herd includes representatives of the most popular families, and his herds are drawn upon heavily for herd material.

The dispersion sale of Holstein cattle held by F. J. Searle, of Oskaloosa, Kansas, April 10 and 11, was largely attended. Buyers were present from a number of states. The sale totaled $29,115 and the average was around $200 per head. Lady May Hilton, a cow consigned by Segrist & Stephenson, sold for $1,000. C. H. Seifert, of Leavenworth, was the purchaser. The females, including a number of old cows and a lot of baby calves, averaged $207.23 per head. The bulls, including a number of calves, sold for an average of $161.65 per head.

W. B. Wallace, of Bunceton, Missouri, sold thirty-six Poland China spring gilts, most of them March and April yearlings, bred to King Joe, for an average of $127.50. Several brood sows were sold at the close of the sale, with King Joe litters at side, ranging in price from $100 to $250. Several King Joe fall boar pigs were sold at prices ranging from $50 to $215. Lewis Denniston, of Oxford, Kansas, bought the second highest price King Joe boar pig at $100, No. 45 in the catalog. No. 43 was the top of the boar sale, going to Hibbard & Brown, of Malta Bend, Missouri. The sale was a great success and the prices received were very satisfactory to Mr. Wallace.

W. T. McBride, of Parker, Kansas, owner of choice herds of Red Polled cattle and Duroc hogs, reports his herds doing fine. Mr. McBride has been very successful with both the Red Polled cattle and Durocs and his herds are among the best in the state. Choice breeding and individuality are his standards. A feature of his herds at this time is the fine lot of young stock, including an outstanding young bull that is a herd header prospect.

Arrington, Kan., Feb. 17, 1917.
KANSAS FARMER, Topeka, Kan.
Enclosed find check for the cockerel ad. I only wish you could have left the last one out, for I am getting inquiries and money from all over the country that I will have to send back, but KANSAS FARMER does the business anyway. Respectfully,
MRS. PHILIP SCHUPPERT.

Pop Corn Profitable Crop

Last year we suggested the growing of pop corn in parts of Kansas as a commercial crop. Iowa firms are furnishing seed and making contracts this year with Kansas farmers. There is no reason why certain sections of Iowa should have a monopoly of the pop corn business and we are glad to learn that it is to be tried more generally on Kansas farms.

The current issue of the Kansas Industrialist gives some suggestions on growing this crop. It is stated that any soil adapted to field corn will grow pop corn. A warm, well drained location, free from marshy places, should be selected. If available, a loam soil is best. The ground should be plowed to a depth of eight inches or more and the surface of the plot thoroughly pulverized before planting.

Pop corn is planted much more thickly than field corn. When planting the common rice pop corn with an ordinary corn planter, the holes in the plates should be three-eighths of an inch in diameter, countersunk on one side. Care should be taken not to drill pop corn too close to field or sweet corn as these grains easily mix with it and thus affect its popping value.

The yield of pop corn per acre is not so large as that of field corn, but the difference is usually made up by a higher price per bushel. The profit obtained in growing pop corn depends largely upon the skill used in marketing the crop.

There are two well defined types of pop corn—the rice type, with sharp kernels, and the pearl type with smooth or rounded kernels. Each of these types may be subdivided into a number of different classes according to color, size, and time required to mature.

There is little demand for the colored varieties except as a means of decoration. Some of these have excellent popping quality and good flavor, but as the popped kernels do not completely hide the colored hull they do not make so attractive an appearance as the white varieties. The white kinds are most in favor for commercial purposes.

Cows and Chickens on Farm

J. E. Payne, of Oklahoma, is authority for the following statement of income from cows and chickens, which was given to him by a woman living on a farm where cows and poultry are made a side issue in the business of farming:

Butter sold in one year	$718.75
Butter milk sold	23.70
Cream sold	12.75
Chickens sold	200.00
Eggs sold	50.00
Calves from dairy cows	220.00
Total for year 1916	$1,225.20

Besides this, they supplied a family of five with dairy and poultry products.

It was stated that it would have been impossible to get these results if they had not used silage.

Cultivate the soil of the garden as soon as it becomes dry enough after each rain, using the horse as much as possible and then working out with a hoe.

In transplanting from box or bed to garden, set all plants deep, and press the soil firmly into place around the roots with the hands.

DISPERSAL SALE OF LINSCOTT JERSEYS

KODAK PICTURE TAKEN APRIL 5, 1917

125 - Head - 125
May 31, 1917
Holton, Kansas

More Worlds Champion Butter Blood Than Ever In a Western Sale

SULTAN'S GULDEN STELLA 265961

This Official Butter Test Cow and her daughter and son sired by a son of Jacoba Irene, 1,126 pounds butter in one year, 2,755 pounds butter and three living calves in thirty-seven consecutive months, world's records, are in this dispersal sale.

Absolute Dispersal Sale, May 31, 1917. LINSCOTT JERSEYS

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL
Bred by J. Dean Willis. Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR
Dam, A Marr Flora. Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE
Dam, Imported Rosewood 92d. Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd.

FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas
PHONE MARKET 3705 OR 2087 302 BITTING BUILDING

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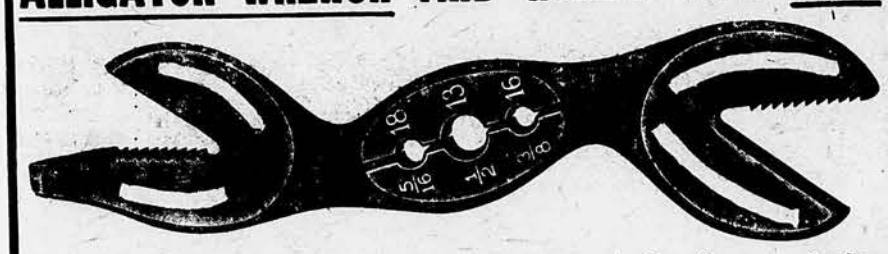

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THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

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Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....

One year for $1.00; two years for $1.50; three years for $2.00.

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Are you already taking KANSAS FARMER? .....

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.

T. B. MAURER & CO. - - - - - - - - EMPORIA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

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

J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

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GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
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Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

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Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.

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

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.

COLD SPRINGS FARM, Whitewater, Wis.

Braeburn Holsteins A. R. O. BULL CALVES

With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

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We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write

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We have fifteen well bred Duroc gilts, priced for immediate sale.

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For Sale—Ten fall boars ready for service. Sired by C. H. S. Col. first and out of my best herd sows. Priced to sell at $35. First check gets choice. Write at once.

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DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

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Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

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

DORSET HORN SHEEP
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SMITH'S HAMPSHIRE HOGS

Extra good October boars and gilts. Best breeding, well belted. Also herd boar, proven breeder. Priced right.

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Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

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—an END to Silo Uncertainty!

TUNG-LOK SILO ON THE FARM OF DR. W. E. MINOR, NEAR KANSAS CITY

You Do Not Question Your Need of a Silo—

Your Only Question Is:

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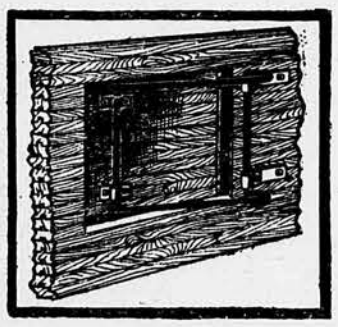
Consider these TUNG-LOK Silo features and see if your every problem is not solved by the Simplicity, Strength, Durability, Efficiency and Economy of this silo:

BUILD IT YOURSELF AT "ODD TIMES"



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The TUNG-LOK makes perfect silage, and there is **no** loss from decay.

The TUNG-LOK is so simple in construction that it can be built by any farmer without skilled help.

The TUNG-LOK can be built in installments, at "odd times", without interference with other farm work.

The TUNG-LOK can be built to any desired height, and can be added to at any time thereafter if your needs demand more storage space.

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THE TUNG-LOK COSTS MUCH LESS TO ERECT THAN OTHER SILOS, BECAUSE (1) YOU CAN DO ALL YOUR OWN BUILDING, WHEN IT SUITS YOUR CONVENIENCE, AND (2) THERE IS NO EXPENSE FOR SCAFFOLDING AND STAGING—AN ITEM THAT AMOUNTS TO $40.00 OR MORE IN BUILDING STAVE OR CONCRETE SILOS.

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