

KANSAS FARMER

FOR THE IMPROVEMENT



OF THE FARM AND HOME

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Dry Farming as Crop Insurance

*The New-Old Method Valuable
in Other than Semi-Arid Regions*

E. J. IDDINGS

Dry farming is crop insurance in districts where the annual precipitation ranges from eight to twenty inches, provided certain principles and methods are followed. There is nothing mysterious about the art, nor does even the most enthusiastic dry farmer claim to be able to raise crops without moisture. Dry farming at its best is moisture conservation, which is brought about by plowing, smoothing, packing, cultivating and cropping to insure the reception and preservation of the largest possible amount of the natural rainfall. In plowed land on the prairie, where the surface is made fine for a mulch, moisture rapidly penetrates, and permeates the soil and within a few months can be found continuous to a depth of from thirty to fifty inches, while on contiguous sod it is rare that five inches of moisture can be found in the summer months. The so-called "Missouri test" will satisfy the most skeptical.

The land must be plowed to sufficient depth to offer a body of loose soil for the reception of rainfall. Newly plowed land should be packed or made reasonably firm to prevent drying out by air and wind. The dust mulch, kept from one to six inches deep, depending on soil and climatic conditions, is an important feature. It acts as a blanket to preserve the moisture below and is essential in any dry farming region. Not only does the practical farmer recognize the value of the mulch, but also scientists have handled huge tanks of soils, arranged with windlasses, to enable daily weighings. Some of the soil tanks are cultivated, others are left to form a crust on the top layers. The invariable results of these experiments show that the saving of moisture depends wholly on the depth and fineness of the dust blanket maintained over the lower soil layers.

One of the essentials of handling land in regions of limited rainfall is seed, plant and crop selection. Plants grown in humid lands or under irrigation are not adapted to and cannot succeed under dry farming. It is possible, of course, to slowly acclimate such plants to the semi-arid conditions, but meanwhile the crops are small and unprofitable. Not only the various state and federal experiment stations, but private individuals, are taking up the work of adapting by breeding and selection, grain, grasses and forage crops to the use of the dry farmer.

The same methods do not succeed equally well in the various parts of the dry farming belt. The system that will bring heavy returns to the wheat farmer of the Palouse country, in eastern Washington, would probably need to be much revised for New Mexico or Arizona. In some districts of the semi-arid belt profitable crops can be assured practically every year by using the essentials of the dry farming system. In other regions biennial cropping is necessary. The rain of one year must be stored and saved by summer cultivation and this added to the next year's precipitation to grow a profitable crop. The latter plan has proved successful in the Big Bend wheat district and other parts of Washington and in some of the grain belts of Oregon and California.

To set the limits that make it nec-

essary to substitute dry farming for the methods of the rain belt, and to set those that call the halt on any kind of culture and make way for the cattleman and sheepman is difficult. Many factors enter into the problem for the practice of the dry farming system. A retentive soil, underlaid with light subsoil is far more favorable to crop production than either sand or sandy subsoil. Amount of sunshine, wind velocity, average temperature, amount of evaporation and distribution of rainfall throughout the year are features that must be considered.

In the Southwest and generally south beyond the southern boundary of Colorado, the major portion of the precipitation comes in summer. There the fall and winter grains have not been found successful. The district seems especially adapted to the saccharine and non-saccharine sorghums, to Indian and broomcorn, to melons and beans and some kinds of small fruits. The quick growing late summer crops have given the best satisfaction.

North of the last mentioned line, the greater portion of the rainfall comes in winter and spring, when snowfall is also extensive. This is the home of the fall grain crops and the big problem of the farmer is to conserve the winter precipitation far enough into spring and summer to mature fall or early spring sown crops. Sorghums have also been successful. Alfalfa seems to promise a great deal of success in some sections, but the cereals are considered as standard to the region. Wheats, barley, rye, emmer, Indian corn and other crops that flourish under similar environment have been grown for years without irrigation in extensive districts of Washington, Oregon, Idaho, Montana, Utah, Wyoming, Colorado, Kansas, Nebraska and the Dakotas, also in the provinces of Alberta, Saskatchewan, Manitoba and British Columbia.

Dry farming experts have not entirely agreed to the upper and lower regions of precipitation for defining dry farming territory. The old rule was: "Any region having an annual

average precipitation above eight and below twenty inches." To this was added the following clause: "Providing no moisture is received from seepage or sub-irrigation." The board of governors of the Dry Farming Congress have promulgated the following rules in regard to products exhibited at the third International Dry Farming Exposition to be held at Spokane, Wash., October 3 to 8: "Exhibits will be accepted in the International Dry Farming Exposition from that territory of the United States including and west of the 35th meridian and up to and including the 121st meridian, and from sections and communities outside the limits of the United States where the annual precipitation averages under twenty inches, providing such products have not been grown upon irrigated, sub-irrigated or seepage land."

Possibilities of development of such lands as come within the limits of the rule quoted almost stagger the imagination. It has been conservatively estimated that 200,000,000 acres of land await development within the semi-arid regions of the United States alone. This area, once it is occupied by a successful and contented and prosperous agricultural class, will mean annual or at least biennial crops from this vast empire now largely in virgin sod. The conservation of such lands from raw prairie to agricultural holdings will mean the addition, at low estimate, of \$20 an acre to their value, or \$4,000,000 to the aggregate agricultural wealth, west of the 100th meridian. It will also mean an independent farm home on at least 320 acres, or 600,000 additional farm homes.

America, however, offers only a comparatively small portion of the world's semi-arid lands. Mexico, the Argentine, Brazil, South Africa, Australia, Turkey, Persia and Austro-Hungary have hundreds of millions of acres more. Some authorities estimate the average acreage for the scientific conservation of soil moisture at 5,000,000,000. Nearly all of these countries are fast awakening to the possibilities of the dry farming movement in providing homes for increasing populations and for the use of these lands as a means of increasing agricultural wealth and of producing bread for the coming generations.

The Dry Farming Congress is one of the newest of old movements. Moisture conservation was practiced by the growers of grapes and olives of northern Africa in the days of old Carthage; the Navajos grew beans and corn in the southwest by dry farming methods probably before the discovery of America; the Mexicans and Papago Indians of Sonora in Old Mexico were growing crops by carefully saving the natural rainfall for them, when the American nation was a struggling infant. Neither is dry farming a new process in the northwest. Enormous crops have been produced in Washington, Oregon and California by its use. In some districts these methods have been in vogue for forty years.

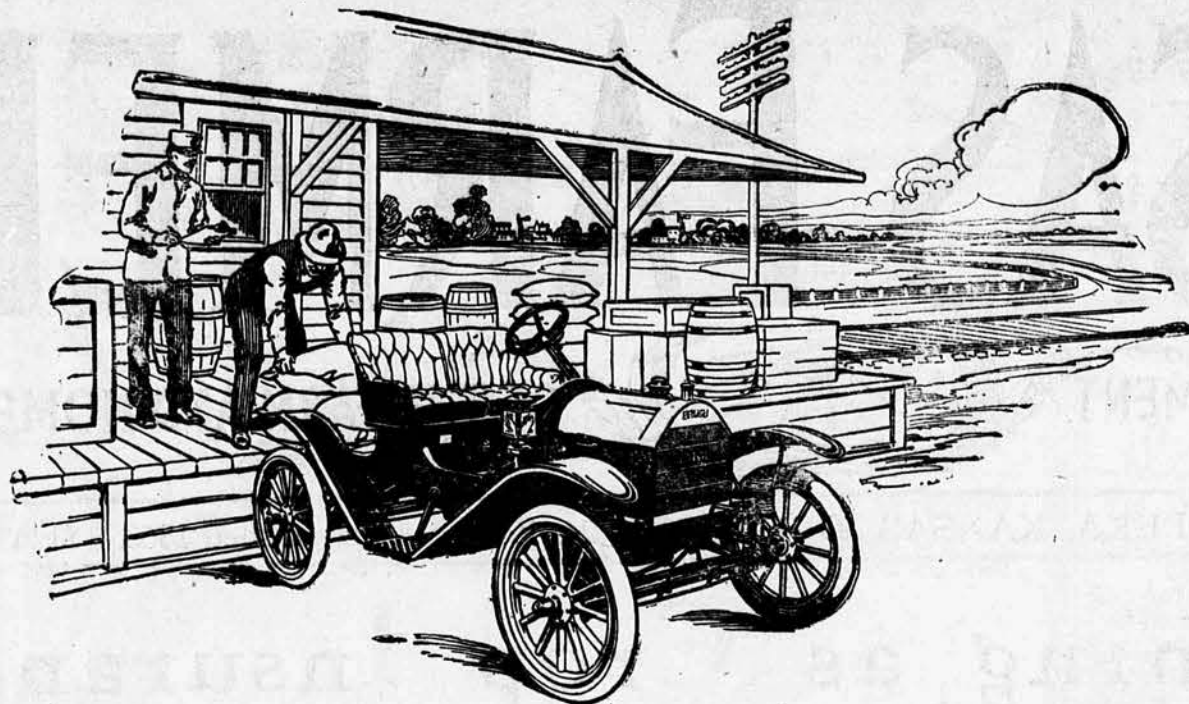
Bishop George Farrell of Cache county, Utah, has practiced dry farming forty-seven years. He learned a valuable point by accident. He

(Continued on page 22.)

STILL THE FAVORITE



Well, Well - You Still Love Old Sauty, Don't You?



85,000 Farmers Own Automobiles. Have You One?

The city man bought the automobile when it was an experiment—and paid the bills.

The farmer waited until the cars had been proved. Then he bought.

That was characteristic common-sense.

Since then 85,000 farmers have bought cars. There is a lot of talk about the extravagance of motor cars; but if an automobile is an extravagance would 85,000 farmers own it?

Are farmers less level-headed now?

Many Uses on Farm

The farmer knows the many uses to which he can put a car—going to town, over-seeing his work, getting supplies, marketing produce and visiting friends.

He knows that in doing useful work it saves his horses, saves his time, saves him labor, and makes him more money.

He knows it justifies its cost.

You Need A Car

You can better afford to use a car than to be without it. It is only a question of the sort of car you buy.

The big car is an expensive car—not only in first cost, but in the cost of running it as well.

It is big enough to take the place of a team of horses and two-seated carriage—of the pleasure vehicle.

Suited to Daily Needs

But you use the pleasure vehicle only occasionally. You use the single horse and buggy most of the time.

It is cheaper and better suited to your needs.

So it is with cars. You may want a big car for pleasure, but you need a small, inexpensive car for everyday use.

It costs less than half as much to buy and not a third as much to run as a big car. It saves its cost in a year's use—in the difference in running expense.

Takes Place of Buggy

It is cheaper than a horse and buggy in fact; and is replacing the horse and buggy in hundreds of business uses.

Common sense will tell you that you need a runabout, especially if you have a big car, which you may be using to do the work you formerly did with a horse and buggy.

Look into the cost question—it will pay!

Everyman's \$485 The Brush Runabout Car

The Brush is everywhere known as EVERYMAN'S CAR: because it is suited to the needs of every man in every walk of life; it is within the reach of every man's means, whatever his work.

It is widely used by R. F. D. carriers for instance: because of its economy, its dependability, its simplicity, and its ability to travel all sorts of roads in all sorts of weather.

Let us tell you how more than 250 firms are using it to earn money; let us tell you why 10,000 users are enthusiastic about it. Send a postal, saying, "Tell me about EVERYMAN'S CAR at \$485."

BRUSH RUNABOUT COMPANY, 1274 Rhode Island Avenue, DETROIT, MICH.

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PERSONAL FROM THE PUBLISHER.

This is Christmas time again. KANSAS FARMER extends greetings to its readers, wherever Christmas day may find them. Whatever may be the lot of any or all of us, we can always be thankful that we might be worse off. When we come to count our blessings, we usually find a good deal to give us cheer.

KANSAS FARMER rejoices that Kan-

sas is a great state—great because of its great men and women. And the greatest of these are not always the ones the newspapers print most about.

On thousands of our farms are heroes and heroines—made so by the self sacrifice necessary to live up to the high Christian ideals set for the self imposed tasks to render the highest service possible, man to man. Though their deeds may be unsung in

song or story, the service is none the less immeasurably great.

It is, however, a fit time to rejoice, that the standard of our citizenship is so high; that our education is so far advanced; that we live in such a broad spirit of tolerance towards the rights and beliefs of others, and lastly that our material prosperity is so great. Verily it is a time in Kansas when there reigns "peace on earth and good will to men."

FOR NEW SUBSCRIBERS.

On next New Years, KANSAS FARMER will begin its 49th year of unbroken publication. Measured by the length of time that has elapsed since the world began, forty-nine years is scarcely a tick of the great pendulum of time. But measured by the span of a human life, forty-nine years is a long time. It is longer than the average human life.

A publication to endure and succeed for nearly a half century simply has to lend to human need a positive service. The mission of KANSAS FARMER is to be a positive help to the farmers of Kansas and adjoining states. It expects always to be fully alive to the needs of its field, and to meet those needs to the best possible advantage. Manifestly, the more subscribers KANSAS FARMER may have, the greater the service it can render. Every present subscriber can help to extend the good work of this paper by helping us to secure additional subscribers. This service will benefit every one, present readers as well as the future ones. Besides, every present subscriber may gain directly in money, for such service.

On page 5, in this issue, is an exceptional offer, made purposely for a mutual benefit. Will you do your part by making it a point to send in one new subscription?

TIME IS SHORT.

Have you read the Special Subscription Announcement on page 5 in this issue? This is not a cut rate in the subscription price. It is to pay you for your effort in getting a new subscriber. If you get a new subscriber for the regular rate, you need add only a dime to pay for your own subscription for next year. The difference is your remuneration for getting the new subscription. But you must take prompt action. Time is short until January 2 next. Why not make it a point today to get the extra subscription?

PROGRESSION.

Big things move slowly. The new giant KANSAS FARMER printing press is making progress in the work it is turning out. It certainly is an interesting sight to watch this monster deliver its swiftly moving stream of papers when it runs at its maximum capacity. It is the only high speed perfecting press in the west capable of printing fine half tones to good advantage. While this monster weighed 96,000 pounds in its shipping dress, and stands on its foundation as high as a railroad locomotive, and has thousands of swiftly moving parts, it is, withal, susceptible of a hair-breadth adjustment, on its printing cylinders. So fine an adjustment is necessary to do perfect printing, that a difference of one one-thousandth of an inch in the thickness of the paper, will show a perceptible difference in the printed product. Our force of mechanics and printers are having to learn a new precision in the working of printing presses. Another interesting fact in connection with the running of the new press is that the paper stock, in going through the press to be printed, travels at the rate of 70 miles per hour. The paper necessary to print one issue of KANSAS FARMER if strung out in one unbroken length, 2 pages wide, would cover a distance of 1,400 miles.

While many of our subscribers will be in Topeka attending the near future agricultural meetings, sessions of the legislature, as well as for holiday visiting, we cordially invite them to visit our plant at No. 625 Jackson St. Here will be found a completely equipped plant, occupying three floors, over 10,000 square feet of floor space, the whole energies and time of which are devoted exclusively to the production of KANSAS FARMER.

This is the most completely equipped independent farm paper plant in Kansas. The Kansas Farmer Company, however, will continue to add to its already fine equipment, as the growing needs of KANSAS FARMER may require. In this connection, it is fitting to observe that suggestions from our readers, for improvements in our paper, are always thankfully received. Write or call on us as often as you can.

Married men sometimes talk in their sleep—it's the only chance they have.



KANSAS FARMER

EDITORIAL



STOCKBREEDERS MEETING.

The preliminary program of the twenty-second annual meeting of the Kansas Improved Stock Breeders Association which will be held at Topeka on January 9-11 inclusive, includes the best series of papers that it has offered its members in recent years. Dr. E. F. Kubin, hog cholera expert at the Experiment Station, will give an illustrated lecture on "Hog Cholera and Vaccination from the Farmer's Standpoint;" Mr. J. G. Haney, Manager Deming Ranch, Oswego, on "Beef Production on the Farm;" Prof. C. W. McCampbell of the Agricultural College, on "Feeding and Care of Horses," with a report on the experiment now being conducted in feeding 800 horses at Ft. Riley; Ralph G. McKinnie, Glen Elder, on "Heavy Horses and Farm Work;" B. O. Cowan, American Shorthorn Breeder's Association, Chicago, on "The Shorthorn as the Farmer's Breed;" Hayes Walker, Kansas City, on "The Hereford as the Farmer's Breed;" Pres. H. J. Waters of the Agricultural College, on "Home Killing and Curing of Meats;" DeWitt C. Wing, Chicago, on "Stock Raising and Home Building;" C. S. Nevius, Chiles, on "Raising Pork on Grass;" Dean Ed. H. Webster of the Stallion Registration Board, on "The Stallion Laws of Kansas;" J. G. Arbuthnot, Cuba, on "How I Raise Hogs;" L. H. Paul, Des Moines, Ia., on "Ensilage for Beef Production;" John C. Snyder, Topeka, on "The Past, Present and Future of Poultry;" Sam'l Drybread, Elk City, on "The Duroc Jersey as the Farmer's Hog;" Prof. C. B. Reed, on "The Influence of the Sire on the Herd;" Roy Johnston, South Mound, on "Breeding the Big Type of Poland Chinas;" John D. Marshall, Walton, on "Sheep Breeding in Kansas;" Prof. G. L. McKay of Chicago, on "Dairying for Profit;" W. J. Finley, Higginsville, Mo., on "Jack and Mule Breeding;" Col. C. E. Bean, Garnett, on "Breeding Trotting Horses."

The meeting will close at 4 o'clock on Wednesday afternoon when the State Board of Agriculture will open its sessions. The regular breeders' banquet will be held on Wednesday evening at a time and place to be announced at the meeting. Programs and information will be furnished by Secretary I. D. Graham, Topeka.

The demands of fashion and the consequent increase in price of furs, have set the farm boys at work with their traps and snares and a profitable season awaits the successful ones. It is worth something to get the cash which is now being offered for furs of all kinds; it is worth more to have the fun of trapping where man can pit his skill against the instinct of the animals, but it is worth most to get this cash, have this fun, and at the same time rid the farm of vermin. The long haired furs are most in demand and highest in price so the Kansas boy who can catch skunk, coon or muskrats is in luck.

For many miles out of Topeka to the west there is an almost ideal dirt road that has been made and kept in condition by use of the road drag. When the rain or snow falls this road becomes a little muddy on top, but the mud is never deep and there are no ruts or "chuck holes." It is so graded that the drainage is perfect and it dries off almost immediately. This splendid road has taken the place of one that was almost impassible in bad weather and very rough in good. It cost the labor and expense of one dragging per month and was made possible by the activity of one man who interested his neighbors. Now, the neighbors would not willingly do without it. Such roads are possible in most neighborhoods in Kansas.

Although the Kansas average on corn was low during the past season the reports for the country at large show a considerable increase both in average yield and in acreage. The average yield per acre has jumped to nearly 28 bushels since husking began, and the acreage shows a 4 per cent increase.

With which is combined FARMER'S ADVOCATE, established 1877.
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PUBLISHERS' GUARANTEE TO SUBSCRIBERS—KANSAS FARMER aims to publish advertisements of reliable persons and firms only, and we will make good to any paid-up subscriber any loss he may suffer through fraudulent dealing on the part of any of our advertisers, provided complaint is made to us within thirty days after the transaction, and it is shown that the subscriber, in writing to the advertiser, plainly stated: "I read your advertisement in KANSAS FARMER." We do not, however, undertake to settle, or be responsible for the debts of bankrupts, or for petty and trifling disputes between a subscriber and an advertiser, although we extend our good offices to that end.

PICTURES—Good photographs, drawings and plans are especially solicited. Senders' names should always be written on the back of each picture. KANSAS FARMER can not be held responsible for any picture submitted, except under special written agreement.

CONTRIBUTIONS—KANSAS FARMER is always glad to have correspondence on all farm, live stock or household subjects. Your name should be signed to all communications and they should always be addressed to

KANSAS FARMER COMPANY, TOPEKA, KANSAS.

RURAL LIFE CONFERENCE.

So clearly correlated with the development of the science of plant breeding and farm management are the general problems of rural regeneration as applies to the individual, his relation to the community, both social and commercial, that gradually the scope of the National Corn Exposition has been broadened to deal with every phase of agricultural progress.

The National Rural Life Conference, which will take place during the second week of the fourth Annual National Corn Exposition, to be held in Columbus, Ohio, two weeks, beginning January 30, will be broader in every sense than any rural life conference that has ever been held. Ordinarily such conferences have dealt chiefly with the social relation of the individual to the community. This one will bring out not only the need of social and commercial cooperation, but will deal fundamentally with the necessity of cooperation between the producer and the consumer. These subjects will be discussed by men who have given the deepest thought to agricultural questions and their relation to national problems.

The contracting firm at Kansas City which bought a flock of goats with which to reduce the insurance premiums on its buildings and equipment was a shrewd one. The insurance was a necessity but the premium rates demanded were almost prohibitive because the yards were grown up with weeds, and the fire danger great. The goats removed the weeds and the insurance was bought at a reasonable rate.

After 12 years of experimenting a German professor has succeeded in breeding the bacteria which produce the nodules on the roots of alfalfa, clover and other legumes. With this artificially bred bacteria seeds may be inoculated and the same results secured as from those naturally inoculated. The refuse of these bacteria is nearly pure nitrogen and hence their value to the soil.

Kansas is the only state in the Union which does not give any state aid to its common schools. Does that fact sound startling? Yet it is true that all of our common schools are supported entirely by local taxation to which is added about 80 cents per pupil per year from the interest on the school fund. This school fund is a direct donation from the federal government and the interest each year is not enough to buy the coal necessary for heating the average school room. State aid should not be given to every school district but there are certain districts that are financially weak that need it. Every town boy and girl is assured of nine months' schooling each year but the farm boy and girl must get along with six months or less.

FARM VALUES.

The increase in value of the farms of this country from 20 billions to 50 billions in the last decade sounds big and to some it may sound comforting, but is it more than a seeming benefit to the average farmer? To the man who owns and operates his farm this increase represents no benefits and if he be a renter the case is worse. If the farmer desires to sell his land or moves to town and rents it of course he benefits largely, but if he continues to live upon and operate his farm he simply suffers from increase in taxation. His farm is probably not more valuable as a producer of wealth than it was 10 years ago. Indeed it may be much less valuable in fertility, and yet the increased value of the land not only compels higher taxes but more intense cultivation in order to make it pay a fair interest on the investment.

David G. Fairchild, the youngest son of the late President Geo. T. Fairchild of the Kansas State Agricultural College, occupies one of the most unique positions in the world. His title is "Chief Explorer of the United States Department of Agriculture," and his duties, which have taken him all over the world, are to discover and send to this country, seeds and plants that are valuable elsewhere and that give promise of being of worth here. In a recent article in the Youth's Companion, Mr. Fairchild said: "The pioneers of today are not like those who pushed across the great plains. They include thousands of quiet men peering down the tubes of microscopes, hunting day after day in a world much more weird and fantastic than that known to the pathfinders in Cooper's novels, and quite as full of danger as the larger wilderness which can be seen by the naked eye."

Thousands of young trees are annually slaughtered to make a Christmas holiday. These trees would be immensely valuable if allowed to attain their growth. When used for Christmas trees they give pleasure for a few hours and are then of no further use. Trees were created for use, but not for waste. Now here is an idea. Instead of destroying a tree for the Christmas festivities, why not secure the future growth of many trees by making your friends a Christmas present of an order on a nursery. Make the order for evergreens, fruit trees, shrubs or roses and the pleasure will be greater and last longer.

Colorado railroads have granted low rates to those who attend the Farmers' Congress and winter short course in agriculture to be held at the State College. This is the kind of cooperation that counts. But what's the matter with Kansas railroads?

INCREASE IN DEATH RATE.

Dr. Guilfooy, Chief of the Bureau of Vital Statistics of New York City, states that there is an enormous increase in the death rate due to heart disease. In 1876 the rate was 82 deaths in each 100,000 people, while in 1909 the rate has grown to 162 per 100,000 people. He states that the same proportionate increase is found all over the United States and places heart disease as a close third in the most dreaded of human ailments. The other two being tuberculosis, which carried off 86,000, and pneumonia, which carried off 82,000, while heart disease showed 65,000 deaths in 1909. He states that there is a very close connection between heart disease and Bright's disease, and that both these are due to luxurious living or, as he states it: "Too much prosperity." He says that the number of cases of acute indigestion which is nearly always heart disease, indicates that our people are eating too much nitrogenous foods such as meats and game, and are not exercising enough. It is not stated in this report whether this condition applies to farm life or not. It is not expected that the same condition would be found in the country as in the city, but it is claimed that if men would eat less, drink less and exercise more the death rate would decrease. While the exercise which the farmer is compelled to take daily will probably serve to counteract any deleterious effects that a highly nitrogenous diet might otherwise produce, there is no doubt but that the rate of mortality among retired farmers, and especially those who move to the cities, is very high because of their continued use of such foods and their change in habits of life.

It seems difficult for the states of this Union to act in harmony in the passage of laws that are of mutual interest. There are many such cases but that concerning the migratory birds is a case in point. Already we have utterly destroyed the passenger pigeon and the bird life of the country is sadly depleted. Ducks and geese as well as other migratory birds are doomed to follow unless protective measures are adopted. Some northern states have already passed laws prohibiting spring shooting, but this action is not unanimous among the states and can do comparatively little good. The southern states have not passed any restrictive legislation on winter shooting and as long as this remains true the acts of the northern states are rendered practically null so far as increasing the number of birds is concerned. Matters of such general interest are too often thought of as concerning the general government only, but it is doubtful if Congress could or would take action in the near future. Action on the part of individual states is of little avail and concerted action seems far away. Meantime our birds, which are the farmers' best friends, are being exterminated.

Of all men the farmer is most interested in means of transportation. This is why he has taken so kindly to the automobile. He needs to annihilate the "disease of distance" more than any other man as he has more of it to contend with. The farmer must have ready contact with his fellows both for business and social purposes, and he who cannot get pay in money or satisfaction for the gasoline and rubber used up in his day's travel does not need an automobile so much as he needs to improve his methods. The first cost of an automobile prevents many from investing, no doubt, and there are many who could not use them profitably. On the other hand, a little figuring by those who can use them to advantage, will serve to convince anyone that they are more economical for many purposes than horses.

The snow storm, while light in some parts of the state, has done a large amount of good to the wheat crop, much of which was suffering because of the prolonged drouth.

Deer Farming in the United States

May Help to Solve the Problem Of High Cost of Living

By Prof. D. E. LANTZ

FORMERLY OF K. S. A. C.

SEVERAL species of deer are suited for breeding in enclosures in the United States; the axis deer, the Japanese and the Pekin sikas, the red and the fallow deer of Europe, and especially the Rocky Mountain elk, or wapiti, and the Virginia deer. While experiments with the foreign species named offer every promise of success to the owners of American preserves, the elk and Virginia deer are recommended as best adapted for the production of venison in the United States.

The flavor of venison is distinctive, though it suggests mutton rather than beef. In chemical composition it is very similar to beef. A lean venison roast before cooking has been found to contain on an average 75 per cent of water, 20 per cent of protein or nitrogenous material and 2 per cent of fat; a lean beef rump, some 65 to 70 per cent of water, 20 to 23 per cent of protein and 5 to 14 per cent of fat; and a lean leg of mutton, 67 per cent of water, 19 per cent of protein and 13 per cent of fat.

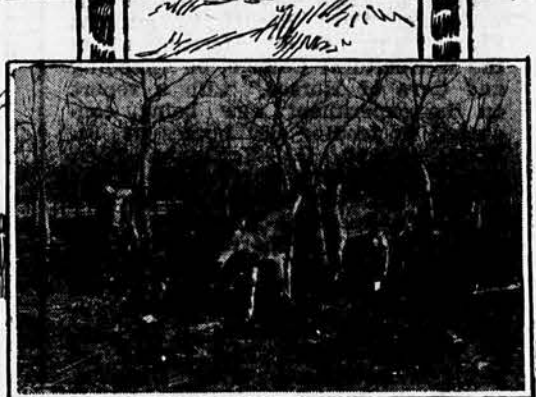
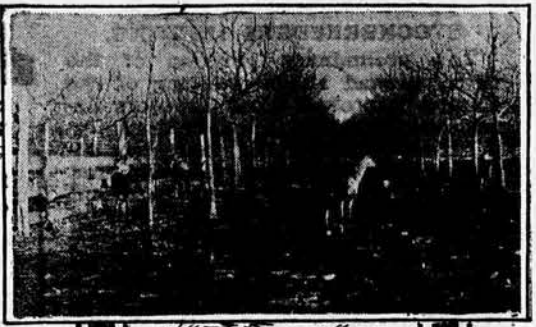
The general popularity of venison is so great and the demand for it so widespread that overproduction is improbable. The other products of the deer—skins and horns—are of considerable importance and in countries where deer are abundant and especially where large herds are kept in semi-domestication, the commerce in both is very extensive.

The wapiti, known generally in America as the elk, is, next to the moose, the largest of our deer. It was once abundant over the greater part of the United States, whence its range extended northward to about latitude 60 degrees in the Peace river region of the interior of Canada. In the United States the limits of its range eastward were the Adirondacks, Western New Jersey and Eastern Pennsylvania; southward it reached the Southern Alleghenies, Northern Texas, Southern New Mexico and Arizona; and westward the Pacific ocean.

At the present time the elk are found only in a few scattered localities outside of the Yellowstone National Park and the mountainous country surrounding it, where large herds remain. Smaller herds still occur in Colorado, Western Montana, Idaho, Eastern Oregon, Manitoba, Alberta, British Columbia and the coast mountains of Washington, Oregon and Northwestern California. A band of the small California valley elk still inhabits the southern part of the San Joaquin valley.

The herds that summer in the Yellowstone National Park and in winter spread southward and eastward in Wyoming are said to number about 30,000 head and constitute the only large bands of this noble game animal that are left. Although protected in their summer ranges and partially safeguarded from destruction in winter by the State of Wyoming, there is yet great danger that these herds may perish from lack of food in a succession of severe winters. Partial provision for winter forage has been made within the national park, but the supply is inadequate for the large numbers of animals. Further safeguards are needed to place the Wyoming elk herds beyond the reach of winter starvation.

In addition to the wild herds there is a considerable number of elk in private game preserves and parks, as well as in nearly all the public zoological parks and gardens of this country. The herds in captivity form the nucleus from which, under wise management, some of the former ranges of this animal may be restocked and from which a profitable business of growing elk venison for market may be developed. At the present time this species affords a most



promising field for ventures in breeding for profit.

The elk is both a browsing and a grazing animal. While it eats grasses freely and has been known to subsist entirely upon pasture, it seems to prefer a mixture of grass and browse.

The elk is extremely polygamous. The adult bulls shed their antlers annually in March or April and new ones attain their full size in about 90 days. The "velvet" adheres until about August. While the horns are growing the bulls usually lead solitary lives; but early in September, when the horns are fully matured, the mating season begins. Fights for supremacy then take place and the victor takes charge of as many cows as he can round up and control.

Although the elk is less prolific than the common deer and some other species that have been bred in parks, it decreases fully as rapidly as the common red deer of Europe. Moreover, it makes up for any lack of fecundity by its superior hardiness and ease of management. It has been acclimatized in many parts of the world and shows the same vigor and hardiness wherever it has been transplanted. In Europe it has been successfully crossed with the Altai wapiti and the red deer and in both instances the offspring were superior in size and stamina to the native stock.

The flesh of the elk, although somewhat coarse, is superior in flavor to most venison. That of the bulls is in its best condition about the time the velvet is shed. In October their flesh is in the poorest condition. As the open season for elk is usually in October and November and only bulls are killed, it follows that hunters often obtain the venison when it is poorest. The meat is not best when freshly killed, but should be left hanging for four or five days before it is used.

With few exceptions the early attempts to domesticate elk were made by men who were wealthy enough to disregard all thought of profit in raising them. They were usually placed under the care of servants and the bucks were left uncastrated until they became old and unmanageable. Soon the serious problem of controlling them outweighed the novelty of their possession and one by one the attempts at domestication were abandoned.

A desire to preserve this important game animal has caused a renewal of attempts to breed it in confinement and at present there are small herds under private ownership in many places in the United States. The biological survey has recently obtained much information from owners of herds in regard to their experience in breeding and rearing the animals and also their opinions as to the possibility of making the business of raising them profitable. Of about a dozen successful breeders nearly all are of the opinion that raising elk for market can be made remunerative if present laws as to the sale of the meat are modified.

One especially important fact has been developed by the reports from breeders. It is that the elk readily adapts itself to almost any environment. Even within the narrow confines of the paddocks of the ordinary

zoological park the animal does well and increases so that periodically the herds have to be reduced by sales.

The fullest reports that have been received by the Department of Agriculture from breeders of elk are from George W. Russ of Eureka Springs, Arkansas.

Mr. Russ has a herd of 34 elk. They have ample range in the Ozarks on rough land covered with hardwood forests and abundant underbrush. The animals improve the forest by clearing out part of the thicket. They feed on buds and leaves to a height of eight feet and any growth under this is liable to be eliminated if the range is unrestricted. If not closely confined elk do not eat the bark from trees nor do they eat evergreens. In clearing out underbrush from thickets they are more useful than goats, since they browse higher. Goats, however, eat closer to the ground, and as the two animals get along well together Mr. Russ recommends the use of both for clearing up brushy land and fitting it for tame grasses.

The increase of elk under domestication is equal to that of cattle. Fully 90 per cent of the females produce healthy young. An adult male elk weighs from 700 to 1,000 pounds; a female from 600 to 800 pounds. The percentage of dressed meat is greater than with cattle, but, owing to hostile game laws, experience in marketing it is very limited. An offer of 40 cents a pound for dressed meat was received from St. Louis, but the law would not permit its export. Mr. Russ says:

"From the fact that as high as \$1.50 a pound has been paid for the meat in New York City and Canada and that the best hotels and restaurants pronounce it the finest of all the meats of mammals, we are of the opinion that if laws were such that domesticated elk meat could be furnished it would not be many years before the supply would make the price reasonable compared with other meats. Elk meat can be produced in many sections of this country at less cost per pound than beef, mutton or pork."

Mr. Russ thinks that large areas of rough lands in the United States not now utilized, especially in localities like the Ozarks and the Alleghenies, could be economically used to produce venison for sale and he regards the elk as especially suited for this purpose.

Another feature of Mr. Russ's report is of more than passing interest. He says:

"We find from long experience that cattle, sheep and goats can be grazed in the same lots with elk, providing, however, that the lots or inclosures are not small; the larger the area the better. We know of no more appropriate place to call attention to

the great benefit of a few elk in the same pasture with sheep and goats. An elk is the natural enemy of dogs and wolves. We suffered great loss to our flocks until we learned this fact; since then we have had no loss from that cause. A few elk in a thousand-acre pasture will absolutely protect the flocks therein. Our own dogs are so well aware of the danger in our elk park that they cannot be induced to enter it."

Elk thrive best in preserves having a variety of food plants—grasses, bushes and trees. Rough lands, well watered with clear streams and having some forested area, are well adapted to their needs. About as many elk can be kept on such a range as cattle on an equal area of fair pasture. There should be thickets enough to furnish winter browse, but this should be supplemented by a supply of winter forage.

Except when deep snows cover the ground, elk will keep in good condition on ordinary pasture and browse, but a system of management that provides other foods regularly will be found more satisfactory. Hay and corn fodder are excellent winter forage, but alfalfa hay has proved to be the best dry food for both elk and deer.

Elk are much less nervous than ordinary deer and less disposed to jump fences. When they escape from an enclosure they usually return of their own accord. If tame, they may be driven like cattle. Ordinarily a five-foot fence of any kind will confine elk.

The cost of stocking an elk preserve is not great. Usually surplus stock from zoological parks or small private preserves may be obtained at low cost, varying with the immediate demand for the animals.

The Virginia or whitetail deer is the common deer of the United States. Including the half dozen geographic races that occur within our borders, it is distributed over most of the country, except Nevada and the major portions of Utah, Arizona, Washington, Oregon and California. It is extinct in Delaware and practically so in a number of states in the middle west. South of our borders a number of closely related species occur.

In view of the wide natural range of the Virginia deer, its adaptability to nearly all sections of the United States cannot be doubted. Testimony as to its hardiness in parks and preserves is not so unanimous as that concerning the elk; but the general experience of breeders is that with suitable range, plenty of good water and reasonable care in winter, raising this deer for stocking preserves or for venison may be made as profitable as any other live stock industry. Not only do deer thrive on land unsuited for cattle or horses, but, like elk, they may be raised to

(Continued on page 22.)

Potential and Present Soil Fertility

According to Prof. F. D. Chester the analyses of 49 typical soils of the United States showed per acre for the surface eight inches, 2,600 pounds of nitrogen, 4,800 pounds of phosphorus, and 13,400 pounds of potassium. The average yield of wheat in the United States is 14 bushels per acre. Such a crop will remove 29.7 pounds of nitrogen, 9.5 pounds of phosphorus and 13.7 pounds of potassium.

If all of the potential nitrogen, phosphorus, and potassium could be made available there is present in such an average soil, in the surface eight inches, enough nitrogen to grow 90, enough phosphorus to grow 500, and enough potassium to grow 1,000 such average crops of wheat.

This is what we mean by potential soil fertility. Yet a soil may possess a very high potential fertility yet under certain conditions be actually barren of results so as to lead one to believe that his soil does not contain a sufficient supply of plant food.

At Rothamstead, England, there is a plot of ground that has been cropped over 50 years without the application of manure and which has become exhausted, especially in phosphorus. Yet it still contains 2,880 pounds of phosphorus in the surface of 12 inches.

This is true with some soils in the northwest that have been cropped for any length of time.

This is true of thousands of farms in the eastern part of our own United States where the land once fertile now belongs to the state.

This is what we mean when we speak of soil exhaustion. In other words soil exhaustion consists in using up original supplies of plant food at a greater rate than they are being manufactured in the soil. Then the changing of unavailable plant food into available plant food means the changing of potential fertility into active fertility.

Do we have any help in this matter? Yes. What is it? The myriads of bacteria that are usually found in most productive soils.

Mr. P. H. Moore, formerly Head of the Soil Bacteriological Division of the Agronomy Department, says: "When we see or hear the word bacteria, we immediately think of some horrible and malignant disease deadly to ourselves or our stock. This idea has been too prevalent in the past, but it is very gratifying to be able to use that word 'past' and to be able to think that such is not the general case now. In general we have three different kinds as regards shape: Those which are round like a ball, those which are cylindrical and somewhat long and might be compared with a piece of match or a lead pencil, and those which are corkscrew shaped. These are just general groups, but all bacteria belong to some one of the above.

They are found almost everywhere, but a great deal more plentiful in some places than others. In the midst of the sea they are not very numerous, on the tops of snow covered mountains or deep down in the earth they are seldom found. But they are always found where plants and animals live, wherever these do not live bacteria do not pretend to exist, because they must have these or the products which they produce for food or else surely perish.

In all the higher animals or plants there is a certain part set apart for reproducing their kind. So with these little organisms. They multiply by simply breaking in two in the middle and forming two, these two parts growing up and in turn doing the same thing, and this they keep up as long as they have any food and other conditions are favorable. The breaking in two as a rule does not take very long, only about twenty minutes in some of the kinds. When we stop to think how many this would make in just a few hours, it is almost alarming. A single one would make over a million in a few hours. At this rate, if not covered the whole earth, they would cover the whole earth in a very long, because the supply will give out.

Loss of One Element of Soil Fertility May Render it Barren

By CLIFFORD WILLIS

matter which they produce in growing will become harmful to them. This latter condition is mostly the case. When this adverse condition occurs the organisms form spores, or what we might call go to seed, in the higher plants. This action is merely the condensing of the material in the body, thus forming a somewhat hard mass, smaller than the original cell and thus able to stand adverse conditions, as, lack of food, cold or heat, or the poison influences of waste products. Then when favorable conditions arise it will start growing and again reproduce its own kind, or very nearly its own kind.

This in a general way is some of the peculiar characteristics of bacteria. A few more points as to their behavior toward outside influences

degree of heat or cold. Almost all kinds grow their very best in good warm surroundings. But if it gets too hot say up to the boiling point, most kinds, even in the spore form, are killed. Frost does not seem to have such a deadly effect on them. As the temperature gets near the freezing point, they stop growing, but they will stand many degrees of frost and when they again become warm they will very rapidly grow and multiply again.

Like all other form of plant life bacteria have a lot of water in their make up. Consequently they will thrive best in a moderately damp place. Some kinds are immediately killed upon drying, while others may form spores and lie dormant for a long time, and when moisture is

harmful, some are harmless and not of any particular benefit. They are scattered all through the soil, yet many more in some cases than in others. In the bleak, dry, poor sandy soil, there are very few, while in rich, moist, well manured soil, we have many millions in each handful. There are a few on the surface in the sunlight. A great many in the first six inches, and when we get several feet down, there are very few if any at all. Thus we see we have the largest number where they will do the most good. Just in that part of the soil most inhabited by the roots of the plants. By keeping in mind what was said before we will find that all our proper farming operations bring about conditions which are best for bacterial growth. Deep plowing, proper tillage to let in a sufficient amount of air and to keep a proper water supply, to keep the soil just warm enough, and by the applying of manure or green crops or any organic matter. We thus bring about conditions which are the very best for our crops by making it also ideal for these minute little plants in the soil, which prepare for us the food for the higher plants.

As the bacterial workings in the soil are very many and very different, for the different compounds which go to make up plant food, we cannot hope to treat all of these in one article without getting wearisome, so for the present we will confine ourselves to those which have to deal with the organic soil ingredients, and tend to liberate our store of nitrogen which is so necessary in growing all green and leafy crops. It is one form of food which is none too plentiful, as a rule in our soils in this state.

This subject may be briefly discussed under the following heads:

1. Decomposition.
2. Nitrification.
3. Nitrogen fixation.
4. Denitrification.

At present we will touch only briefly upon the subject of decomposition.

In a general sense and speaking quite freely of the subject we may say that over 95 per cent of the food, which goes to make up our plants, is not of mineral origin, because it is chiefly carbon, hydrogen, oxygen and nitrogen. The plant gets the carbon from the air, the hydrogen from the soil, the oxygen from both air and soil, while nitrogen although it must first come from the air is gathered into the plant only from the soil. The four elements go chiefly to the making of the organic matter of our soils and when this is again decomposed it goes to feed plants, consequently we have an almost "endless chain of action going on all the time, using and reusing. Thus we see in this little instance a little proof of the old statement that "matter is never lost in the world." Although it may assume many different forms it is never totally lost.

There may be many kinds of decomposition but two of the most common are, decay and putrefaction; the former occurring in the air, and the other away from the air. Decay if not checked in its course will keep on until it breaks down the body upon which it is working until it will pass away into the air and soil in about the forms of element from which we said they were made, and nothing visible is left of what was a plant or animal body, so complete is the work of the bacteria which do the work we call decay.

Putrefaction is not quite so thorough in its work. The little plants which do the work here must live away from the air, and if air is around them they must stop work. A body which is putrefied may afterwards decay, for putrefaction only partially breaks down a body.

Many kinds of bacteria are concerned in the work of decomposition, and these may differ greatly depending upon the work which they have to do. Some may be balls, some rods, some corkscrew shaped, some live in air and some away from it, but they all work toward the one end and that is the tearing down of organic bodies when they are once dead. Each having its own work to

(Continued on page 9.)

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may be touched on briefly as follows:

Sunlight as a general rule is deadly to all classes of bacterial life. Direct sunlight will kill even those hardy kinds in the spore form. Diffused sunlight will have the same action, only in a lesser degree. Strong artificial light is also harmful. In the darkness under cover of the soil, or other things, is where they flourish and do their best or worst work, as the case may be.

Regarding the air we have three kinds of these little organisms. One kind which loves air, and like animals and higher plants, cannot live without it. Another kind which must live away from fresh air. Then there is another class which do not seem to care whether they have air or not for they live and grow just as well as if it is in it.

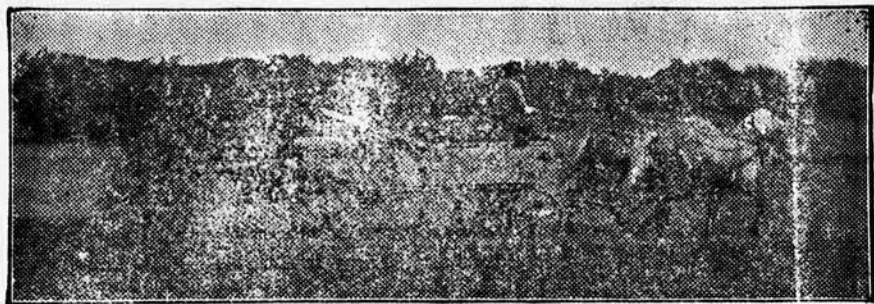
Of course just like higher plants they are very much influenced by the

again found are as lively as ever.

Thus we see that the many different kinds of bacteria have many conditions which best favor their growth. Here, as in all other lines of life, the "strong man" wins. If a certain condition best favors a certain kind, that kind will flourish and grow until it kills or crowds out all the other or weaker kinds, until it in turn is stopped by its own greed.

Many chemicals are deadly to all classes of bacteria. This fact is made use of in the principle of disinfectants. We also use it in our farm operations to help control the soil bacteria. We all know that if we put land plaster or kainit in the manure piles it keeps them from spoiling, and this is done by just preventing certain undesirable kinds of bacteria from growing.

This brings us to the point of soil bacteria. We have many of each kind. Some are beneficial, some



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The work before the farmer, therefore, is plain. To maintain the fertility of his soil, or to restore the fertility of impoverished land must be his duty. In his barnyard he has the natural materials wherewith to rejuvenate the soil. In his manure pile, in his straw stack, he has a bank account which will never refuse to honor his draft.

Just what manure is worth per ton to the farmer depends entirely upon what he makes it worth. If the manure is exposed to weather and the liquid protein is washed out by the rains a large part of its value is gone. Manure piled loosely in large piles ferments and burns. So on account of the condition under which it is accumulated and stored, and where and how it is placed on the land are each a factor in its value. The chemist is able to determine exactly the value of the fertilizing constituents in a certain kind of manure and place in figures what is would cost in money to buy the same quantity of phosphorus, potash, etc., in the commercial fertilizers but those figures are of value for comparative purposes only. It is certain that manure is worth nothing unless spread on the land. Any kind of manure will more than pay for the labor in hauling. An Ohio farmer's statement is handy. For ten years unmanured soil on his farm has yielded an average of 35 bushels of corn per acre. Manured land has yielded 55½ bushels. Every Kansas farmer has a similar experience but he has not the figures.

Stock feeding naturally increases the supply of manure and stock farms can be made to increase in fertility by the proper use of manure. In the value per ton of manure sheep and hogs stand first, horses second and cows last. In regard to the amount and value of manure produced for an equal amount of live weight hogs are first, cows second, horses third and sheep last. Hens, as well as other fowls, produce the richest of manure, but it lacks quantity. Quality and quantity of manure naturally are influenced by the quantity and quality of the food consumed by the stock. Highly nitrogenous and watery foods may increase the bulk but not the value of the manure.

Results of analyses by acknowledged authorities show the following fertilizing constituents and their value in manure from different animals. Sheep, \$3.30 per ton; calves, \$2.18 per ton; hogs, \$3.29 per ton; cows, \$2.02 per ton; horses, \$2.21 per ton; hens, \$7.07 per ton. These values per ton are based on the cost of commercial fertilizers in the open markets and cost based on procuring in such commercial fertilizers the same fertilizing elements in the same quantities as exist in manure. It will be seen, therefore, that if the farmer is compelled to buy commercial fertilizers he will have to pay market prices which would result in making the manure on his farm worth the above named values per ton.

Whether it is preferable to haul the manure fresh from the stable or yards to the field or allow it to accumulate is still a question with some farmers. Expressions on this point

from the experiment stations afford the best information at this time obtainable. It is this writer's judgment that the manure from the stables should go directly to the fields. When it is necessary to load the manure to get it from the barns it should be loaded on a manure spreader and taken to the field. The manure spreader is the great farm implement of this day. Its proper use will make the farmer a mint of money. This editor knows a landlord who furnishes his tenants with two manure spreaders and requires the tenants to clean up the feed lots every spring.

Professor TenEyck of the Kansas Experiment Station says: "In my judgment it is best to haul the manure direct from the stable to the field where this can be economically done. The manure is not improved especially by being left in the shed, but if it is not possible to haul it to the field and spread it at once as soon as it is made, then it is much preferable to have the manure stored in the shed rather than leave it exposed to the weather in an open yard. A good method of feeding cattle and making manure is to feed under sheds. The tramping of the manure by the cattle will pack it and cause it to hold moisture so that it will keep in good condition for a long time with little loss."

Professor Gilmore, of Cornell Station, New York, says: "We think, all things considered, it is better to haul the manure directly from the stable to the fields than it is to pile it up for any length of time. If well rotted manure is desired for trucking purposes or for top dressing for hay lands, then it must be stored but under ordinary conditions for this purpose losses from 25 to 45 per cent in the fertilizing value of manure occur, and if it is not kept reasonably wet and stirred from time to time, excessive fermentation results, to say nothing of dry burning and leaching. Losses amounting to from 37 to 57 per cent have been recorded when manure has been exposed to the weather. This loss refers mainly to the fertilizing material in the manure. It is still available as humus or organic matter when applied to the soil."

Charles E. Thorn, director of the Ohio Experiment Station, briefly says: "In our judgment it is practically impossible to store the manure without loss. We, therefore, advise moving it directly from the stable to the fields whenever this is possible. Our experiences are indicating that when barnyard manure is properly cared for and used, its fertilizing constituents are equal pound for pound to those furnished by the most effective commercial fertilizers."

M. F. Miller, of the University of Missouri, writes: "In general it may be said that the value of barnyard manure depends upon two things—the time and the care. Usually the greatest amount of plant food is saved by hauling it to the fields as soon as possible. The per cent of loss by piling outside will depend upon various conditions but it will be anywhere from one-fourth to one-half of the fertilizing constituents."

Aside from the manner of getting the manure out on to the field the application of the manure is an important question. How much or how little manure to spread on a field is also left to the farmer's judgment. There can be no fixed rule. Conditions, character of soil, quality of manure, kind of crops to be grown and the supply of manure are all to be taken into consideration. Some authorities advise an application of 17 to 18 tons per acre. Others less. The New Jersey truck farmer applies about 20 tons and over. As a rule it is better to make light applications frequently than to apply large amounts at long intervals.

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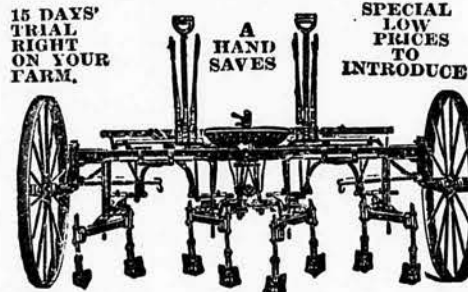
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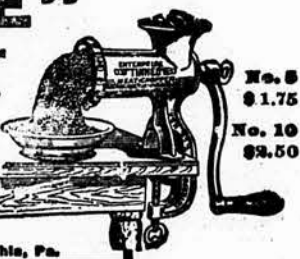
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With the spreader the manure is hauled directly to the fields. The wheels of the spreaders are broad and the spreader can be hauled on the fields when other wagons cannot. The spreader expedites the even distribution of the manure and also expedites the facilities with which the manure can be hauled. The spreading of the manure from the spreader is much more easily and more quickly done than by throwing the manure from the wagon to the land with the fork. The very best of distribution of manure by fork is very poor as compared with the manure spreader."

Sedgwick's Good Roads.

Sedgwick county's experimental road work may prove valuable to every Kansas county. Fifty miles of road in that county have been built under the supervision of a road expert of the national government. It consists of a mixture of river sand and ordinary clay. Special attention is paid to the drainage of the road to keep it in condition for travel during the rainy weather.

The Kansas Good Roads Association will meet in Wichita in January, 1911. The members of the association will inspect the highways and obtain pointers for use in their counties.

Flour Bleaching Process.

For more than a year the agitation has been on regarding bleached flour. It seems that Kansas flour must be bleached to compare in whiteness and to compete in the northern markets with northern wheat flour. Dr. Wiley claims bleaching is injurious and so far he has been sustained. Western millers have the case in the courts and pending a decision no Kansas flour is being bleached.

The bleaching process consists of passing all the flour just before packing into sacks, through ozonized air. In the mill is placed a large cylinder, on the interior of which is an apparatus which, when a strong current of electricity is passed through it, causes a flaming discharge of electricity, thoroughly ozonizing the air in the cylinders. This air, by means of suction fans, is passed into an upright cylinder equipped with revolving discs. Through this cylinder the flour passes, being spread out by the revolving disks so that every particle of flour comes into contact with dry, pure, ozonized air, which dries and purifies and thus bleaches the flour.

But what is ozonized air? It is air in which, by electrical discharge above described, some of the oxygen has been 'set free.' It is this 'free oxygen' which does the purifying and bleaching.

Alfalfa on Dry Land.

In the western third of Kansas there is not one acre of growing alfalfa where there should be 25 acres. J. E. Payne, who is field agent for the Colorado Experiment Station, says he has found alfalfa doing well on unirrigated land in eastern Colorado, and eastern Colorado is no different in soil and climate than western Kansas. One man near Hugo, has 100 acres which was sown on sandy land two years ago. When seen in May, 1910, it was looking well. This was sown upon freshly broken sod after the sod was leveled with a disk. Several fields of alfalfa were found on sandy land near Hugo. Also some small fields were found growing on clay land in Lincoln and other counties.

The men who have succeeded best with unirrigated alfalfa have prepared their land well and then seeded it when an abundant supply of moisture was present. Some have sown with success as late as August 1, upon land which had been plowed early and kept free from weeds until the time of seeding.

With perfect germination and perfect soil conditions one pound of alfalfa seed will produce enough plants to cover an acre of land, but many have recommended 15 to 20 pounds an acre. The amounts sown which have given the best results on dry land have been from three to ten pounds an acre. And it is possible that from 5 to 10 pounds of good seed will give better results than larger quantities, because all extra alfalfa plants not needed are weeds which weaken the plants that survive the competition.

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Any or all of these booklets sent FREE. Please ask for the books by number.

"MORE AND BETTER CORN," is a 40-page booklet, full of profit-bringing information. Every paragraph is practical.

We publish this book and send it FREE because we are interested in improved methods of corn growing. Every vital thing about corn and corn planting is in this book.

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ALFALFA

Its Seeding, Culture and Curing, by one of the highest authorities in Kansas, the greatest Alfalfa State, is full of practical information about this new and important crop. Get posted on this interesting subject.

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The Disc Harrow is the most necessary tool on the farm today. The advantages of thorough discing are just beginning to be understood.

The DEERE MODEL B Disc Harrows control the gangs and force them into the ground by a spring pressure, thereby securing the most even and thorough penetration and cultivation.

Whether you buy a disc harrow or not this year, it will pay you to read up all the new features of the DEERE line of Harrows and the MODEL B, in particular.

REMEMBER, it is the only spring-pressure harrow made and spring-pressure control insures more perfect work.

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If you have ten or more acres of hay, you will be interested in the New Deere Hay Loader.

The Loader that lasts a lifetime; that has absolutely the lightest draft of its width; that delivers the hay at the highest point; rakes absolutely clean without gathering trash; will handle the hay in swaths, windrows of any size or bunches.

The New Deere couples automatically and unhitches from the load and has many other exclusive and valuable features. ALL IN THE BOOK.

LOOSE GROUND LISTING

means bigger crops in the listed corn country, conserves the rain-fall and does not drown out the corn. Cultivation is also rendered much easier and is much more satisfactory.

DON'T be satisfied with a partial crop and a field full of weeds. Get POSTED on the new system.

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The Farmers' Pocket Ledger is a new, durable and handsome memorandum book which contains lots of practical information and has plenty of room for recording important transactions. The most popular little book of its kind.

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Single Disks or Double Disks.

Some farmers are in favor of the double disk, some have preferences for single disks, and others prefer the shoe drill. This is a question that every farmer must decide for himself, simply because no one is so well acquainted with his seeding conditions as the man who operates the drill. If the ground is hard and trashy, the single disk drill will work best. Should it be loose soil, the double disk opens a seed trench that cannot be excelled by any other style.

The Hoosier Disk Drill, which is manufactured and liberally guaranteed by The American Seeding-Machine Co., Incorporated, Richmond, Indiana, is an interchangeable grain drill in the most liberal sense of the term. It makes no difference what style furrow opener you want on your drill or what your seeding conditions are, you can get a Hoosier equipped the way you want it. Hoosier Drills will meet the seeding conditions in any part of the grain growing world. They are built right, sow right and are right in every way. The Hoosier guarantee amply protects every purchaser. Write the manufacturers for a copy of their Hoosier catalogue and in writing state what you want to accomplish, and they will gladly give you the necessary information. Go to your local dealer and insist on seeing the Hoosier Grain Drill.

Don't talk "back to the farm." Backers are not wanted. Talk "forward to the farm" and then set the example.

A split-log drag will make the road impervious to water provided it is used in wet weather and is not too sharp.

A New Mexico test of varieties of wheat, made at the Experiment Station during several years past, shows the following yields per acre for each during 1910: Saskatchewan 51.5; 32.1; blue stem, 25.8; turkey red, 33.2; macaroni, 54.4; blount No. 16, 58.3; regenerated defiance, 47.4; hedgerow, 67.0; Algerian, 54.5; purple, 47.4; rodi, 65.9; lohi, 64.3; Archer's prolific, 57.2; Paros, 52.3; Algerian (sample 2), 36.5; Ruby, 51.2; Longberry, 51.8; Odessa No. 4, 28.3; early java, 41.9; Minnesota 163, 30.5.

MAP OF KANSAS FREE.

This is a 4-sheet map—a map of Kansas, a map of Oklahoma, and a map of the world, including a detail map of the Panama Canal zone, together with a specially designed cover, printed in two colors. The cover is on extra heavy paper and shows reproduced pictures of Kansas farm topics, done in Mr. Albert T. Reid's famous pen and ink work.

We have only a small number of these maps, and as long as they last, they will be given away, in connection with NEW subscriptions to KANSAS FARMER. These maps are 22 inches wide and 28 inches long, lithographed in 6 colors—showing counties, towns, railroads, congressional districts, and a great deal of other every-day-needed information, impossible to tell about in this limited space.

One of these fine maps will be sent free, to NEW subscribers only, who will send us 50 cents for a subscription to KANSAS FARMER from now until June 1, 1911. These particular maps can be had only from KANSAS FARMER, Topeka, Kan.

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Topeka, Kansas.

44 Bushels to the Acre

is a heavy yield, but that's what John Kennedy of Edmonton, Alberta, Western Canada, got from 40 acres of Spring Wheat in 1910. Reports from other districts in that province showed other excellent results—such as 4,000 bushels of wheat from 120 acres, or 23½ bushels per acre, 25, 29 and 40 bushel yields were numerous. As high as 132 bushels of oats to the acre were threshed from Alberta fields.

THE SILVER CUP

at the recent Spokane Fair was awarded to the Alberta Government for its exhibit of grain, grasses and vegetables. Reports of excellent yields for 1910 come also from Saskatchewan and Manitoba in Western Canada.

Free Homesteads of 160 acres, and adjoining pre-emptions of 160 acres (at \$3 per acre), are to be had in the choicest districts. Schools convenient, climate excellent, soil of the very best, railways close at hand, building lumber cheap, fuel easy to get and reasonably priced, water easily procured, mixed farming a success.

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HOW TO RAISE CALVES without milk. Use Blatchford's Calf Meal. Ask your dealer. Write D. O. COE, Topeka.

LIVE STOCK



On every farm there should be at least one good brood mare rearing a good colt a year. A yearling colt can be grown as cheaply as a yearling steer and, if a good one, will be worth several times more money. We refer to good colts—not pony colts or scrubs. Breed up the horses on the farms as you do your cattle. It will pay. It should be your aim to possess a pure bred draft mare and then two and finally enough to do all the farm work. Pure bred brood mares will more than pay their way with their work in the field.

In buying breeding or foundation horse stock use good judgment in selection. Get size and good individuality. Do not buy under 16 hands and under 1,200 pounds. Breed to a stallion of equally good qualities, agreeable disposition and good gait. Careful mating will show satisfactory results more quickly among horses than with any other kind of live stock.

All the money to be made in breeding horses is not made in breeding drafters. There is equal opportunity for the farmer who elects to rear a good family driver. If you want a hard job try to buy a family driving horse. You would most likely go to some of the towns where drivers are used. You find many horses for sale but they will not meet your requirements. You'll find a lot of people looking for just the kind of a horse you want, too. In spite of the automobile craze family drivers are in good demand and will so continue. In the horse business there's plenty of chance to follow your inclination as to kind and if you produce good ones of the breed or type you select your pocket book will fill.

The farm should have on it all the good stock it will keep and the help you have can give the proper care. The well bred, profitable kind of horses will do the same work—except more of it—that the scrubs are now doing. It is just as cheap and much more profitable to have pure bred beef cattle instead of common stuff. If you are milking a few cows and selling the cream you can have, if you will, cows which produce five or six times as much milk as scrubs. You can have pure bred hogs which make pork cheaper than scrubs, and you can sell a sow or a boar for breeding purposes. A few sheep will help things along. Not one of these improved kinds of live stock will in any way prevent or interfere with the growing of wheat or corn for market which may just now have your undivided attention. Think this over. Resolve to get a few animals of better than common stock next year. The good ones increase rapidly and soon you'll have all you can keep.

Sheep require no more attention than cattle and less than swine. The occasional farmer who keeps a few sheep would not think of getting along without them. Sheep do as well in Kansas as in any other place in the world.

Any man with a reasonably strong arm can earn \$1.25 in the ditch. That's common labor. Any man gets together a herd of cattle or swine—but the animals are the common, ordinary kind. The man of trained mind and ability can get a job at \$5 a day doing something out of the ordinary—something the \$1.25 laborer can't do. The breeder of good stock is in his business what the \$5 a day man is in his business. There is something interesting, artistic, intelligent in successfully breeding animals and the results are as marked when compared with the "common" efforts in that line as are the results in the accomplishments of the \$1.25 and \$5 a day men.

Many a man has bought a \$250 pure bred bull of some breed and a few days later thought he had got

ten into the breeder's class and soon would be able to sell breeding stock at fabulous prices. He was disappointed because he couldn't do it. His failure kept many another good man from improving his stock. The trouble was probably not with the stock and surely not with the business. The man's expectation was not justified. He built his hope on the same plan as does the man who expects to get wealth through a "get-rich-quick" scheme. Successful breeders reach this pinnacle through years of studied effort and through many disappointments. They entered upon an apprenticeship and learned the business—and knowing the business became successful—great breeders. But the man who failed to realize his expectation as a breeder did not throw his money away—if he did it was because he so chose. The pure blood would have more than paid its cost and way in a herd of stock cattle—as feeders or finished for the block. This is a good basis for the novice to figure on anyway. The improved blood is more than worth its cost to such an end. Superior breeding stock and superior ability as a breeder makes its way to the top.

An Iowa farmer who went broke growing wheat but who since has accumulated a fortune fattening and selling hogs says he can make ten pounds of pork from every bushel of ear corn fed with water. He says 20 pounds can be made per bushel of corn when plain milk is fed in combination. Think of skim milk doubling the value of a bushel of corn! What then is the skim milk worth? Wouldn't it be a money making scheme to milk a few more cows, increasing the cream check and doubling the value of every bushel of corn?

The hog is by nature a clean animal. Give the hog a chance to be clean and he'll show you. He thrives best when he can be clean and warm. Provide a clean feeding floor. It saves feed and makes a larger gain on the hog than when he digs it out of the mud or snow. Give the hog comfortable sleeping quarters. Keep in mind that when your animal is uncomfortable—hog or any other animal—that he is not making money for you.

There is little apparent difference while young between the scrub and the pure bred animal if being reared under like favorable conditions. As maturity approaches the difference becomes more marked. Herein lies a good reason why in buying breeding animals those of mature age should be sought. This is especially true if the purchaser is a novice at judging and is compelled to depend upon his own resources.

Kansas should have the best live stock in the world—at least the best of any state in the Union. Kansas has the climate, the feed and every other environment. Kansas has produced world beaters in every class and kind. The trouble is that we don't have enough of them. When we are as old in the business though as some of our sister states we will be able to make a great showing. We've made a good start.

The live stock industry is substantial. Prices are up and down as are the prices of corn, but there are no insect enemies to destroy the calf or pig crop. The diseases to which our animals are heir are so well controlled that there is now no reason for serious loss. Feed will grow when market crops fail. Live stock is the one thing of which we must have more and better.

Map out a plan for farm operations for the ensuing year and then stick to it, until you have a better.

"Bleeding Kansas" would pretty nearly be made leading Kansas if the initial letter were dropped.

The law of Wisconsin requires that all cattle sold for breeding purposes must be proved to be free from tuberculosis by means of the tuberculin test before the transfer is made. In order to meet the provisions of this law the Live Stock Sanitary Board will hold a series of public examinations in order that candidates for the work of testing may qualify and become officially certified by the board.

The Kansas Corn Breeders Association.

At the State Agricultural College on December 28-29-30, the Kansas Corn Breeders Association will hold its sixth annual meeting and corn show. The purpose of this association is to increase the yield and production of corn and other grain crops in the state by better methods of culture, and by using the best varieties of seed. The best varieties of seed are secured by selection, and the low average of the Kansas acreage is sufficient incentive for all the work this association can do.

Each day a program will be rendered, and the following subjects discussed: "The Craze for Ornamental Seed Ears vs. Plant Breeding Facts Concerning Corn for Seed," by A. H. Leidigh, Hutchinson; "The Future of Corn in Western Kansas," Prof. A. M. TenEyck of the Hays Experiment Station; "Show Corn for Seed," J. M. Gilman, Leavenworth. The subjects named above will be discussed on Wednesday morning, December 28. The annual business meeting will occur Thursday morning, and a regular program will be given as follows on Friday morning, while each afternoon will be devoted to the corn show and to the auction sale of the prize winning exhibits: "Some Factors Effecting the Yield and Quality of Wheat Production in Kansas," Prof. W. M. Jardine, Agronomy Department, K. S. A. C.; "The Farmer's Seed Corn, Its Source," R. W. Hull, Shady Bend, Kan.

The premiums offered are liberal and include a number of valuable agricultural implements as well as cash. Classifications are made for ten ears of Yellow Dent, ten of White Dent and ten of any other variety; also ten ears of western Kansas corn, the best single ear and a special prize for the best ten ears of corn that has been surface planted and surface cultivated. Premiums are also offered for hard winter wheat, soft winter wheat, oats, barley and Kafir, and a long list is given for the boys' corn contest.

RULES GOVERNING FARMERS' CONTEST.

1. Crops may be exhibited free by all members of the Kansas Corn Breeders' Association. An exhibit fee of one dollar will be charged all others. This fee, however, may be used as a membership fee to the Kansas Corn Breeders' Association.

2. Contest is open to all farmers of Kansas. Only grain grown in Kansas during the season of 1910 may compete for prizes.

3. All samples of grain exhibited for prizes shall become the property of the Kansas Corn Breeders' Association. The Association, however, gives the winners of the first five samples, in all classes, the right to exhibit them at the National Corn Show.

4. All grain must be delivered to the Kansas Corn Breeders' Association, Manhattan, Kan., care of Prof. L. E. Call, express or freight charges prepaid, by 6 o'clock p. m., December 27, 1910.

5. Samples should be carefully marked with the name and address of grower, and the class in which grain is entered for premiums.

6. All corn should be wrapped to prevent shelling, and should be tightly packed in a tight box for shipment.

7. No grain shall be shown in more than one class.

8. No exhibitor shall make more than one exhibit of grain in a single class.

9. Exhibitors are allowed to remove four kernels from one place near the center of each ear of corn for the purpose of studying the kernel before exhibiting, but kernels must not be removed from other places over the ear.

10. All prize grain, the property of the association, will be offered at public auction at 10:15 a. m., Friday, December 30. Samples purchased at this sale may be claimed by the purchaser immediately after the sale, except those winning the first five places, in the various classes. These samples are to be delivered to the

purchaser after the National Corn Show, which occurs from January 30 to February 11, 1911, at Columbus, Ohio.

11. Ribbons awarded on any sample of grain shall become the property of the exhibitor and not the property of the purchaser of the grain.

12. Displays and exhibits of grain will be on exhibition for inspection by exhibitors and visitors from Wednesday noon until 10:15 o'clock Friday, at which time the annual sale will occur.

13. Grain on exhibition will be carefully handled, but the association will not be responsible for damage or loss.

14. All samples of wheat will be in one-half bushel quantities.

15. The freight charges from Manhattan, or from the town of the donor, to the winner shall be borne by the winner of the premium. Any other expense incurred in handling premiums shall also be borne by the winner.

RULES GOVERNING THE BOYS' CONTEST.

1. No corn will be admitted to the regular exhibit unless it is brought to the hall by the boy who grew it. No entries will be received by freight or express or from another party for the boy who grew it.

2. All corn must remain the property of the exhibitor and cannot be sold here, but must be taken away by the exhibitor. Corn good enough to be brought here is good enough to be taken home and planted.

3. All corn should be entered on Monday, December 26, 9 to 12:30 and 2 to 5:30, or not later than 1 o'clock, Tuesday, December 27. No corn may be taken away until noon, Friday.

4. No boy will be permitted to enter a ten-ear exhibit who did not win a prize in his home contest. No boy may enter any corn in this contest who is not at least fifteen years of age and under twenty-two years of age, and no boy will be permitted to enter any corn in this contest whose name was not reported to the state office as a contestant on or before the meeting of his home institute.

Address Supt. J. H. Miller, Agricultural College, Manhattan, Kan., for a full program.

Soil Fertility.

(Continued from page 5.)

do, and one kind taking up the work where the other left off, thus in time clearing away and making fit for use again great bodies of organic matter.

This of course is not an advantage when we are trying to keep in good order buildings, implements, harnesses, and fence posts; but is very useful when it comes to preparing for plant food, stubble straw, grass plowed under, and also the manure which we put on the ground.

Thus in the one case we must keep those conditions prevailing which will not allow these little plants to grow where they will be our enemies, and in the other case, where they will be our friends, we should give them every condition which will tend to their welfare and development, for although small, they are mighty, and if treated properly mean many dollars, not only to the individual but the country as a whole.

A novel method of irrigation is being introduced in the vicinity of Billings, Mont., whereby about 12,000 acres of the finest orchard lands will be reclaimed by the use of electric power.

One pumping plant covering 3,000 acres owned by the Montana Orchard and Irrigation Co., is already installed and arrangements are being made to place others during the coming spring.

Gravity canals from 20 to 50 miles in length have been in operation here since the early eighties. Water supply furnished by the rivers flowing from the nearby mountains is inexhaustible. After the canals were constructed it was discovered that several large tracts of the best land, especially adapted to orcharding on account of its greater elevation and perfect drainage could not be utilized by ordinary methods.

This year the two electric plants of Billings were supplemented by the addition of power from the Madison river dam and also from the Missouri river, giving a reserve of 100,000 horse power. This current is sold at a low figure and the owners of these otherwise useless lands are hastening to place pumping stations.

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The real thing. A successful 50 bushel Spreader with more than four years of success behind it, only \$39.50. This is only one of the great Galloway line. More than 40,000 farmers of America have stamped their O. K. on it. They say, "It's the Best." This is the latest from the Great Galloway factory. It's part of my 1911 capacity of 40,000 manure spreaders. It is you that gets the benefit of this tremendous output, and you save 40 to 60 per cent on your purchase because I divide the melon with you. Every page of my big free book fairly bristles with Proof.

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Here is the Engine for you—the right power for every practical farmer. Because it does the work, all the work, all the time, for any man, whether he has ever seen an engine before or not. Maybe you are enough of a mechanic to operate a complicated engine—but why take chances when you can get one that's so perfectly simple that anyone can run it easily. Why be bothered with valves and other weak parts that are always getting out of order, needing fine adjustment, packing, etc. Be fore some one sells you this kind of trouble let us send you our instructive farm power book and tell you about the simple, economical, sure and steady

Great Western Gasoline Engine

No Valves—No Trouble—Just Power

This remarkable engine is what all manufacturers have been striving to produce for a generation. It is a 2-cycle engine. Others, as you doubtless know, are 4-cycle. By perfecting a 2-cycle we have done away with valves and other complications. Other engines have from 25 to 50 working parts about the cylinder. The Great Western has only 2 and these are heavy and strong. Other engines, the 4-cycle kind, produce power only at every other stroke of the piston. Ours gets power at every stroke—which means steady power and no useless wear and tear and vibration—no waste of fuel. Made in various sizes from 1½ to 10 horsepower—uses gasoline, gas, naphtha, distillate or alcohol. You can't doubt our claims when you read our guarantee—and we'll tell you where to see the engine. Send Postal for our big Free Book of Farm Power Facts No. E323 and get posted before deciding on any engine.

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AT CUT PRICES FOR CASH.

All the known brands; fresh goods; no retreads; all sizes. Some prices: 28x3, \$11; 30x3 1/2, \$17; 32x3 1/2, \$18; 34x4, \$27. Our "New Midwinter List" just issued, gives full particulars telling how and why we quote from 25 to 60 per cent under the regular lists. Send today, **ATLAS TIRE COMPANY**, 814 Wyandotte St., Kansas City, Mo.

\$7.55 Buys Best 140-Egg Incubator

Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water Brooder, \$4.85. Both ordered together, \$11.50. Freight prepaid (E. of Rockies). No machines at any price are better. Satisfaction guaranteed. Write for book today or send price now and save waiting.

Belle City Incubator Co., Box 10 Racine, Wis.

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FREIGHT PREPAID (E. of Rockies)

The Progressive has cold rolled copper tank, hot water heat, double disc regulator, self ventilating, deep nursery, high legs, double doors, safety lamp. It is made from Special Heat and Cold Resisting Material with hundreds of dead air cells. Write today.

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We beat them all again. Get our DIRECT-TO-YOU position, low prices, and BIG FREE BOOK ON SUCCESSFUL incubation and brooding before you buy anywhere this year—the greatest value ever offered. Catalog FREE—send name. If you want a book on "Proper Care of Chicks, Ducks, Turkeys"—send 10 cents.

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CALVES Raise Them Without Milk. Booklet Free. **D. O. COE, Topeka, Kan.**

For Lamé Horses

Remove All positively cures Sprains, Ringbone, Curb, Shoe Boils, Capped Hocks, abnormal growths and lameness.

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Sold on money-back guarantee. Leaves horses sound and unharmed. Lump Jaw is cured in less than three weeks with **Adams Rapid Lump-Jaw Cure**. Easy to use. Guaranteed. Write for FREE TREATISE on curing these diseases. **H. C. ADAMS MFG. CO.** Dept. 25, Algona, Iowa.

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When writing advertisers please mention **KANSAS FARMER**.

10 Cherry Trees \$1.

40 Concord Grapes \$1.

Why pay high prices for nursery stock when we sell it so low? Due bill for 25 cents and catalogue free.

Fairbury Nurseries, Box 1, Fairbury, Neb.

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of all kinds AT WHOLESALE PRICES. Save agent's commission of 25 per cent by ordering each order free. Stock guaranteed first-class. Certificate of inspection furnished. Don't delay. Send for price list now. Address Box O. Pure Speciosa Catalpa grown by seed from original trees.

WICHITA NURSERY, Wichita, Kansas.

EVERGREENS THAT GROW.

We have 15,000 ready now; rightly grown, packed properly for safe shipping. Our specialty is the finest evergreen grown anywhere. That is the **CHINESE ARBO-VITAE**. Fast grower, thrifty; strong as a weed. Transplants easily. A wonderful tree. Must not be confused with inferior so-called American Arbo-Vitae. Our circular explains reference and quotes prices. Write for it today. Mailed free.

FARRAR NURSERIES, Abilene, Kansas.

POULTRY



Considering the mild weather eggs are selling for a pretty stiff price, and those who sell them are making a good thing out of it. Those who are not getting eggs must blame themselves, for there is mismanagement somewhere.

Secretary Coburn says that nearly ten million dollars worth of poultry and eggs were sold in Kansas last year. The average farmer's family sells only a fraction of the poultry and eggs produced; but they are just as valuable when eaten at home as they are when sold. What then is the aggregate value of the poultry and eggs of Kansas?

If your fowls get sick, give them your attention and a little common sense in their treatment. Find out what causes the trouble and apply the proper remedies. But don't fuss with a sick fowl when it becomes decidedly bad; use the hatchet and bury the victim.

While fowls can stand a great deal more crowding in the winter than in the summer, they cannot stand too much even then. The first noticeable effect from overcrowding is diminished egg production, which can be relieved by removing part of the fowls to other quarters. Feather pulling and egg eating are vices that are soon learned when fowls are too crowded. A contagious disease soon spreads in crowded quarters, and plays sad havoc among the flock. There is never enough room at the feeding trough and the weaker ones never get enough to eat. But the worst result of overcrowding is the curtailment of the egg supply, and this counts when eggs are so high in price. If you would have plenty of eggs keep no more fowls in one pen than can be comfortable on the roosts without overcrowding and have plenty of scratching room in the house. If they are so crowded as to be in the way of one another while scratching for their food, you certainly will not get many eggs.

The best way to remain an optimist is to be able to see through some of the schemes of other optimists.

A SPLENDID SHOW ROOM.

Kansas State Poultry Show at Wichita, Jan. 9 to 14, 1911.

It was planned to hold the State Poultry Show in the Auditorium now being built in Wichita. But it developed that this great building will not be done in time.

The board of managers, therefore, has selected a fine building 75 by 140 feet, in the down town district, which will make an ideal show room. It is commodious, well lighted and heated and handy to all street cars. One of the board of managers, outside of Wichita, Mr. D. D. Colglazier of Hutchinson, has inspected the building and says it is the best and most convenient show room ever had for a State Poultry Show. The Wichita members are doing everything possible to make the show a success, and have made arrangements with the park commissioners to have the water fowl that are in Riverside Park, exhibited at the show. There will be swans, cranes, ducks, geese, and a herd of ostriches. This display will attract many people to the show that otherwise would not attend and after they get there they will be interested in the poultry display. Send as many birds as you possibly can to the State Show, so as to make it a decided success and send in your entries early so as to expedite the arrangements for the uniform cooping. Let the eastern part of the state as well as the western part and Oklahoma be fully represented with their finest fowls. Kansas expects that every man this year will do his duty.

The secretary, Thos. Owen, Station B, Topeka, Kansas, will be very glad to answer questions for every one, and to lend every assistance possible to all who may write or call on him.

Feeds and Methods of Feeding.

When the new experiments in breeding were inaugurated at the Maine Station in 1907 and 1908 it seemed desirable to examine thoroughly the methods of management which had been so long used here, with the view of determining whether it might not be well to make some changes before embarking on another long period of breeding work. It is obvious that changes in management cannot be made during the course of a breeding experiment without interfering seriously with the interpretation of any results obtained. Any new methods of management, feeding, etc., which one wishes to use, must be inaugurated at the beginning of the experiment, and adhered to throughout.

Upon reviewing the whole subject of the methods of handling poultry in operation at the station it finally seemed advisable to make some changes. These changes were made in 1908, and have now been tried for two years. We have been so well pleased, on the whole, with these new feeds that it is proposed to publish them at this time. The following topics are here discussed:

1. Feeding the laying pullets.
2. Feeding the hens, cockerels and cocks kept over the winter for breeding purposes.
3. Green food for poultry.

FEEDING THE LAYING PULLETS.

The feed of all adult birds, whether pullets or not, consists of two essential parts: (a) the whole or cracked grains scattered in the litter, and (b) the mixture of dry ground grains which has come to be generally known as a dry mash. These two component parts of the ration and the methods of feeding them will be considered separately. In addition to the grains and dry mash, oyster shell, dry cracked bone, grit and charcoal are kept in slatted troughs, and are accessible at all times. Plenty of clean water is furnished. About 5 pounds of clover hay cut into 1/2-inch lengths is fed dry daily to each 100 birds in winter. When the wheat, oats and cracked corn are given, the birds are always ready and anxious for them, and they scratch in the litter for the very last kernel before going to the trough where an abundance of feed is in store.

It is very evident that the hens like the broken and whole grains better than the mixture of the fine, dry materials; yet they by no means dislike the latter, for they help themselves to it, a mouthful or two at a time, whenever they seem to need it, and never go to bed with empty crops, so far as noted. They apparently do not like it well enough to gorge themselves with it, and sit down, loaf, get overfat, and lay soft-shelled eggs, as is so commonly the case with Plymouth Rocks when they are given warm morning mashes in troughs.

Some of the advantages of this method of feeding are that the mash is put in the hoppers at any convenient time, only guarding against an exhaustion of the supply, and the entire avoidance of the mobbing that always occurs at trough feeding when that is made a meal of the day, whether it be at morning or evening. There are no tailings to be gathered up or wasted, as is common when a full meal of mash is given at night. The labor is very much less, enabling a person to care for more birds than when the regular evening meal is given.

Taking first the dry grains, the following may be said in regard to the method in which they are fed: Early in the morning for each 100 hens 4 quarts of whole corn is scattered on the litter, which is 6 to 8 inches deep on the floor. This is not mixed into the litter, for the straw is dry and light, and enough of the grain is hidden so the birds commence scratching for it almost immediately. At 10 o'clock they are fed in the same way 2 quarts of wheat and 2 quarts of oats. This is all of the regular feeding that is done.

PURE BRED POULTRY

PLYMOUTH ROCKS.

BUFF PLYMOUTH ROCKS FOR SALE. A. R. Olmstead, Rt. 1, Lawrence, Kan.

ROSE COMB WHITE ROCKS FOR SALE. James Parker, Woodston, Kan.

BARRED PLYMOUTH ROCK COCKERELS \$1.50; White Holland turkey toms \$2.50. M. H. Johnson, Petwin, Butler Co., Kan.

FOR SALE—A FINE LOT OF PURE bred Barred Rock cockerels at \$1.50 each if sold soon. J. L. Yardy, Tescott, Kan.

BARRED ROCKS, PURE BRED, BOTH matings, \$2 to \$3. W. H. Molyneux, Palmer, Kan.

WAGNER'S BARRED ROCKS, FARM raised; old and young; single, pairs, trios, pens, or in large numbers. Write for particulars. Mrs. E. C. Wagner, Holton, Kan.

BUFF PLYMOUTH ROCK COCKERELS. Good breeding cockerels \$3 each, 2 for \$5, while they last. They are good value. C. R. Baker, Box F, Abilene, Kan.

WE HAVE THOROUGHBRED B. P. Rock and S. C. R. I. Red cockerels for sale at reasonable prices. We do not send culs. Write us. O. C. Gentry, R. R. No. 2, Norton, Kan.

125 WHITE PLYMOUTH ROCK HENS, cockerels and pullets; Johnson and Owen strains; priced to move them; also Pekin ducks and drakes. L. T. Spellman, Paola, Kan.

SHELLEY BROS.' BARRED ROCKS WON 71 premiums, 34 firsts, specials and sweepstakes at Kansas State Poultry Show, Central Kansas Poultry Show and State Fair—a record never equaled. Fine breeders. Males, \$2 to \$5; females, \$1.50 to \$3.50. Satisfaction guaranteed. Circular free.

LOCK BOX 7, Elmdale, Kansas.

BUFF ORPINGTONS.

BUFF ORPINGTONS—25 GRAND COCK- erels and mated breeding pens from trap-tested prize winning heavy layers. All described in my poultry book sent for 10c. W. H. Maxwell, R. 95, Topeka, Kan.

LEGHORNS.

WINNING BUFF LEGHORN COCKER- els \$1 each. Paul Cress, Abilene, Kan.

105 PURE SINGLE COMB BROWN LEG- horn cockerels; farmers' prices. Chas. Dorr, Osage City, Kan.

GREAT BARGAIN SALE SINGLE COMB White Leghorn cockerels from breeders valued at \$5 each, \$1 to \$2 each while they last. Clara Colwell, Smith Center, Kan.

ROSE COMB BROWN LEGHORN COCK- erels from pen headed by first prize-winning cockerel at Buffalo, N. Y.; also fine pullet mating cockerels from pen of high-scoring females; also utility cockerels. Write your wants. Mrs. John Holzhay, Benden, Kan.

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FINE LARGE PARTRIDGE COCHIN cockerels \$2 and up. Mrs. John H. Long, Blue Mound, Kan.

PARTRIDGE COCHINS, COCKERELS and hens, \$3 and up; won 18 out of 21 ribbons at Mo. State Chicken Show, 1910. Eggs in season. S. W. Cooper, Westmoreland, Kan.

RHODE ISLAND REDS.

SINGLE COMB R. I. RED COCKERELS; Bourbon Red turkeys. Mrs. F. F. Momyer, Lathrop, Mo.

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FULL BLOOD HOUDAN COCKERELS while they last \$1. S. P. Green, Mankato, Kan.

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BLACK LANGSHANS—WRITE ME FOR prices. Mrs. D. C. Poole, McDonald, Kan.

FOUR HUNDRED FARM RAISED BLACK Langshan cockerels and pullets from our Iowa State Show winners. We have bred B. L.'s exclusively for 25 years. They must be sold by Feb. 1. U. S. Grant, Brooklyn, Ia.

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BUFF TURKEYS FOR SALE. A. C. Green & Sons, Winchester, Ind.

BOURBON RED TURKEYS FOR SALE. Mrs. P. D. Briggs, Sedan, Kan.

BOURBON RED TURKEYS, WHITE your wants. Mrs. J. D. Gibson, R. R. 2, Hamilton, Mo.

PURE BRED MAMMOTH BRONZE TUR- key toms for sale, \$5. Sadie Litton, Peabody, Kan.

MAMMOTH BRONZE TURKEYS; SOME from 45-lb. tom. Mrs. Philip Spohn, Inman, Kan.

BOURBON RED TURKEYS FROM MIS- souri and Kentucky stock; the finest and largest I have ever seen. About one-third of flock not related. They will sure please you. Send orders quick. Gobblers \$5 and hens \$4 each. D. W. Stone, Medicine Lodge, Kan.

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40 VARIETIES OF GESE, DUCKS, turkeys, chickens, peafowls, guineas, pheasants, pigeons and rat dogs. Catalog 4 cts. F. J. Damann, Farmington, Minn.

POULTRY RANCH FOR SALE.

One of the best poultry ranches in the state. Two acres adjoining Washburn college campus, 9-room house, cellar, cistern, well water, barn. Best poultry house in county. Fruit and ornamental trees. Price \$4,000, half on time if desired. No trades.

POULTRYMAN, Kansas Farmer Office.

PFILE'S 65 VARIETIES

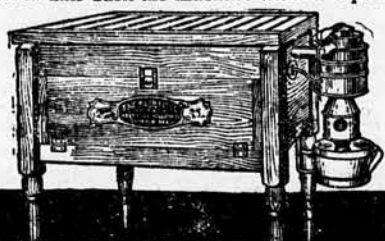
LAND and water fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive Poultry Book for 1911. Write Henry Pfile, Box 621, Freeport, Ill.

Sam Thompson Will Ship You The Best Incubator In The World On Trial.



When I say the best incubator in the world, I mean it. My Fairfield is not only the best built; it's also the most substantial, the easiest and cheapest to operate and on top of that it's the World's Best Hatcher.

Those are strong claims but the Fairfield makes good in every case. If you are from Missouri give me a chance to "show you." Send me your name and address. I will make you a two hatch trial proposition and give you an iron-clad guarantee that my Fairfield will hatch 90% or better or take back the machine without expense to you.



My 2 Hatch Trial Offer:

Try before you buy. That's my way of acquainting you with my Fairfield. It's the fairest, surest way I know. My Fairfield must hold up its reputation. It must sell itself. It must prove by actual test that it's just as I claim. I am sure of my Fairfield that I will gladly ship it to you for a two hatch trial, freight prepaid. When it arrives examine it; inspect every part of it. Fill it with eggs and watch it work. When the first hatch is done make another. Then let the results decide whether you want to keep the machine or not. If it's not satisfactory ship it back and I will pay freight. That's fair to you in every way. It's the safest and surest way to get the incubator you want. Write for catalog and full particulars today.

Sam Thompson,
Pres. Nebraska
Incubator Co.,
177 Main Street,
Fairfield,
Nebraska.

MY 50 PER CENT HATCH GUARANTEE
I guarantee my Fairfield incubator to be the World's Best Hatcher. It is sold on Two Hatch Trial that it fulfills all claims and hatches 90% or more of all fertile eggs. If it fails I take back the machine without expense to you.
Sam Thompson.

Thousands of Fairfield incubators are now in use. They are giving satisfaction in every way. Many State Institutions are using Fairfield exclusively. Big poultry raisers have thrown out their other machines and put in Fairfield. Leading members of the Poultry Association endorse the Fairfield. Why? Simply because the Fairfield costs no more than the ordinary machine, is cheaper to operate, requires less care and makes bigger and better hatches than any other machine. My Fairfield is built of California Redwood. Has large, roomy egg chamber, perfect ventilation and a heating system that guarantees even temperature. Free catalog gives full description.

The Best Poultry Book and Catalog Ever Published is Free To Every Reader of This Paper

It's a great big book. Full of interesting facts from cover to cover. Tells about the Fairfield incubators and brooders. Contains helpful hints to poultry raisers. How to prevent and cure chicken diseases. What and how to feed. Has many colored pictures of poultry scenes, etc. It is the finest, most complete book ever published for free distribution. Any book seller would charge you at least \$1.00 for a work containing the information my book does. To read it will be the best time you ever put in. Write for it today, get my incubator proposition before you buy any machine.



WHITE PLYMOUTH ROCKS

(EXCLUSIVELY.)

For 13 years I have bred White Rocks, the best of all purpose fowls, and have some fine specimens of the breed. I sell eggs at a reasonable price. \$2.00 for 15, or \$5.00 per 45, and I prepay expressage to any point in the United States.

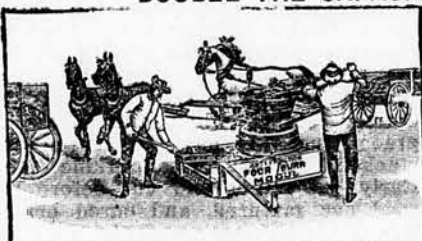
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ANTI-FRICTION, FOUR-BURR MILLS

DOUBLE THE CAPACITY OF GEARED MILLS



Two-horse mill has 24-in. grinding burrs (two sets) all grinding at once, and grinding from 25 TO 60 BU. PER HOUR. Four-horse mill grinds from 60 TO 80 BU. PER HOUR.
To complete mills in one: has double the capacity and double the durability of other mills. Absolutely no friction or gearing. Will earn cost price in three days. The largest ears of corn to these mills are like popcorn to other mills. We manufacture the most durable and fastest grinding line of mills sold, including our FAMOUS IOWA NO. 2 FOR \$12.50. Send for our free catalog.

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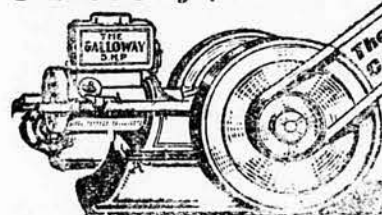
GALLOWAY SAVES YOU \$50 to \$300

SAVE from \$50 to \$300 by buying your gasoline engine of 2 to 22-horse-power from a real engine factory. Save dealer, jobber and catalogue house profit. No such offer as I make on the class of engine I sell has ever been made before in all Gasoline Engine history. Here is the secret and reason: I turn them out all alike by the thousands in my enormous modern factory, equipped with automatic machinery. I sell them direct to you for less money than some factories can make them at actual shop cost.

All you pay me for is actual raw material, labor and one small profit (and I buy my material in enormous quantities). Anybody can afford and might just as well have a high grade engine when he can get in on a wholesale deal of this kind. I'm doing something that never was done before. Think of it! A price to you that is lower than dealers and jobbers can buy similar engines for, in carload lots, for spot cash.

An engine that is made so good in the factory that I will send it out anywhere in the U. S. without an expert or any inexperienced users, on 30 days' free trial, to test against any engine made of similar horse-power that sells for twice as much, and let him be the judge. Sell your poorest horse and buy a

G.-H.-P. Only \$119.50



Get Galloway's Biggest and Best FREE GASOLINE BOOK

Write today for my beautiful new 50-page Engine Book in four colors, nothing like it ever printed before, full of valuable information, showing how I make them and how you can make more money with a gasoline engine on the farm. Write me—

Wm. Galloway, Pres., Wm. Galloway Co., 235 Galloway Station, Waterloo, Iowa

I have sold more than half of the young bulls which I advertised in Kansas Farmer and only have four left. Please change my advertisement and send check enclosed.—W. N. Barnes, Jersey Breeder, Independence, Mo.

Frosty bridle bits would not feel good in your own mouth. Remember that the horse is a dumb animal who cannot protest and that he is your willing servant. Warm the bits.

The litter which the station now uses for its houses in preference to all others which have been tried, consists of a mixture of dry pine shavings and straw. The shavings can be obtained in this part of the country from box mills in bales which are sold at a price of about 10 cents per bale. These shavings are spread on the floor of the pen to a depth of some 5 to 7 inches. From 6 to 8 bales will cover the floor of a pen which accommodates from 100 to 125 birds. On top of these shavings is spread a thin layer of straw. Straw which has not been baled is preferred because it is less liable to be broken and will consequently wear longer in the pen. This combination of straw and shavings gives excellent satisfaction as a litter. The straw serves the purpose of protecting the shavings so that they last a longer time than would otherwise be the case before they are finally worked up into a mass of fine material which packs down and becomes damp. The shavings become damp much less quickly than does a litter of straw alone. This is because they are finer, and the birds can keep them worked over much more thoroughly. This constantly exposes and dries out new portions of the mass of litter. Using this combination of shavings and straw it is not usually found necessary to change the litter in the pens oftener than once in three months.

In regard to the dry mash portion of the ration, that which was formerly used at the station had the following composition:

Wheat bran, 200 pounds; cornmeal, 100 pounds; middlings, 100 pounds; gluten meal or brewer's grains, 100 pounds; linseed meal, 100 pounds; beef scrap, 100 pounds.

The experience of the station with this mash extending as it has over a number of years has indicated that it was somewhat too rich. The relatively large amount of such concentrated feeds as linseed meal and gluten meal seemed to make too rich a ration for the well being of the fowls. During the year when this mash was fed more or less difficulty was always experienced with liver troubles in the birds. Birds died with all the symptoms that would be expected to come from indigestion arising from feeding too rich food.

In planning the new dry mash ration consideration was given to the physiological conditions under which the birds developed and under which they were placed in the laying houses. It is evident that the bringing of the birds in from the range upon which they have grown from little chickens, into the laying houses, is apt to be a very violent and abrupt transition. It has seemed in studying the birds in the fall of the year that this change was an important time in the life of the bird, and that the results during the subsequent winter with reference to egg production depended much upon the way the transition from range conditions to the laying house was made. It seemed advisable both on general grounds and from observation of the birds to make this change as gradual as possible. With this idea in mind the pullets have been brought into the houses from the range much earlier during the past few years than was the custom before. It is the custom at the present time to bring in the pullets from the range as soon as possible after the first of September.

When the pullets are brought in as early as this it is not, of course, advisable to shut them up entirely in the houses at once. On the contrary, the work is planned in such a way that there is always a freshly seeded yard full of green grass for the birds to run in after they are brought into the house until cold weather sets in in the fall. In other words, the birds are brought from free range into a condition of restricted range, but with better pasturage on the restricted than on free range. The yards are freshly seeded and have not been trampled down or burned and dried out by the sun, as is the grass on the open range from which the birds are taken. In this way the attempt is made to have the transition from open range conditions to house conditions as gradual as possible. After about two months, or occasionally even a little longer of restricted range, the birds are finally shut up in the curtain front house for the winter season.

Further in accordance with this

idea of gradual change it is thought wise not to put the pullets which are brought in from the free range conditions abruptly on to the heavy, forced laying mash which it seems to be necessary for them to have during the winter months if they are to do their best in the way of egg production. It has been said that a hen will not lay her best unless she is on full feeding. This is quite true, but it is probably equally true that a great deal of harm can be done to a pullet in regard to her future egg production by abruptly bringing her from free range conditions into restricted yards or to entire confinement in the house and putting her on a heavy, rich laying mash like the one which was formerly fed at this station. On the contrary, it seems reasonable to bring the birds more gradually on to this rich ration. It is in accordance with this idea that the dry mash feed which is now used at the station has been planned. The formulas and method of feeding this new dry mash are given below. It will be noted that the mash is made richer in successive months. These formulas are planned on the assumption that the pullets will be brought into the winter laying quarters some time during the month of September.

COMPOSITION OF DRY MASH FED TO LAYING PULLETS.

First month in laying house (September):—Bran, 300 pounds; cornmeal, 100 pounds; middlings, 100 pounds; meat scrap, 100 pounds.

Second month in laying house (October):—Bran, 200 pounds; cornmeal, 100 pounds; middlings, 100 pounds; gluten meal, 100 pounds; meat scrap, 100 pounds.

Third month in the laying house (November):—The mash has the same composition as that of the second month given above with the addition of 50 pounds of linseed meal.

Fourth month in the laying house:—The mash has the same composition as that of the second month given above.

Fifth month in the laying house:—The mash has the same composition as that of the third month as given above.

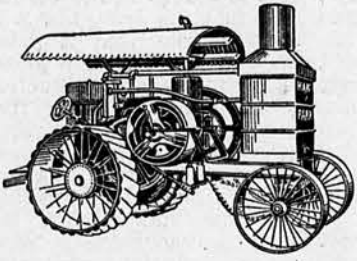
From this time on 50 pounds of linseed meal are put into the mash as given for the second month above, every alternate month. That is to say, one month linseed meal is fed and the next month it is not.

This dry mash made as described above is kept before the birds all the time in open hoppers of the type which has been described in previous publications from this station.

The advantages which it is believed have resulted from this method of feeding the laying pullets are two fold: first, in the good effect on the vitality of the birds, and, second, in its effect on the evenness of egg production during the winter months. It is a fact well known to poultrymen that if pullets are too rapidly forced for egg production in the early fall there is a marked tendency for them to moult during the winter at just the time when they should be doing their best work in egg production. Since adopting the method of feeding the pullets described above, not only have the birds been much freer of digestive troubles and diseases involving the liver, but also there has been no molting in the early winter after a short spurt of egg production in the fall months. On the contrary the egg production on this plan begins in September and gradually and steadily increases through the winter months. During the past two years while this method of feeding has been used, there has been hardly a pullet in winter molt, whereas on the old system of feeding such birds were common every year.—Bulletin 179, Maine Experiment Station.

There is too much doctoring of fowls, especially of the comparatively healthy ones. Occasionally a fowl will get sick and it is well to try and cure it, but the everlasting custom of giving them all manner of nostrums to keep them in good health is all nonsense. Feed them regularly with a variety of food. See that they get plenty of exercise and gravel and grit to grind their food. Give them plenty of pure water to drink and see that their houses and yard are kept perfectly clean and there is little danger of disease attacking them. Follow nature as near as you can and you will not go far astray in the management of your poultry.

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DAIRY



The following dairy notes are continued from last week and are from the editor's speech to Oklahoma dairymen in annual convention at Enid, November 16.

The value of skim milk combined with our highly concentrated carbonaceous feeds in growing and fattening hogs, can hardly be realized or estimated on the average farm. The value of the skim milk depends upon the judgment used in feeding. The fresh, warm skim milk fed immediately from the hand separator to hogs and especially to pigs, has a high feeding value if fed in proper proportion to other feeds. It is not possible to substitute for skim milk any other product of the farm.

The farm cow producing thirty dollars' worth of butter fat per year is a cow which would successfully grow two or three calves. By this I mean that it is extravagance to keep a cow which will produce this amount of butter fat for the purpose of rearing the calf alone. This cow will furnish the milk required by the calf and enough more to give five pigs the milk they should have until six months old.

The skim milk calf reared with reasonable care can no longer be discounted. The farmer who cannot rear a skim milk yearling and have that yearling as good as the yearling which has run with its dam through the summer, is no longer in the majority. The time was when the skim milk calf was an article of commerce pitiable to look upon and not sought by the buyer. This was because the calf had too much skim milk and not because he had too little. No charge is to be made against the dairy operations on account of a calf being produced of less value than the calf reared under the usual conditions.

No farmer can afford to start his calf off in any other way but well. The calf should have a sufficient quantity of whole milk until its ration can be made partly skim milk or wholly skim milk without danger of stunting. The calf has no use for more than three-fourths of a gallon of whole milk per day for the period of a week; at the end of a week begin the substitution of skim milk slowly, increasing the quantity of skim milk and increasing the total quantity of milk fed until three weeks old, and at the end of this time if pains have been taken in teaching the calf to eat, he will then be able to go on to a skim milk ration entirely with the addition of a feed night and morning of Indian corn or Kafir corn, whole or ground, and with what roughage he will eat will thrive and continue thrifty. The calf is worth too much at this time to slight in any way. A common fault in calf feeding is the use of too much skim milk which results in waste and which robs the pig, or if the calf runs with its dam, results in extravagance in the use of whole milk and the consequent robbing of the farm of an important source of revenue.

It is my judgment that our cows are not of such low standard as are our methods of feeding and care taking. The cow must have a chance. Milk is the result of feed consumed. The cow first uses a sufficient quantity of feed to maintain herself. Some cows are so organized as to use a larger quantity of feed in maintaining themselves than do other cows. This is demonstrated in the case of two cows, each receiving a like quantity of feed and one cow keeping in much better flesh than the other. This is an inborn characteristic of cows not in any way to be influenced by the feed or feeder.

If we give the cow only a sufficient quantity of feed to maintain the body, and that very often poorly, nothing is left with which to fill the milk pail or the cream can for de-

livery to the creamery. The farmer engaged in general farming, keeping cows for either stock purposes or for dairy purposes, cannot afford to be other than a liberal feeder. Economy in feeding to the extent that the animal is not well fed is the poorest economy exercised on the farm. Feed well but wisely.

The cost of feeding is high or low according to the character of the feed supplied; whether it be feed adapted to the purpose for which it is intended. For instance, it would not be good or economical feeding to supply a cow kept for combined stock and dairy purposes, all the corn meal she would eat. A cow may be well fed from the standpoint of feed offered and feed consumed, but if fed exclusively on corn for milk the cow would in reality be starved to death. Milk is a fixed quantity in its composition and the feed must contain in proper proportions the constituents required to make milk.

Such feeds can be supplied by every farm. Different feeds will be required to make up the cow's ration, depending upon the different climatic conditions under which the feeds are required to grow.

In localities where alfalfa will grow the feed question for milk is easily solved. Alfalfa hay with a feed of Kafir corn or Indian corn meal night and morning, provides the best and cheapest milk feed any dairyman anywhere can obtain. Alfalfa is worth a desperate effort in securing a supply. I mean by this that if you first fail to get a stand of alfalfa, keep at it until you are thoroughly satisfied that your soil and climate will not produce it. Do not give up until every resource at your command has been exhausted.

Successful and profitable milk producing rations can be made available in this section as in other sections, without the use of alfalfa, but such combinations are more expensive. Bright, early cut, well cured sorghum hay or prairie hay or corn fodder, with a feed of Indian corn or Kafir corn meal with a pound and a half of cottonseed meal per feed, will make a successful milk producing ration for a heavy milking cow. Next to clover and alfalfa, as a milk producing forage, I am very much inclined toward oat hay. Oats cut in the doughy stage, when the straw is green, and this hay well cured and stacked, makes an admirable feed. Early cut millet and cut before the seed has matured, and cured bright, will produce large quantities of milk. Oat hay and early cut millet if supplied in liberal quantities with farm grains will make a satisfactory farmer's dairy ration.

As to Dairying.

As a result of the dairy train lectures the Garden City Kansas Imprint devotes considerable space to boosting dairying and says:

"Any one who sees and thinks nowadays cannot avoid the conclusion that dairying in the middle west is on the verge of a marvelous expansion. Indeed, it has already grown to astonishing proportions, although the field is barely touched.

"With the wonderful growth of our western cities, and the enormous increase in our industrial population, the demand for concentrated, staple food products like bacon, ham, eggs, butter, cream and milk has developed a hunger that will keep these products at a high level of prices for many years to come.

"At present the supply is far below the requirements if we were to figure on the basis of a small margin of profits; high prices are economically logical, and they are destined to remain so for years."

Good bedding is not only comfortable for the stock but if made of straw will absorb a lot of valuable

liquid manure which would otherwise be lost.

If your separator stands in a cold room or the weather is very cold it is better to run some hot water through it before the milk is poured in. If this is not done some cream will be lost before the machine is properly warmed up.

Dairying in Florida.

JOHN M. SCOTT, ANIMAL HUSBANDMAN, FLORIDA UNIVERSITY.

Is Florida to be a dairy state or is it not? That is the question that is now in process of being solved. However, I am not sure that it cannot be solved to the satisfaction of all at the present moment. There seems to be at least enough data now at hand to give us some valuable information.

Apparently the most serious drawback to the dairy interests of the state is the lack of good dairy cows. On January 1, 1910, Florida was credited with 95,000 head of milk cows. This is about one cow for every six people, a rather poor showing for a dairy state. The states of Iowa and Wisconsin have nearly as many milk cows as inhabitants.

It is not, however, so much the number of cows in any one state, but rather the ability of those cows to handle raw material from which they manufacture dairy products, that is of importance. The individuality of the cow is the important consideration. However, even individuality is not all. No matter what the individual superiority of the animals, if they are not supplied with the necessary feed it should not be expected that they would be profitable dairy cows.

Florida produces an abundance of good nutritious feeds that are valuable both as grain and forage crops in the production of milk. Such feeds are velvet beans, Japanese cane, Para grass, cow-peas, beggarweed, corn, and soy beans.

If the Florida dairymen will give as much attention to the selection and feeding of his herds and the handling of the products as do the most successful dairymen in other states, they will be as liberally rewarded for their efforts.

Candidly, it appears to an observer as if the purpose in view in breeding the cattle of Florida has been to increase the number without regard to the type or usefulness of the offspring.

Although we have many poor dairy cows in the state, we also have a few good ones and a few good dairy bulls.

The Florida Agricultural Experiment Station has done a considerable amount of work in testing feed and keeping accurate data as to the cost of producing a gallon of milk.

With a ration composed of wheat bran and wheat shorts fed in equal parts, and cottonseed meal fed one part to four parts of bran and shorts by weight, the cost per gallon of milk, including labor, was 17 cents. With a ration composed of wheat bran, cottonseed meal, and sweet potatoes, including labor, the cost per gallon was 22 cents. With the same ration, except that sorghum silage was substituted for the sweet potatoes, the cost per gallon was 19 cents.

In another feeding experiment, conducted last winter, feeding velvet beans in the pod, wheat bran, and silage, the cost per gallon, including labor, was 17 cents. In the same experiment where cottonseed meal replaced the velvet beans, the cost per gallon, including labor, was 20.5 cents.

These prices may seem high, but we must consider that no allowance has been made for the manure produced. The item of manure ought to offset the labor. We should also remember that the wholesale price of milk is 30 cents per gallon, and the retail price 40 cents per gallon. So long as milk stays at its present price there will be no money in putting butter on the market. In fact there is not much need for the dairymen to produce butter, as there is a big demand for whole milk. There is also another big market to supply, and that is the demand for cream by the hotels and ice cream parlors in our cities. At the present time Jacksonville, Tampa, and Pensacola, Florida, and a number of other cities are shipping in both cream and milk from states farther north.

If the results of these experiments are of any value at all, it would seem that the dairyman who goes at it in

a business-like way has as much chance for success in Florida as in any other state.

Perhaps the chief reason for the dairymen in Florida being slow in improving their dairy herds is due to Texas fever. This fever as is now well known is transmitted from one animal to another by ticks. Animals reared in a tick-infested section become immune to the fever while quite young (from 1 to 3 months of age). At this age the loss sustained is small. However, when animals over 1 year of age are taken to a tick-infested section the Texas fever, or tick fever as it is commonly called, is very likely to prove fatal to a very large percentage of animals. This, no doubt, has been the greatest drawback to the bringing in of good dairy cows from the dairy sections farther north, or in other words, from above the quarantine line.

We have a few pioneers who have had the courage to blaze the way. As a result of this good work we can now find scattered about the state, a number of small herds of good dairy animals. Most of these herds have good foundation stock in them. Often the few breeders of pure bred animals have expended large sums of money for good foundation stock. Some have become discouraged, due to the fact that when they offered good pure bred animals for sale the prices received were far from remunerative, and the sales very low. The ordinary producer (not breeder) seems determined not to pay more than meat prices for males to infuse improved blood in his herd; and the breeder cannot make a living producing them at such prices.

"I tip my hat to the bull. I take it clear off to the pure bred bull. The grade undoubtedly had his mission, and in saying goodbye to him I think we may fittingly add: Many thanks for past favors; perhaps you may have a small mission yet with us in spots, but be wise—become a steer."

Quality in Mutton Sheep.

The value of good blood has often been emphasized. Not all the animals belonging to any of the improved breeds, however, are possessed of a high degree of excellence. No graver error can be made than the assumption of uniform excellence in the stock constituting any breed, no matter how much prominence it may have attained. Individual animals always differ more than breeds; and there are relatively few really good animals in any breed. This seems to be strikingly true of the mutton sheep. The chief trouble in mutton production is and always has been the scarcity of stock sheep, particularly sires that have sufficient merit to fill the standard of excellence for a strictly prime carcass. Until we reach this higher degree of excellence the mutton sheep will not assume its rightful place in American agriculture. The American market has become the most discriminating in the world on beef products, and it will demand a corresponding superiority in mutton. With this in view, a brief consideration of what constitutes a good mutton sheep may be of interest.

First, let there be pronounced masculinity in the male, and femininity in the female. Sheep should be neither sexless nor characterless. They should bear the stamp and character of the breed they represent. This breed character is a mark of good blood, and it should be manifest in no unmistakable manner. The sire should be impressive, resolute, and of noble bearing. He should be distinctly the head of the flock in every sense of the word. To meet these requirements he must have good constitutional and vital powers. Without these no animal is fit to head a herd or flock. In selecting a sire, look first at the head. If deficient there, look no further, but reject at once. Insist upon a head that faces you boldly with a wide face, a clear, prominent eye, and a robust character throughout. The head should be joined to a well filled, round, muscular neck, wide at the poll and back of the ears, and gradually enlarging in all lines to a full, strong junction at the shoulder as seen from top, sides or bottom. This should be accompanied by a wide chest, a prominent well-filled brisket, and a full heart girth, giving straight, even lines from the shoulders back. A depression either in front of or behind the shoulder, whether at the top, side or

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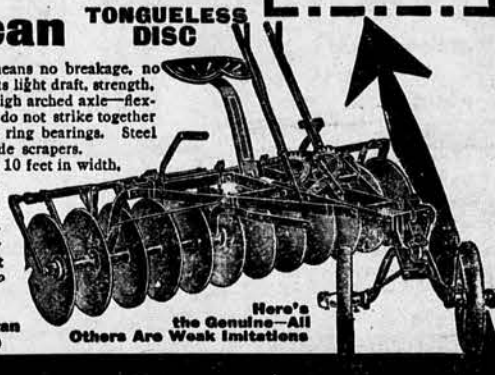
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bottom line, is an indication of weakness. The back should be strong, wide and well meated from shoulder to point of tail. The hind quarters should be full and well let down in the leg and flank, in order to yield well of high priced meat. The legs should be placed wide apart and stand straight. Sickle-shaped hocks and weak, sloping pasterns afford sufficient reason for condemning an otherwise good sheep.—Prof. C. F. Curtis.

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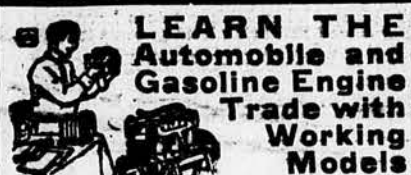
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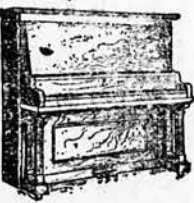
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HOME CIRCLE



From "My Philosophy."

It's natural enough, I guess, When some gits more and some gits less, Fer them-uns on the slimmest side To claim it ain't a fair divide; And I've knowed some to lay and wait, And git up soon and set up late, To ketch some feller they could hate Fer goin' at a faster gait.
—James Whitcomb Riley.

A little girl was asked to write an essay on wild beasts. She went on to name them. "Long ago," she added, "wild beasts roamed about England. The only wild beasts in this country now are in the Theological gardens."
—Weekly Telegraph.

A Give Away.

"What were you and Mr. Smith talking about in the parlor?" demanded Miss Blushes' mother. "Oh, we were discussing our kith and kin," replied the young lady. "Yeth, you wath," interposed her little sister. "Mr. Thmith asked you for a kith and you thaid 'You kin.'"
—Boston Traveler.

8670-8646. A Fashionable Gown.

An unusually attractive costume is here shown. It was most effectively developed in raisin colored henrietta, with a braided design in lilac and green and pipings of Dresden silk in the same colors. The skirt is cut in seven gores and has a plaited insert at the side gores. The waist is made with a round yoke over bib or berth portions and the sleeve is composed of a cap-shaped upper part to which is joined a puff that is finished at the wrist with a band cuff. The waist pattern is cut in six sizes: 32, 34, 36, 38, 40, 42 inches bust measure and re-



quires 2½ yards of 44 inch material for the 36 inch size. The skirt is cut in 5 sizes: 22, 24, 26, 28, 30 inches waist measure and requires 4½ yards of 44 inch material for the 24 inch size. This illustration calls for two separate patterns which will be mailed to any address on receipt of 10 cents for each pattern in silver or stamps.

FIRST AID TO THE INJURED.

SPASMS AND UNCONSCIOUSNESS. Although spasms and unconsciousness are often due to other causes than injury, nevertheless much can be done to help the patient before the doctor arrives. Of the many differ-

ent conditions that cause convulsions in children, the more frequent are the intestinal disorders and the beginning of some of the acute infectious diseases, as pneumonia, typhoid fever, measles, etc.

The preventive treatment for convulsions is to keep the child's intestinal tract in good condition. Do not give him a lot of indigestible food to eat or allow him to eat at all hours of the day and night. See to it that his bowels are moved regularly every day.

The active treatment, the one to be used when the child has a convulsion, is to give him a warm mustard bath. Have the water heated to a temperature of 99 to 100 degrees, or just a little above blood heat, and add a teaspoonful of ordinary powdered mustard for each gallon of water used. Place the child's body entirely under the water with just his head above the surface and gently stroke the surface of the body. After leaving him in this for a few minutes, remove him, dry quickly, and put to bed. The bath should be followed by an ordinary soap-suds rectal injection and a large dose of castor oil or some other purgative, so that the bowels may be thoroughly emptied. If there is considerable fever and restlessness, an ice-cap placed on the head often has a quieting effect. If the child should have a second convulsion, another mustard bath may be given.

Convulsions in adults are not often caused by intestinal disorders. Two rather common causes are epilepsy and hysteria. An epileptic convulsion or "fit" is frequently preceded by a peculiar piercing cry. The person goes at once into a convulsion and falls to the ground. Then he becomes rigid for a few moments and gradually relaxing, usually goes into a deep sleep. One fit may be followed by another or by a series of convulsions.

As to the preventive treatment of epileptic and hysterical convulsions, the afflicted one should be kept in the best of physical conditions. All sources of mental worry or excitement should be removed. He should continually be under the care of a physician who should see him frequently.

Nothing can be done to stop an epileptic fit when it has once well begun. Measures should be taken to prevent the person from injuring himself when he falls. Try to insert some soft article, as a handkerchief, between his teeth so as to prevent him from biting his tongue. After the convulsion is over, allow him to lie flat in a cool place, with his clothing and collar loosened.

In cases of hysterical convulsions remove the patient to a cool, quiet room. Avoid all rough handling or loud talking, or doing anything that may add to the excitement. Tincture of valerianate of ammonia given in one-half teaspoonful doses may be used to quiet the patient when he "comes to" enough to be able to swallow.

There are so many causes for unconsciousness beside those just given that follow a convulsion that only a few can be taken up here. Some of the more common causes are injuries on the head, fainting from heat or over-exertion, poisons, nervous diseases and apoplexy. In cases of injuries to the head, where unconsciousness has occurred the patient should be moved to a cool, quiet place, where there is plenty of fresh air. All tight clothing should be loosened. The face and neck and chest may be sponged with cold water. The head should be on the same level, or lower, than the body. If the patient has slow, noisy breathing, with bleeding from his ears and mouth, it is probable that the base of the skull has been fractured and the efforts at arousing him are almost sure to fail. In all cases, if the patient does not return to consciousness in a very few minutes, a doctor should be called.—Dr. W. H. Bailey, University of Kansas.

EMPIRE BUILDERS

By FRANCIS LYNDE



THEY TOOK
THE WESTWARD
TRAIL TOGETHER
IN THE MORNING.

XIII.

THE BARBARIANS.

IT WAS some little time after the rock had begun to fly from the cuttings on the western slopes of the mountains that Kenneth, summoned by Ford, made the run from Denver to Saint's Rest over the standardized Plug Mountain branch and found the engineer-manager living in a twenty-foot caboose car fitted as a hotel and an office-on-wheels.

The occasion of Kenneth's calling was a right-of-way dispute on the borders of the distant Copah mining district; some half dozen mining claims having been staked off across the old S. L. & W. survey. The owners, keen to make a killing out of the railroad company, threatened injunctions if the P. S. W. persisted in trespassing upon private property; and Ford, suspecting shrewdly that the mine men were set on by the Transcontinental people to delay the work on the new line, made haste to shift his responsibility to the legal shou-

lders. "If I hadn't known you for a pretty good mountaineer, Kenneth, you would have missed this," he said making his guest free of the limited hospitality of the caboose-hotel. "Are you good for a two-hundred-and-eighty-mile cayuse ride, there and back, on the same trail we tramped over a year ago last spring?"

"I'm good for everything on the bill of fare," was the heartening reply. "How are things going?"

Ford's rejoinder began with a non-committal shrug. "We're building a railroad, after a fashion."

"After a good fashion, I hope?"

Another shrug. "We're doing as well as we can with the help we have. But about this right-of-way tangle—" and he plunged his guest into a discussion of the Copah situation which ran on unbroken until bedtime.

They took the westward trail together in the morning, mounted upon wiry little mountain-bred ponies furnished by one Pacheco, the half-breed Mexican who had once earned an easy double-eagle by spying upon two men who were out hunting with an engineer's transit. For seven weeks Frisbie had been pushing things, and the grade from Saint's Rest to the summit of the pass was already a practicable wagon road, deserted by the leveling squads and ready for the ties and the steel.

From the summit of the pass westward, down the mountain and through the high-lying upper valley of the Pannikin, the grade work was in full swing. The horse trail, sometimes a rough cart-road, but oftener a mere bridle-path, followed the railroad in its loopings and doublings; and on the mountain sections where the work was heaviest the two riders were never out of sight of the heavily manned grading gangs.

"To a man up a tree you appear to be doing a whole lot, and doing it quickly, Ford," commented the lawyer, when they had passed camp after camp of the workers. Then he added: "You are not having any trouble with the MacMorroghs, are you?"

"Not what the legal department would call trouble," answered Ford evasively; and for ten other miles the narrowness of the bridle-path discouraged conversation.

Farther down in the valley of the Pannikin the activities were less thickly sown. On many sections the work was light; no more than the

throwing up of an embankment in the park-like intervals, with now and then a rock or earth-cutting through some jutting spur of the inclosing mountains. Here the men were bunched on the rock work and the fills, though the camp sites were commonly in the park-like interspaces where wood and water, the two sole commodities for which the contractors could make no deductions on the payroll, lay conveniently at the doors of the rude sleeping shacks.

Since he was not required to talk, Kenneth had time to be curiously observant of many things in passing. Each camp was the fellow of its neighbor; a chaotic collection of hastily built bunk shanties, a mess tent for those who, shunning the pay-devouring Scylla of the contractors' commissary, fell into the Charybdis of the common table, and always Kenneth remarked, the camp groggery, with its slab-built bar, its array of ready-filled pocket bottles, and its sad-faced, slouch-hatted, pistol-carrying keeper.

"What is that Bible saying about the shadow of a great rock in a thirsty land?" said Kenneth, as they were passing one of the wilderness bar-rooms buttressing a huge boulder by the trail side. "I should think you'd rule those fellows emphatically and peremptorily out of the game, Ford. They must make a lot of trouble for you, first and last."

"They do," was the sober response. "But how would you go about it to rule them out?"

The lawyer laughed. "My writs don't run this far. But I thought yours did. Why don't you fire 'em bodily; tell 'em their number is 23—skiddo! Aren't you the Sublime Porte—the court of last resort—the big boss—over here?"

Ford pulled his horse down to a walk.

"Kenneth, let me tell you: behind those barkeepers are the contractors; behind the contractors is Mr. North; behind Mr. North, the president. My little lever isn't long enough to turn the world over."

"Pshaw!" said Kenneth. "Mr. Colbrith wouldn't stand for anything like that! Why, he's a perfect fanatic on the whisky question."

"That's all right," said Ford acidly. "It doesn't go as far as Mr. Colbrith in the matter of the debauching particulars. It stops in Denver; and Mr. Colbrith approves Denver in the lump—signs the vouchers without looking at them, as Eva would say. I tell you what I believe—what I am compelled to believe. These individual saloon-keepers are supposed to be in here on their own hook, on sufferance. They are not; they are merely the employees of a close corporation. Among the profit sharers you'll find the MacMorroghs at the top, and Mr. North's little ring of Denver officials close seconds."

"Do you honestly believe that, Ford?"

"I do. I can't prove it, of course. If I could, I'd go to New York and fight it out. And the whisky isn't all of it, or even the worst; there are women in some of these camps, and there would be more if Leckhard didn't stand guard at Saint's Rest and turn them back."

"Heavens—what a cesspool!" said the attorney. "Does a laboring man ever get out of here with any of his earnings?"

"Not if the MacMorroghs can help it. And you can figure for yourself what the moral atmosphere must be. We are less than two months old on the work, but already the Western Extension is a streak of crime; crime unpunished, and at times tacitly en-

couraged. You may say that my department isn't responsible—that this is the contractors' day and game. If that is true now—which it isn't—it will no longer be true when we come in with our own employees, the track-layers."

But now Kenneth was shaking his head.

"I can't believe it, Ford. You're blue because Mr. Colbrith has thrown Mr. North into your boat as ballast. I don't blame you; but you mustn't let it make you color-blind."

Ford said nothing. The day was yet young, and the long journey was still younger. It was at the noon halt, made at a subcontractor's camp near a great earth-cutting and a huge fill, that Kenneth had his object lesson.

They were standing at the door of the timekeeper's shanty—they had been the timekeeper's guests for the noon meal—and the big gang of Italians, with its inevitable Irish foreman, was already at work. Out at the head of the great fill a dozen men were dumping the carts as they came in an endless stream from the cutting. Suddenly there was a casting down of shovels, a shrill altercation, a clench, a flash of steel in the August sunlight, and one of the disputants was down, his heels drumming on the soft earth in the death agony.

"Good God!" said Kenneth. "It's a murder!" and he would have rushed in if Ford and the timekeeper had not held him back.

The object lesson was sufficiently shocking, but its sequel was still more revolting. Without one to kneel beside the dying man; indeed, without waiting until the drumming heels were still; the men callously put their shovels under the body, slid it over the lip of the dump and left it to be covered by the tumbling cataraet of earth pouring from the carts whose orderly procession had scarcely been interrupted by the tragedy.

Kenneth was silent for many minutes after they had left the camp of the Italians. He was a Western man only by adoption; of Anglo-Saxon blood, and so unable to condone the Latin's disregard for the sacredness of human life.

"That was simply terrible, Ford," he said finally, and his voice was still in sympathy with the shaking hand that held the bridle-reins. "Will nothing be done?"

"Nothing; unless the murdered man chances to have relatives or clansmen in one of the near-by camps—in which case there'll be another killing."

"But the law," said Kenneth.

"There is no law here higher than the caprice of Brian MacMorrogh. Besides, it's too common—a mere episode; one of those which you said you couldn't believe, a little while back."

"But can't you make the MacMorroghs do a little police work, for common decency's sake?"

Ford shook his head. "They are quite on the other side of the fence, as I told you in the beginning. By winking at lawlessness of all kinds, their own particular brands of lawlessness, by which they and their backers make money, go unquestioned. So far from helping, they'd make it exceedingly difficult for any sheriff who should have the temerity to come in here in the discharge of his duty."

"You foresaw all this before the contract was awarded?"

"Not all—though I had been told that the MacMorroghs ran 'open camps' where the work was far enough from civilization to take the curse off. What you've seen, and what I've been telling you, is bad enough. God knows; but it will be worse be-

(Continued on page 18.)

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To be cut up and sold: 2270 acres creek bottom and slope land; nearly all good farm land; within driving distance of Topeka. Can be bought from \$25 to \$50 per acre. Easy terms. If interested write

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160 acres, good improvements, 4 1/2 miles good town, \$45 acre. Improved 160, 8 miles Garnett, \$6,400. Improved 80, \$3,000. Write for free list.

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SOLD FARM ADVERTISED LAST WEEK. Farm 1 mile out, advertised in this paper last week, sold. Come right down and get one of these:

160, smooth and good valley land, 10 rm. house, other improvements to match, three miles out, \$9000.

160, all fine and tillable, fine spring water, good house, barn, fences and orchard, 7 miles out, \$8000.

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160 acres 5 miles good R. R. town, 18 miles Topeka, on fine road, new 6 room house, new barn 38x44, 1 mi. school, 45 a. tame grasses, 1/2 good bottom land, no over-flow, all in cult., a fine farm, well improved. Price \$10,000.

160 acres, 11 mi. Topeka, 60 a. bottom, nearly all in cult. and tame grass; good house, two barns, orchard, living water, 1/2 mile school, \$60 per acre; \$5,000 at 5 per cent. 160 acres good hay meadow, 8 miles Topeka, \$5,000; easy terms. 160 acres in Woodson county, all smooth, 120 in cult. Price \$28 an acre; terms. Come and see us; we can show you what you want.

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10 miles from county seat, 500 acres smooth, tillable land, 180 acres in cultivation and in wheat, rent share to purchaser; 320 acres second bottom alfalfa land, soil deep black sandy loam, shallow water. Price \$15 per acre. Write quick.

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320 acres 3 miles from Ness City, 190 acres in wheat, 1-3 of which goes with place delivered at market. Place is all fenced, living water, about 30 acres of rough land, balance all good wheat land, well located. Price \$25 per acre.

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320 ACRES, unimproved, 8 miles Dodge City, about 100 acres rough, all well grassed, near school, \$3,500.

640 acres, 9 miles Dodge, 5 miles station, fenced, cross-fenced, 320 acres in cultivation, school on land, running water fine stock proposition. \$19 an acre. Other lands. New list free.

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320 a., 140 in cultivation, bal. pasture and mow land, good soil and water, seven room house, large barn, cribs, etc. Five miles to R. R. station. Price \$35 per a. Terms easy. A snap. Write for full information.

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Produces corn, clover, bluegrass and all staple crops in big yields. We can sell you improved farms here for \$40 to \$50 per acre. Have some good exchanges. Write for full information. THE OWL LAND AGENCY, Olathe, Kansas.

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480 acres in S. E. Gove Co., all smooth, 7 room frame house, frame barn; fenced and all under cultivation. A bargain if sold soon. Other cheap bargains in Kansas Wheat Belt. A. C. STEVENS, Randolph, Kan.

IF YOU are in the market for the best farms in Southeast Kansas at the very lowest prices, see us. We handle nothing but the best. We are also handling some very fine fruit, grain and stock farms in Washington Co., Ark. Our customers our references. Smetzer & Co., Iola, Kansas.

160 ACRES

level second bottom, 4 miles from county seat, 100 acres under plow, 15 acres alfalfa, running water fed by spring, 5 room house, barn for 6 horses, large hay shed and other good improvements; good bearing orchard. Price \$65 per acre; easy terms. Joseph D. Ryan, Abilene, Kan.

440 A. STOCK FARM—IT'S CHEAP—85 a. slope land cultivated, partly alfalfa land. 25 a. fine meadow, 230 a. elegant pasture, nearly all can be mowed, new 6 room house, new barn 26x32, fine orchard, 15 a. hog tight, cistern, well, etc., school and church stone's throw from house. Price \$32.50 a. Other bargains. Write for list. D. M. Watkins Realty Co., Moline, Kan.

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James E. Johnson's improved farm in Wabunsee county, Kansas (county seat, Alma). 200 acres all fenced; has good house and stable; plenty of water, creek flowing through it; 1/4 of the land under cultivation, balance pasture; soil excellent, and the farm has always been profitable. This located two miles from postoffice. This farm is now to be sold in settle an estate, and correspondence is solicited for its purchase. Address A. D. MADDEN, Clarksville, Ohio.

HOMES FOR THE HOMELESS

Our booklet describing lands in eleven of the best counties in Southeastern Kansas. The cheapest, the best and the greatest natural advantages for the lowest price. IT'S FREE. Send for it. Address

THE ALLEN COUNTY INVESTMENT CO., Longton, Kansas.

WE SELL FINE FARMS

Where the sun shines all winter long: In Texas and Oklahoma, In Missouri and Arkansas, In Louisiana and Mississippi. And in 15 other states, east and west. Send for our free list if you want to buy a farm anywhere. No trades. Ask

McBURNET, STOCKING & CO.,

277 Dearborn St., Chicago, Ill.

SOUTHERN KANSAS FARMS for sale. Your terms are ours. Write to the Benton Land Co., Benton, Kan.

Want to Buy a Farm?

Write us what you want, as to location, price and terms. We can very likely put you into immediate touch with just the very bargain you want. Write us at any time—a postal card will do. Your inquiries to us puts you under no obligations to any one. Address

JACKSON R. E. CO.,

1327 Quincy St., Topeka, Kansas.

GREENWOOD COUNTY FARMS

Large 40-page handsomely illustrated book, containing valuable information and list of 50 farms, mailed free and postpaid. Send your name today.

F. D. STOUTON, Madison, Kansas.

THEY HAVE DONE & FIXED THIS

320 acres, 220 in cultivation, 60 acres pasture, 50 acres in alfalfa, 320 acres all fenced and cross fenced with woven wire hog tight fence and cement posts. Fine seven room two-story house. Barn for 12 horses, hay mow with grain room for 5000 bushels and corn crib for 5000 bushels. Two double granaries, three new hog houses, large and good. Also milk house, tool house, coal house and chicken house. Large cement fish pond. Watered by good spring in pasture, well and windmill water is piped through kitchen, milk house and two cement tanks holding 500 barrels of water. Four acres of orchard with all kinds of fruit. Located two miles from railroad town, R. F. D. and telephone. One mile to school and 45 miles to Wichita, Kan. Price \$80 per acre. Mortgage \$4800, drawing 5 1/2 per cent interest.

EDWIN TAYLOR REALTY CO.,

107 South Main St., Wichita, Kan.

WHEAT, CORN, ALFALFA

In Meade, Ford and Clark counties; land \$25 to \$50 an acre. List free. Eugene Williams, Mincola, Kan.

LIVE AGENT WANTED

In your locality to assist in selling corn, wheat and alfalfa land. We own thousands of acres in Pawnee and adjoining counties. Write for proposition on our own ranches.

FRIZELL & ELY,

Larned, Kansas.

O U LAND SEEKER, TAKE NOTICE.

320 acres, 6 miles from Latham, Butler Co., Kan., all nice smooth land, 140 acres in cultivation, bal. pasture and meadow, good 7 room house, good barn for 30 head of stock and 100 tons of hay, cattle sheds and other good outbuildings, everything well and windmill and tanks. This is a No. 1 farm and a bargain. Price \$50 per acre.

160 acres, 7 miles from Latham, all nice smooth land, 50 acres in cultivation, balance meadow land, all tillable, all fenced with hedge and wire. No other improvements. This is a special bargain. One mile to school, on R. F. D. and phone line. Other land in the neighborhood is selling from \$40 to \$70 per acre. Price for 20 days only \$25 per acre. We make exchanging a specialty. For further information address

H. F. ADAMS & CO.,

Latham, Kansas.

READ THIS, PLEASE.

Send for list of well improved farms in Franklin county, Kansas, at from \$50 to \$75 per acre. Only 70 miles from Kansas City. PRINCETON LAND CO., Princeton, Kan.

WANTED FARMER

To buy 240 a. at \$60 per a.; \$4400 cash, balance to suit, joins town, granary on R. R. right of way. Phone, free gas.

B. H. DUNBAR, Tyro, Kansas.

READ THIS BARGAIN

160, Anderson county, Kansas, joining small town, 120 cult., 30 timothy and clover, 7 room house, barn, etc. Price \$8,000. 160, 2 1/2 miles of Weida, Kan.; 60 cult., balance meadow; all tillable; no buildings. \$6600.

SPOHN BROS.,

Garnett, Kansas.

FOR SALE.

50 choice farms well located and improved. Write for new list of special bargains. We have a large list of property for sale and exchange. See or write us. DO IT NOW.

MANSFIELD CO., Ottawa, Kan.

16 QUARTER SECTIONS.

Western Kansas, 16 quarter sections, Wallace, Wichita and Kearney counties for sale for one-third less than actual cash value; choice, tillable; close to railroad.

BOX 531, Chanute, Kansas.

120 Acres

\$1,000.00 Cash.

Balance long time at 6 per cent. All bottom land, good 4 room house, barn 30x36, 4 a. orchard, 10 a. alfalfa, balance in high state of cultivation, 10 miles from Topeka, 2 1/2 miles from main line of Rock Island.

THE FOX-COOK AGENCY,

104 W. 8th St., Topeka, Kan.

E. C. Fox. S. A. Cook. O. C. Black.

JOHN W. BAUGHMAN

LIVE AGENTS WANTED

to sell town lots in Best Little City in Southwestern Kan. Prices \$12.50 to \$50. Easy monthly payments. Best selling proposition ever placed on the market. Good commissions. No Experience Necessary. Full instructions. You can sell them. Write me today. JOHN W. BAUGHMAN, Plains, Kansas.

PLAINS TOWN LOTS

KANSAS LAND.

FOR SALE

1,700 acres of my 4,100 acre ranch in Kearney county, Kansas, on the Arkansas river and Santa Fe R. R.; 700 acres alfalfa land, 60 acres in alfalfa; all fenced with three and four wires; 5 room frame house stone basement; barn 25x50 feet, part stone; stock sheds with iron roof, all well built and 300 yards south of Sutton. Reason for selling: Too big for my foreman to look after. John Shinkle will show place. Price \$20 per acre net to me.

H. H. SMALLEY,
Springfield, Mo.

SELLING A MONEY-MAKER.

For quick sale at \$20 per acre—A half section in S. W. Nebraska; fair improvements; house of 2 rooms, stables, chicken house, well and windmill; also other out-houses, including hog sheds. This place is already to move on to and go to work; only missed two crops in 25 years and none at all in last 14 years. Old age only reason for selling. Priced at \$20 per acre for quick sale. Write at once to

JACKSON R. E. CO.,
1327 Quincy St., Topeka, Kansas.

AN ESTATE AT A BARGAIN

641 acres 2 miles city of Thayer; good 6-room house, neatly finished; all good out-buildings; 340 acres in cultivation; 80 acres meadow, balance pasture. Price \$35 per acre; terms. Other lands for sale. Write for list.

ADAMS & MILLS, Thayer, Kansas.

JUST 10 days left in which to sell improved 80 7 miles of Richmond, Franklin Co., for \$4,000. Can give time on half. Don't wait to write, but come at once. We have a large list.

MANSFIELD & CO., Ottawa, Kansas.

A REAL SNAP IN NORTHEAST KANSAS. 160 acres, 4 miles shipping station, 7 miles good town, 4 miles Kansas City. On good road, near church and school. Splendid improvements, nice orchard, good water, good land, good neighborhood. This is desirable and a snap for the money. Price \$50 per acre. \$2500 will handle it, balance at 6 per cent. If interested come at once. List of 50 farms sent on application.

W. M. PENNINGTON,
McLouth, Jefferson County, Kansas.

GOOD SECTION LAND TO TRADE. 640 acres 6 miles from Liberal, 2 miles from Haynes; all fenced and cross fenced; other improvements; good 240 acres in cultivation; all good land; on telephone line and R. F. D.; close to school. Price \$19,200. Take \$7,500, good rental property, carry \$5,000 on land and balance cash. This proposition will stand inspection.

LAND-THAYER LAND CO., Liberal, Kan.

MARSHALL COUNTY, KANSAS, LAND. Half section, 2 miles from town, 160 a. under plow, some alfalfa and meadow, rest pasture, 6 room house, 3 horse barn and hay mow, 2 good springs, 350 bearing trees; belongs to widow anxious to sell. \$55 per acre on easy terms. Also 25 other Marshall Co. farms.

E. F. DEWEY, Blue Rapids, Kansas.

LOOK AT THIS

80 acres, 4 miles to town, 1/2 mile to school, 6 room house, good orchard, shade, 2 wells, 60 acres cultivated, 20 acres pasture; every foot can be plowed; lays nice, no rough land. Price \$2800.

A. P. ROSA, Galesburg, Kansas.

WHEAT! WHEAT!—160 a. smooth level land, 70 a. wheat, all goes, bal. good grass; all can be farmed; fenced and cross fenced; well, windmill and tank, good school close; 7 1/2 miles of town; good neighborhood. Price for quick sale \$3,300; \$1,000 cash, good terms on balance. No trades. Stinson & Sheldon, Spearville, Kan.

EASTERN KANSAS FARMS \$35 to \$75 per acre; also have mdse. to trade for land; we are doing a general exchange business. Richmond Land & Loan Co., Richmond, Kan.

160, WELL IMPROVED, in Eastern Kansas; want merchandise or good rental property.

BOX 123, Richmond, Kansas.

EIGHTY acres good land, fair improvements, plenty wood and water; 25 miles west of Kansas City. \$50 per acre. T. U. Worster, DeSoto, Kan.

TEXAS LAND

A FORTUNE IN 40 ACRES

An irrigated forty acres in the Lower Pecos River Valley of Texas will provide a fortune for any family as well as a model home, in an ideal, all the year around climate. It will pay 100 per cent annually on present cost of land, including water rights. If interested, write at once to

THE HEATH COMPANY
GENERAL AGENTS,
100 WEST SEVENTH ST., TOPEKA, KAN.

TEXAS GULF COAST COUNTRY—4000 acres, formerly part of famous Taft Ranch, at county seat, Sinton, within 4 miles of bay; soil and climate unsurpassed; heart of rain belt; plenty good water; depot within 20 minutes' drive of farthest point. Land produces \$100 to \$300 per acre. For particulars write J. Y. Conn, Box 46, Clam, O. Good agent wanted.

COLORADO LAND

KIOWA COUNTY, COLORADO, corn, wheat and alfalfa lands \$8 to \$15. Homestead relinquishments \$250 up. Folder and copy of the Homestead Laws sent free. A few 160-acre homestead tracts under prospective irrigation yet. THE WESTERN REALTY CO., Eads, Colo.

EASTERN COLORADO LANDS.

Rich, fertile land, \$15 to \$20 per acre, on good terms. Irrigated lands that produce mammoth crops of sugar beets alfalfa, wheat and oats, \$66 and up. New list and descriptive literature free. Thomas B. Ashlin, The Arkansas Valley Real Estate Man, Granada, Colo.

YUMA COUNTY, COLORADO,

lands that raise big crops of all staples, \$10 to \$15 per acre. Good opportunities for homesteaders and investors. I own a few quarters which I will sell cheap.

A. L. KISENGER, U. S. Commissioner,
Yuma, Colorado.

CHOICE unimproved 160 acres 2 1/2 mi. out \$8 per a. S. R. Smith, Sheridan Lake, Colo.

MISSOURI LAND

FOR SALE—BARGAIN AT \$65.

160 acre farm, near Kirksville, Adair Co., Mo., 7 mi. from town, new house, new barn 42x48, new outbuildings, fine new cellar, fine orchard of excellent varieties, 3 wells, 120 acres in red clover and timothy, 35 acres in corn, 1910, 5 acres in timber; land is gently rolling; 3 miles of R. R., near church and school; fine black loam soil; 80 bu. corn to acre this year. A money maker to owner. Owner has best of reasons for selling. Easy terms to buyer. Long time on deferred payments.

MINTER & WINN,
Kirksville, Mo.

CORN, CLOVER, BLUEGRASS—BEST IMPROVED FARMS IN MISSOURI.

640.....	\$55.00
340.....	45.00
260.....	60.00
320.....	60.00
320.....	67.50
120.....	65.00
160.....	60.00
80.....	60.00
210.....	45.00

For full particulars, terms, etc., address J. P. HART & CO., Butler, Mo.

MISSOURI FARMS.

Well improved farms in best farming section of Missouri, \$50 up. Ranches \$10 to \$25. Natural home of corn, clover and bluegrass. Abundance of pure spring water. Descriptive price list free.

J. H. FREDERICK,
Cole Camp, Benton Co., Missouri.

BATES COUNTY wheat, corn, bluegrass and clover farms, \$50 an acre and up. All well improved, money makers from the start. Write or see CANTERBURY & CO., Butler, Mo.

FOR SALE

Good corn, wheat and clover farms in Bates Co., Mo.

C. W. HESS, Butler, Mo.

IMPROVED corn, clover and bluegrass farms 48 miles south Kansas City, \$50 to \$75 per acre. Jot M. Wilson & Son, Harrisonville, Mo.

A FEW bargains in farms near Nevada. Write for list. Adcock & Dagley, Nevada, Mo.

When writing advertisers please mention KANSAS FARMER.

MISCELLANEOUS FOR SALE

AND EXCHANGE COLUMN

SECOND HAND AUTOMOBILE.

If you want to buy, sell or exchange a good second hand automobile, address at once 115, care KANSAS FARMER, TOPEKA, KAN.

Shock Corn & Alfalfa Hay

100 tons alfalfa hay, 20 acres heavy shock corn, splendid feed yard with heavy timber protection, abundance good spring water, 80 rods from city limits of Winfield. What have you to feed this to?

D. O. WILSON, Winfield, Kansas.

THE STRAY LIST

O. K. Miller, County Clerk—Lyon Co. TAKEN UP—One red heifer, notch out of the underside of ear; valued at \$20. Was taken up Nov. 17, 1910, by J. T. Johnson, Allen, Kan.

Geary County—W. B. Spurlock, Co. Clerk. TAKEN UP—by C. J. Chambers, Milford P. O., Geary county, Kansas, one red bull with white spots; 1 year old; no marks or brands.

H. G. Hacksadt, County Clerk—Pottawatomie County. TAKEN UP—One red steer, 1 year past, small letter "M" on right hip; valued at \$25. Was taken up Nov. 30, 1910, by I. B. Plummer, Rock Creek, Moodyville twp., Kansas.

OKLAHOMA LAND

GET A HOME.

160 acre farm 2 1/2 miles of R. R. town and 5 miles of county seat, 10 a. in cultivation, 40 a. pasture, 10 a. mow land, 6 a. orchard, 6 a. alfalfa, good 6 room house, small barn and granaries, all fenced, 2 fine wells of water, fine grape vineyard, 1/2 mile to school, farm drains well. Price \$7,000. Immediate possession. One-half cash will handle this. Write for our land list.

BATTEN REALTY CO.,
Medford, Oklahoma.

EASY TERMS ON THIS 160

160 acre farm, three room house, stable, granary, orchard, also small fruit, well with windmill, all smooth land, mostly in cultivation, one mile from railroad town, all smooth land and good dark soil. Price \$50 per acre. Terms to suit.

J. H. FUSS & COMPANY,
Medford, Oklahoma.

POCKET MAP OF OKLAHOMA FREE to anyone sending us the address of five farmers who expect to change their location Caddo County Farm Bargains.

BALDWIN & GIBBS CO.,
Anadarko, Oklahoma.

INDIAN LANDS FOR SALE.

200 choice farms in N. E. Oklahoma. Low prices and easy terms. Write for map and price list.

LEAVITT LAND COMPANY,
Vinita, Oklahoma,
Agents Wanted.

OKLAHOMA REAL ESTATE.

LANDS AND CITY PROPERTY.
SEND FOR LITERATURE.

PERKINS & BOWMAN, HUGO, OKLA.

GEORGIA LAND.

Come to South Georgia, where you can make money on investments. We handle the very best farm lands in this section, and our prices for undeveloped lands \$2.50 to \$10 per acre, and improved lands \$15 to \$50 per acre. We handle timber in Georgia and Florida. Write us for descriptions.

J. H. BAKER & CO.,
Americus, Georgia.

ARKANSAS LAND.

HEALTH AND WEALTH

Go hand in hand. You find both in the celebrated SPRINGDALE FRUIT DISTRICT of northwest Arkansas. We have limestone soil, level land free from rock, pure water, excellent climate; wheat 30; corn 60; oats 80; alfalfa, clover, timothy. Send for literature.

TRIMBLE & SMITH REALTY CO.,
Springdale, Arkansas.

FIELD NOTES.

S. Metz & Sons' Abilene Barn.

S. Metz & Sons are selling Percheron stallions at Abilene, Kan. The writer was there last week and found four buyers looking at the horses. Among them was Mat Holcomb of Sharon Springs, Kan., who bought a stallion of this firm three years ago and was back after another. Mr. Holcomb was well pleased with his first purchase. Abilene is only 20 miles east of Salina. It is on three railroads—Rock Island, Santa Fe and U. P. Anyone going to Abilene will find the barn just two blocks north of the U. P. depot. There are here in the barn stallions from 2 to 5 years old, including seven 2-year-olds. They have a choice lot to select from and that means all buyers can be suited. Prices are being made now to move these to make room for another car load which is coming in 30 days. Herman Metz is in charge of the barn and as he has grown up in the horse business and is connected with the home farm at Homewood, Ill., he can take buyers to the Illinois barns and show them 100 head if they don't find what they want at Abilene. However, they keep a nice lot on hand at Abilene and invite inspection. They have the quality and can positively suit all buyers. If you can't go now to Abilene write your wants.

Lakewood Farm Percherons.

Every one interested in Percheron horses has heard of Lakewood farm and its founder, H. G. McMillan. Last week the writer visited Mr. McMillan and had a great treat seeing the Percherons, Jerseys, Shorthorns and Poland Chinas as they are grown in their every-day clothes on this 1500-acre farm. Lakewood is 60 miles north of Sioux City, Iowa, and reached easily from any direction. H. G. McMillan & Sons are known as the largest breeders of American bred Percherons. It is their reputation, and a qualified fact, that they not only are the largest dealers and breeders of American breeds, but they surpass all others in quality, winning annually at the state fairs and the International the greatest number of the most coveted prizes and, too, on horses of their own breeding. To substantiate this statement we have only to refer to the winnings made at the last International, where the writer was present and saw the following awards made to H. G. McMillan & Sons: First and champion mare in open class on Iolanthe. First on produce of mare won on Columbine and Colombia 2d, out of Columbine. First on get of one sire, 4 by Calypso. In stallions 1, 2 and 3 years old they took first in each class. Also champion and reserve champion stallion. First on aged mare, Solanthe. First on yearling filly, and champion American bred mare, Solanthe. This is a wonderful mare. Four years ago as a 2-year-old, she was champion of the International. Since that time she has produced three colts. Last summer she raised two colts—her own and an orphan—and yet her maternal efforts have not detracted from her in the least as a show animal. She came into the ring weighing 2,200 pounds and in remarkable bloom. Also a number of other prizes, about 25 in all, were won, which goes to show that farm conditions are about right at Lakewood, and these, blended with scientific mating, feeding, care and attention, produce the ideal American bred Percheron. Mr. McMillan is father of the idea of producing our own drafters here in America and raising them fit to compete with those across seas. His success as a showman, coming year after year at the fairs and the International, proves that the idea is plausible and the time is not far away when the imported stallion will take a back seat to the American bred. Enough has been written heretofore in these columns about the beauties

of Lakewood farm and its handsome home and barns, lakes and rivers, so we will close this by saying that just now Lakewood Farm offers stallions and mares at fair prices and has a big bunch to select from. The annual winter sale will be held February 14-15. Go up and visit the McMillans. You will be met at the depot by a big automobile and entertained in true country hospitable fashion.

L. R. Wiley & Sons Sell January 24-25.

On January 24 and 25, L. R. Wiley & Sons of Elmdale, Kan., will sell a draft of their imported Percherons and Belgians at Strong City, Kan. Watch for page ad in next week's issue and send for catalog and arrange to attend this sale.

(Continued on page 23.)

A Marvel in Baby Beef Production.

Each year at the International Live Stock Exposition at Chicago there is awarded a grand championship prize for the best fat beef animal in the show regardless of breed. This prize for 1910 was won by the grade Angus steer Shamrock 2d. Prior to his winning the grand championship he carried off the first prize for junior grade or cross bred calf and for grade Angus calf; the champion prize for grade or cross bred steer of any age and the championship for grade Angus steer of any age. Then he received first prize for calf of any breed shown in the college classes and championship for steer of any breed or age in the college classes; championship calf of any breed in the show; championship calf pure bred or grade Angus; the grand championship for steer of any age or breed in the show and the grand championship for pure bred or grade Angus steer in the show.

Shamrock 2d was calved January 10, 1910. He was selected for show purposes by Professor Kennedy of the Iowa Agricultural College in April, and was fed by John Brown, the college herdsman.

Just what can be done in the way of making baby beef is shown by the following report of official weights taken on the first day of each month. When first weighed on May 1, his weight was 346 pounds; a month later it was 461 pounds; for July, 589 pounds; August, 700 pounds; September, 822 pounds; October, 941 pounds; November 1, 1,060 pounds; and November 30, when he was shipped to Chicago, 1,130 pounds.

Shamrock 2d was fed as follows: When he first arrived at the Agricultural College he was put on a nurse cow. He was kept in the barn during the day and allowed to run on grass at night. He was fed all the good clover hay he could eat and a grain ration of three parts corn, two parts wheat bran, and one part oil meal up to September 1. After that date he was given two nurse cows and fed green corn, stalks and ears with clover hay and roots. The grain ration was changed to boiled wheat and oats. During the month of November he was eating from 9 to 11 pounds per day of the cooked feed with about 25 pounds per day of roots and 5 pounds of clover hay in addition to the milk of the nurse cows. He never missed a feed from May 1 until sold in Chicago, and never appeared to become nervous or restless.

On December 1 he was sold at public auction to a firm of Chicago butchers for Christmas beef. At the time of the sale he had shrunk to 1,120 pounds which, at 60 cents per pound, brought the neat little sum of \$672, and made of him the second highest priced grade champion steer ever sold in America.

Shamrock 2d was a marvel in the way of baby beef, and Judge Richard C. Carden of Fishmoryne, Tipperary, Ireland, who was invited to this country to judge the fat classes of cattle because of his reputation, which makes of him the best judge in the world, said that he had never before seen such a ripe beef for his age. "I can not say too much for him. He is the best animal I have ever seen. He could win at any show in Great Britain." This undoubtedly makes of Shamrock 2d the best beef animal that has appeared in the world during the year 1910.

A home is a house that is lived in. It is made for the people who inhabit it. It should never be a museum of objects to be only looked at. Whatever serves the inhabitants, and makes for their comfort or convenience, has a place in the home; useless things have not. Art is employed to add beauty to the useful things and so make the home a pleasant place to live in.

READERS MARKET PLACE

HELP WANTED.

AGENTS MAKE MONEY SELLING OUR wire stretcher. Perry Tool Co., Clyde, Kan.

WANTED—LOCAL MEN TO TAKE ORDERS for nursery stock in Kan., Mo., Okla., Ill., Neb. Experience unnecessary. Cash weekly. National Nurseries, Lawrence, Kan.

WANTED—RAILWAY MAIL CLERKS; customs house and internal revenue employees; \$800 to \$1500. Spring examinations everywhere. Write for list of places and dates. Coaching free. Franklin Institute, Dept. E-92, Rochester, N. Y.

OREGON INFORMATION—FOR AUTHENTIC detailed information concerning fruit growing, dairying, general farming, manufacturing and business opportunities in any part of Oregon, address Portland Commercial Club, Room 642, Portland, Ore.

GET A BETTER PLACE—UNCLE SAM is best employer; pay is high and sure; hours short; places permanent; promotions regular; vacations with pay, thousands of vacancies every month; all kinds of pleasant work everywhere; no lay-offs; no pull needed, common education sufficient. Ask for free Booklet #89, giving full particulars and explaining my offer of position or money back. Earl Hopkins, Washington, D. C.

REAL ESTATE.

TO SELL YOUR PROPERTY. WRITE Northwestern Business Agency, Minneapolis.

BUY OR TRADE WITH US. SEND FOR list. Bersie Agency, Eldorado, Kan.

FINE 160 IMPROVED, ONE MILE out. Write owner, E. Richardson, Wilmore, Kan.

FOR SALE—IMPROVED JEWELL CO. farm. Price \$30 per acre. J. H. King, Cawker City, Kan.

WILL TRADE A GOOD FARM FOR stallions, jacks or other horses. Box 42, Formosa, Kan.

IF YOU WANT TO BUY.

Sell or exchange a good second hand automobile, address at once 115, care KANSAS FARMER, TOPEKA, KAN.

FARM LOANS MADE IN ANY AMOUNT from \$500 up, at lowest rates and on most favorable terms. Betzer Realty & Loan Co., Columbian Bldg., Topeka, Kan.

80 ACRES, NEAR PAVED STREET; good soil, partly in wheat and alfalfa; all tillable; house, 6 rooms, barn, outbuildings, orchard and good well. Price \$8500. E. L. Bigalow, Emporia, Kan.

A FINE FARM HOME, 320 ACRES, NO rock, no waste, all smooth, good improvements, good land, close to Butler county, Kansas, town. This will suit you. Price \$50 per acre cash; mortgage \$4600. Want improved cheap wheat land on cash basis, near town. Bersie Agency, Eldorado, Kan.

WALLA WALLA, THE HOME OF AGRICULTURE. Destined to be the hub of the Great Northwest, climate is equable, no extremes, is exceptionally healthy, excellent school facilities, abundance of pure water. Thousands of fertile acres eager for development, prices reasonable, ten acres means independence. Write for free illustrated booklet N. Commercial Club, Walla, Walla, Wash.

FARMS WANTED—DON'T PAY COMMISSIONS. We find you direct buyer. Write, describing property, naming lowest price. We help buyers locate desirable properties FREE. American Investment Association, 43 Palace, Minneapolis, Minn.

Classified Advertising 3 cents a word

Advertising "bargain counter." Thousands of people have surplus items or stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. The "ads" are easy to find and easy to read. Your advertisement here reaches a quarter of a million readers for 3 cents per word for one, two, or three insertions. Four or more insertions, the rate is 2½ cents per word. No "ad" taken for less than 30 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms always cash with order. Use these classified columns for paying results.

FOR SALE OR TRADE—FIVE ROOM modern cottage, Salina, Kan.; five quarter sections tropical Mexico; time payments; 160 a. 6 mi. Winona, Kan.; time payments. Address J. W. B., 1002 South Santa Fe, Salina, Kan.

UPLAND AND BOTTOM FARMS, LARGE and small, on easy payments, in Jefferson, Shawnee and Osage counties. J. F. True, 1626 Roswell, Topeka, Kan. Ind. phone 2543 black.

FOUR GOOD S. W. KANSAS FARMS—Half section, 6 mi. west of Stafford; \$3500 worth of improvements; 240 a. in wheat; small orchard; lots of timber; a little rolling. Price for the 320 a., \$16,500.

160 acres 3 mi. east of Macksville; heavy smooth black soil; \$4000 worth of new improvements on place. Price \$13,500.

320 acres, 10 mi. north of Dodge City; smooth, black, sandy loam; 125 a. broken up; has well and small granary. Price \$20 per acre.

160 acres, 10 mi. south of Pierceville; \$400 worth of improvements on place. Price of this \$2300. Good terms given. Write owner at once. A. L. Welch, Stafford, Kan.

WANTED TO RENT—A SMALL FARM, up to 80 a., close to Topeka. Must have fair improvements. Will lease on satisfactory terms. Write at once to 1123, care Kansas Farmer, Topeka, Kan.

CUBA—MOST PRODUCTIVE SOIL. Delightful and healthful climate. Ample rainfall. Cheapest transportation facilities to the world's greatest markets. Particulars free. Sanderson, 35 Palace Building, Minneapolis.

MAKE SOME EXTRA MONEY THIS winter. You can do it easily by taking subscriptions to KANSAS FARMER in your neighborhood. Liberal commissions paid to workers. Write for plans and terms at once. Good territory open, especially in Kansas. Address KANSAS FARMER, Topeka, Kan.

POULTRY.

LARGE WHITE HOLLAND TURKEYS for sale. J. L. Carmean, Neosho Falls, Kan.

100 BUFF ORPINGTONS FOR SALE—Will exchange 20 for White Orpingtons. P. D. Edwards, Kahoka, Mo.

A FEW MORE SINGLE COMB BROWN Leghorn cockerels at \$1.00 until January. Clarence Wilkinson, R. 1, Hewins, Kan.

GOLDEN WYANDOTTES—FULL BLOOD—ed cockerels and pullets for sale; won the blue ribbons at the county fair. Della B. Bilson, Eureka, Kan., Box 247.

S. C. BROWN LEGHORN COCKERELS for sale. Mrs. L. H. Hastings, Thayer, Kan.

HORSES AND MULES.

SHETLAND PONIES—WRITE FOR price list. C. R. Clemmons, Waldo, Kan.

FOR SALE—TWO WELL BROKE SPOTTED stallions 3 years old and sound. C. W. Welsenbaum, Altamont, Labette Co., Kan.

CATTLE.

HOLSTEINS—YOUNG CALVES \$12 EACH. John Bull, Cimarron, Kan.

FOR SALE—RED POLLS AND BERKSHIRES. Victor Farm, Lawrence, Neb.

FOR SALE—MILKING SHORTHORNS, bulls and heifers; descendants of Florence Adree 6th; record 49.99 lbs. butter in 365 days. G. Regier, Whitewater, Kan.

33 HEAD OF JERSEY HEIFERS; fresh in spring; bred to Golden One. First check of \$60 takes. T. M. Linscott, Farmington, Kan.

FOR SALE—12 GOOD COWS—10 2-year-old heifers, 2 to 3/4 Holstein and well marked. Bred to my registered bulls, 6th Johanna Aggie Lad and Colantha Korndyke 4th. A bunch of this quality rarely offered for sale. H. B. Browning, Linwood, Kan.

ALYSDALE SHORTHORNS—HERD headed by Archer's Victor No. 292012. For sale, a choice lot of richly bred yearling bulls; also some heifers and cows, at prices easily within the reach of any farmer who wishes to improve his herd. Write or call on Chas. W. Merriam, Columbian Building, Topeka, Kan.

SUNFLOWER HERD HOLSTEINS—Have for quick sale two young service bulls, one's four nearest dam's averages 26 lbs. butter 7 days, other one's three nearest dam's averages 27 lbs. butter 7 days. Will sell for half their real value to avoid wintering. F. J. Searle, Oskaloosa, Kan.

HOGS.

FOR SALE—NICE REGISTERED DUROC Jersey boars and gilts; spring farrow; good breeding. I. W. Poulton, Medora, Kan.

FOR SALE—VOLUNTEER NO. 148223 by Spellbinder, a Poland China herd boar that has been tried. Dirt cheap if taken soon. L. M. Shives, Route 1, Iuka, Kan.

FOR SALE—BERKSHIRE BOARS, 125 lbs. to 400 lbs.; of Black Robinhood and Masterpiece breeding. G. G. Willems, Inman, Kan.

DOGS.

SCOTCH COLLIES—PUPS AND YOUNG dogs from the best blood in Scotland and America now for sale. All of my brood bitches and stud dogs are registered; well trained and natural workers. Emporia Kennels, Emporia, Kan. W. H. Richard.

SEEDS AND PLANTS.

SAVING \$10.00 BY INVESTING \$4-1/2 seems worth investigating; 1/2 cost on your clover seedling saved by writing to me. Otto Greef, Pittsburg, Kan.

REGENERATED SWEDISH SELECT oats, the thinnest skinned, heaviest yielding oats in America; guaranteed free from smut; 75c per bu., graded, sacked in new grain sacks, loaded on board R. I. cars Rydal or Mo. Pac. at Scandia. H. A. Bushby, Rydal, Republic county, Kansas.

WANTED—ALFALFA, RED CLOVER, timothy, millet, cane and other seeds. Write to The Barteldes Seed Co., Lawrence, Kan.

WANTED—CANE SEED, KAFIR CORN, millet, popcorn, clover, timothy, etc. Send samples. Hays Produce Co., 24-26 N. Kansas Ave., Topeka, Kan.

HIDES AND FURS.

SHIP HIDES AND FURS TO JAMES C. Smith Hide Co. Quick returns. Highest prices. Write for prices and shipping tags. Topeka, Kan.

MISCELLANEOUS.

HOW TO MAKE CANDIES AND CHILL—Price \$1. Alf Higgins, Stafford, Kan.

EXCHANGES, QUICK SALES, LARGE list. Address Room 1, Continental Bldg., Omaha, Neb.

FOR SALE—FINE BUFFALO OVERCOAT; beaver collar. Harry Phelps, Leavenworth, Kan.

CHRISTMAS AND NEW YEAR POST cards. Beautiful New Designs. Fifteen for 25 cents by mail. Mercantile Supply Company, Page and Taylor Aves., St. Louis.

AUTOMOBILE FOR SALE—I HAVE A 35-30 four-cylinder five-passenger Overland touring car fully equipped and in excellent running order; will sell cheap. R. L. Thompson, Delphos, Kan.

AUTO SUPPLIES—A SAVING OF FROM 15 to 40 per cent to car owners. Write today for prices and guarantee. We pay express. Case Auto Supply Co., Reliance Bldg., Kansas City, Mo.

TOBACCO INJURES YOU, DON'T TAKE dope, try my system. You will be glad. Safe, sure, pleasant, permanent. Send your name only. J. Edw. Cook, Wichita, Kan.

CHRISTMAS PRESENTS.

WANT SOME FINE 8-COLOR PICTURE post cards for Christmas? Send 6c for sample bunch of 6 fine cards, and let us tell you how many more 25 cents will buy. Address Kansas Farmer, Topeka, Kan.

MAKE YOUR NEIGHBOR A CHRISTMAS present of a year's subscription to KANSAS FARMER. Send for our special Christmas-present offer, including a fine Christmas presentation card. Address Editor Kansas Farmer, Topeka, Kan.

How to Judge Corn.

At the Kansas Corn Breeders Association meeting which will be held at Manhattan during the big State Farmers' Institute, there will be held a corn show as described elsewhere. The corn on exhibition will be judged by the accompanying score card.

	Perfect Score.
POINTS.	
Trueness to Type or Breed Characteristics:	
1. Shape of ears: Cylindrical, straight rows, proportional length of circumference.....	10
2. Length of ears, conformity to standard.....	5
3. Circumference of ears, conformity to standard.....	5
4. Color:	
(a) Grain, no mixed kernels.....	5
(b) Cob: White kernels, white cob; yellow kernels, red cob.....	5
5. Uniformity of kernels: Uniform size, shape, indentation.....	10
General quality, as related to yield, feeding value, and vitality of seed:	
Proportion of corn to cob as indicated by:	
1. Butts of ears: Kernels swelled out about shank regularly.....	5
2. Tips of ears: Filled out with regular sized kernels.....	5
3. Kernels:	
(a) Shape: Slightly wedge-shaped, straight edges.....	10
(b) Depth: Deep or long.....	10
4. Space:	
(a) Furrow between rows.....	2 1/2
(b) Space between kernels at cob.....	2 1/2
Composition and Feeding Value:	
Large germ and horny layer, and a relatively small amount of the white starchy portion.....	10
Market Condition and Value for Seed:	
1. Vitality: Bright, well matured, firm on cob, large bright germ.....	10
2. Soundness or freedom from injury: No cracked, rotten, worm-eaten, or otherwise injured kernels.....	5
Total.....	100

Whatsoever a man seweth that shall he always rip.

EMPIRE BUILDERS

fore it is better. After we've had a few pay-days, and the men begin to realize that they are here to toll and to be robbed * * * Kenneth, it will be hell on earth; and the company will pay for it—the company always pays in the end?"

"I've got a notion," said the attorney, after another plodding mile of reflection; but what it was he did not say.

Ford and his companion reached Copah in the afternoon of the third day out from Saint's Rest, and, singularly enough, the mine owners who were disputing the extension right-of-way were found amenable to reason. What Kenneth did to secure the P. S.-W. right-of-way across the mining claims, Ford did not know, or seek to know; though a word or two let fall by the attorney led him to believe that the Transcontinental encouragement was not quite specific enough in dollars and cents to warrant the obstructions in holding out.

Ford was for starting back the next morning; he had missed Brissac and both of the Bensons on the way over. But Kenneth confessed to being saddle-sore, and begged for another day's respite. Ford agreed without giving the matter a second thought. Upon such unconsidered trifles—an indifferent "yes" or "no"—turn the poised scales of life. For one other day the two Southwestern representatives put up at the Grand Union. Copah's turpentine-covered simulacrum of a hotel; and during that day Ford contrived to sell his birthright for what he, himself, valued at the moment as a mess of pottage.

It was in this wise. At this point of its existence Copah, the future great, was merely a promise; a camp of magnificent prospects. Isolated by one hundred and fifty miles of wagon road and pack-trail from one railroad base, and by forty miles of mountains from the other, its future turned upon the hope of cheaper transportation. As a gold camp it was an anomaly. With a single exception its ores were low grade, and the wagon-road and

pack-trail freightage made them practically profitless to the miners.

The single exception was the "Little Alicia," and it was the coincidence of the name, rather than the eloquence of its impoverished owner, that first attracted Ford. From first to last he did not know the exact location of the mine. It was somewhere in the hills back of Copah, and Grigsby, the prospector who had discovered and opened it, had an office in the camp. It was in Grigsby's town office that Ford saw the ore specimens and the certified assays, and listened not too credulously to Grigsby's enthusiastic description of the Little Alicia. To be a half-owner in this mine of mines was to be rich beyond the dreams of avarice—when the railroad should come; if one might take Grigsby's word for it.

It is a curious fever, that which seizes upon the newcomer in an unexploited mining field. Ford was far from being money-mad; but there were times when he could not help contrasting a railroad salary with Miss Adair's millions. True, he had once said to her, in the fulness of confident belief, that the money of the woman he loved would make no difference—to her or to him. But the point of view, wise or foolish, is not always the same. There were moments when the Adair millions loomed large, and the salary of an assistant to the president—who was in fact little more than a glorified chief of construction—shrank in proportion. He was free of obligation and foot-loose. His twenty thousand dollars invested in P. S.-W. stock at twenty-five and a half had grown with the rising market to sixty-odd. What did it matter to any one if he chose to put ten thousand of the sixty-odd on a turn of the Little Alicia card?

While it was gambling, rummy and simple, he did not bet with his eyes shut. Inquiry at the Bank of Copah established Grigsby's reputation for truth-telling. The specimens and the assay certificates were beyond doubt genuine. More than this, Grigsby had made a number of ore shipments by freighters' wagon and jack train over

the range, and the returns had enabled him to keep a small force of men at work in the mine.

Ford made his bet through the bank. The cashier was willing to take a P. S.-W. official's note of hand, to be canceled when Ford could deposit to the bank's credit in Denver, and to give Grigsby an open account for his immediate needs. Grigsby accepted joyfully, and the thing was done. Ford's mess of pottage was a deed of half-ownership in the Little Alicia, executed and recorded in the afternoon of the day of stop-overs, and he was far enough from suspecting that he had exchanged for it all that a man of honor holds dearest. But, as a matter of fact, the birthright had not yet been handed over; that came later.

(Continued next week.)

Then and Now.

How times have changed! Reflect! A Kansas farmer bought a lumber wagon for \$60, in 1894, paying for it with 600 bushels of corn. He went to the same dealer for another wagon the other day, and objected to the price, \$70. The dealer said: "Bring in 600 bushels of corn, as you did in 1894, and I'll give you the wagon and a surrey, a twine-binder, a kitchen range and an outfit of kitchen furniture."

In some parts of Kansas apples are going to waste in hundreds of bushels. This is not because there is no demand for them or the prices are not good, nor is it because the farmers are too busy to care for them. It is simply because the orchardists did not spray and these wasting apples are not marketable because they will not keep.

HORSES AND MULES

Percherons
Belgians
and ShiresAlso Shetland Ponies.
Will have a good
importation of stal-

lions of the breeds mentioned Jan. 1. Now offering special bargains in mares to make room. Call on or write Joseph M. Nolan, Paola, Kan., 40 miles south of K. C. Please mention the Kansas Farmer.

HOME-BRED DRAFT STALLIONS \$250 to \$600; imported stallions, your choice \$1,000. F. L. STREAM, Creston, Iowa.

REGISTERED HORSES

O. K. BARNES, SAVANNAH, MO.,
W. E. Price, Proprietor.
Dealer in registered horses. Three very fine stallions to SELL AT ONCE. Also the best stud colt in the state. Write for description of stock. I can suit you.

JACKS

I have on hand a large collection of the best stallions the world produces. I have the best line of big boned, dapple gray and black, ton stallions that can be shown in the United States this season. These stallions measure from 12 to 14 inches below the knee and carry corresponding quality. They run in weights from 1,800 to 2,630 pounds each. I am offering greater attractions in stallions than other importers. Prices the lowest.
I have also forty big imported mares, all in foal, for sale.

W. L. DECLOW,

Cedar Rapids Importing Farm,
Cedar Rapids, Iowa.

Register your jacks in the American Jack Register. Write for blanks.

PERCHERON HORSES, HOLSTEIN-FRIESIAN CATTLE.

Up-to-date Poland China hogs. Write your wants.
H. N. HOLDEMAN, Meade, Kansas.

KENTUCKY MAMMOTH JACKS.

We have located at Hutchinson and will be at the fair grounds. Our first shipment has just arrived. Write for circular or come to see the best barn of jacks in the West.

J. E. COOK & CO.,
HUTCHINSON, KANSAS.EIGHT HEAD OF
JACKS FOR SALE.
Yearlings to 6 years
old; 5 good mule jacks
from 14 1/2 to 15 1/2 hds.
jack measure; very
smooth bodied; priced
to sell. Come and see
them.G. W. OVERLY,
McCune Crawford Co.,
Kansas.One of the largest
number of large bays
and smooth jacks in
the West; 14 to over 16
hands high; prices rea-
sonable. 40 miles west
of K. C. on U. P. and
Santa Fe Rys.
AL. E. SMITH,
Box A, Lawrence, Kan.

JACKS AND JENNETS

20 large Jacks from 2
to 7 years old.
25 head extra good
Jennets priced right.
Come and see me.PHIL WALKER,
Mollie, Elk Co., KansasFIFTY JACKS AND JENNETS.
Every one a Black Mammoth 14 1/2 to 16 1/2
hands high, 2 to 7 years old. I will show
you one of the best bunches you ever saw.
ED BOEN,
Lawson, Missouri.

Lawson is 40 miles northeast of K. C.

JACKS AND STALLIONS.

To close out breeding stock, will offer 2
registered Percheron stallions, 1 registered
saddle stallion and 5 black mammoth jacks
of Mo. and Kentucky blood, from 2 to 6
years old; from 15 to 16 1/2; standard; regis-
tered. J. E. PARK, Cameron, Mo.JACKS AND JENNETS.
Five extra fine jacks for sale,
one 5 years old, one 4 years old,
two 2 year old and one yearling;
also three extra fine jennets, Bar-
gains if taken at once.
F. S. BURGESS, Dearborn, Mo.THE BEST IMPORTED HORSES, \$1,000
each. Home-bred, registered draft stallions,
\$200 to \$600 at my stable doors. Address
A. LATIMER WILSON, Creston, Iowa.Choice registered Mammoth jacks
15 to 16 hands high; good indi-
viduals with plenty of bone and
vigor and ready for service. Also
one registered 2-year-old black
Percheron stallion. Bruce Saun-
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BIG STRING ANGUS FARM—Jasper Aul-
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sey hogs. Four choice bulls and a number
of choice heifers for sale. Breeding stock
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Evensen 2d, Jett's Hale Lad, 400 in herd,
Violet's best blood; can ship on Mo. Pac.
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150385 heads my herd of Double Standard
Polled Durhams. A few extra good, blocky,
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tion invited. Farm adjoins town.

D. C. VAN NICE, Richland, Kansas.

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curately kept.

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Imported and American Bred Jerseys.
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I am offering a yearling bull ready for
service, out of a five-gallon cow, bred along
the same lines as the cow that won at the
World's Fair, at a very reasonable price.
Write today if you are in need, as I price
stock at figures that sell them.
Grade Jerseys bought on commission.

JERSEYS FOR SALE PRIVATELY.

Bulls old enough for service sired by Be-
atrice Stockwell, Golden of Spring Hill and
Donella's Jewell. Also cows and heifers rich
in the blood of St. Lamber, Coomassie,
Golden Fern's Lad, etc. Reasonable prices.
S. S. SMITH, Clay Center, Kansas.

GOLDEN RULE JERSEY HERD.

Headed by Omer's Eminent by Eminent
Rosette, tracing to Golden Lad on sires,
and out of the noted cow, Financial Queen.
The dam of Omer's Eminent was the \$1000
cow Omer's 2d by Gueonon's Golden Lad
62168.JOHNSON & NORDSTROM,
Clay Center, Kansas.TO MAKE ROOM FOR WINTER I
WILL SELL20 HEAD REGISTERED COWS
Forty head to select from; also a few
bull calves.J. B. SMITH,
Beatrice, Nebraska.

FINE JERSEYS FOR SALE.

I have ready for service three sons of
Merry Maiden's Golden Lad and one son
of Susan's Eminent out of cows that
will make two pounds of butter per
day. I am also offering a few cows and
heifers at reasonable prices. These are
bred to Oxford Masterpiece.
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Shorthorn cattle and Percheron horses.
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Five extra good Scotch and Scotch
Topped bulls, 10 months old. Roans and
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Knight's Heir. A very choice lot of young
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Shorthorn cattle, large, type Poland
China hogs. 10 spring boars and gilts
priced right. Write me your wants. I
meet parties at trains. We can do busi-
ness. Come and see me.H. F. PELPHREY & SON,
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NEW BUTTERGASK SHORTHORNS.

Best of breeding and individuality, repre-
senting such families as Imp. Bessie 51st,
Brawth Buds, Daybreaks and Floras for
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Fitchell Co. State-Wide Fair; a grand good
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from 10 to 14 months old. One roan, 9 reds,
sired by show bulls and out of show cows.
Must be sold to make room. Priced at \$75
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out of my poor ones. Come at once. They
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Carload good, big, strong bulls, 8 to 20
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Breeder of Shorthorn cattle and Poland
China hogs. Cattle herd headed by King
Challenger 312040, sire Whitehall King
222124, dam Lady Zenda 3d; grand sire,
Whitehall Sultan 163573. Hog herd headed
by Wonderlook 65255, sired by Grand Look
No. 125703, dam Missouri Wonder; Spotted
Chief 56692, sired by Missouri Sunflower
49513, dam Queen Quality 11304. Watch for
bred sow sale date in February. Address
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Milking Shorthorn cattle, bred hornless,
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Farm, breeders of Shorthorn cattle and
Berkshire hogs. Lavender Goods No. 30096
and Victor Orange lead this herd. Lavender
Goods sired by White Goods; Victor Orange
sired by old Victorious. Address H. R. Co-
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for sale. Scotch and Scotch Topped. Good
individuals. Will sell few cows and heifers.
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SHORTHORNS

Bulls, cows and heifers for sale, nicely
bred and good individuals, priced reason-
able. Write or come and see my herd.

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GOLDEN KNIGHT.

by Golden Prince by Gallant Knight at head
of herd; a few choice heifers for sale, excel-
lent breeding; also Percheron stallion colts.
Prices reasonable.

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A few choice young bulls for sale; also
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Headed by Christy 234417, Prairie Donald
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Bull calves from A. R. O. dams, bull
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choice individuals. Service bulls that can-
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the pick of nearly four years careful sort-
ing.

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HOLSTEIN CATTLE—Ten young bulls of
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M. E. MOORE & CO., Cameron, Mo.B. L. BEAN, Cameron, Mo., breeder of
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few young cows and heifers for sale; also a
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DUTCH BELTED CATTLE—A few young
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WILLOW BRANCH GUERNSEY FARM,
J. H. DUSTON, Prop.,
Hamilton, Missouri.Breeder of thoroughbred Guernsey cattle.
Herd headed by Tilly's Major No. 8647.
Young bulls for sale, among them Major
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Can make right terms and give satisfac-
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Fine Stock Auctioneer.
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Breeding Stock for Sale.

H. U. McCURDY & CO.,
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40—BOARS AND GILTS—40

Herd boar, Forest Supreme by King For-
est, dam by Lord Lee. For sale, 20 spring
boars and 20 spring gilts, good ones. Price
\$20 for choice. Write at once.
MANWAKING BROS.,
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Kansas Herd of Improved Chester Whites.
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The best blood lines represented in this
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Kansas Live Stock History Does Not Give the Names of Two More Consistently Successful Animals Than These, Our Chief Herd Bull and Boar.

They and their assistant are the factor in the everyday "make good" business practice which has given us a mighty satisfactory business in

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Stock for sale at all times and prices reasonable. Look for our sale dates and send for catalogue; each year better than the year before.

C. S. NEVIUS, Chiles, Miami County, Kansas.

BIG BONED POLAND CHINAS

Summer and fall boars sired by BLAINS WONDER; ORPHAN CHIEF by Orphan; JOHN LONG by Long John. The best lot I ever raised. Get your order in early and get your pick of my herd. My next bred sow sale January 20, 1911. Send for catalog.

ROY JOHNSTON,

South Mound, Kansas.

THE MORTONS**QUALITY AND SIZE POLAND CHINAS.**

Herd headed by Equipment 5153C by Impudence. For quick sale, 20 summer and fall gilts sired by a son of Meddler 2d, bred for August farrow. Also 3 fall boars. All representations guaranteed.

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We still have a few extra good spring boars for immediate sale, sired by First Quality by Grand Chief. They will be priced right. Can also spare a few gilts, bred and open.

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Poland Chinas; 200 head in herd; best blood known to the breed. For sale, eight choice fall gilts; also eight Collie pups.

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Poland Chinas, headed by Impudence Style 1322378 and F. R.'s Meddler by Meddler for sale. 15 fall gilts bred for fall farrow and 9 other gilts.

G. W. McKAY, Laredo, Mo.

200 LARGE TYPE POLAND CHINAS

Herd headed by Big Hadley, Long John 2nd and John Ex. Young stock for sale at all times. A few choice Hadley boars.

CHARLES Z. BAKER, Butler, Missouri.

POLAND CHINA HERD BOAR

for sale. O. K. Chief, a great breeder. Can't use him longer to advantage in herd. Will price reasonable.

R. J. PECKHAM, Pawnee City, Nebraska.

12-BOARS FOR SALE-12

12 good, growthy Poland China boars for sale, from \$20 to \$30. Write me your wants.

A. L. ALBRIGHT,

Waterville, Kansas.

10-BIG TYPE POLANDS-10

For quick sale at bed rock prices. Sired by the 1,000-lb. Guy Monarch. The blood of Expansive, Colossus, etc.

H. C. GRANER, Lancaster, Kansas.

MILLIGAN'S POLANDS.

Some extra good spring boars by Voter and Perfect Mischief priced low for short time. Gilts all reserved for Feb. 22 sale.

W. C. MILLIGAN,

Clay Center, Kansas.

80-FEBRUARY POLAND CHINA PIGS-80

Large, smooth and good individually. Sired by my herd boars. Wilkes Again and Grand Success, out of as fine a lot of big type sows as there is in the West. Inspection invited.

J. B. WHIPPLE, Falls City, Neb.

PEERLESS PERFECTION 2D.

Grand Champion at American Royal, 1906, heads my herd of

RICHLY BRED POLAND CHINA SOWS. "Peerless Pigs" are always good sellers. I have few choice boars and gilts by him, also sows bred to him for sale.

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J. R. Sparks, breeder of fancy Poland Chinas, has compiled a valuable book on "How to grow, breed, feed, judge and exhibit in strong competition." This is one of the best of its kind. Write at once and mention Kansas Farmer. Address

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Ten Strike, grand champion at the Oklahoma State Fair, 1908, heads the herd. Special prices on a few bred sows and gilts. All pedigrees furnished when hogs are delivered.

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BLUEGRASS VALLEY STOCK FARM.

Big boned Poland Chinas. Herd headed by Big Hadley, King Ex. 3d, Long John the 2d and Missouri Wonder. Four of the best breeding boars of the breed; young stock for sale at all times; everything guaranteed as represented. W. A. Baker, Butler, Mo.

Highview Breeding Farm**THE KIND OF OUR FOREFATHERS.**

Home of the big-boned spotted Polands. The only registered herd of original spotted Poland Chinas on earth. Bred sow sale February 15, 1911. Ask for catalog.

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THEY ARE PRICED RIGHT.

Ten Poland China boars for sale at prices from \$15 to \$20, with good bone, backs and heads.

E. M. WAYDE,

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EPREKA HERD of pure bred Poland Chinas and Duroc Jerseys. Boars all sold, but have a limited number of Poland China spring gilts bred for early farrow. These are good ones, priced right. Farm 7 miles south of Simpson, Kan. W. H. Sales.

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WALBRIDGE POLANDS**Quality**

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DEER PARK STOCK FARM.

Richly bred Poland Chinas headed by the great Impudence E. L. and Noble Chief by Nobelman. Choice lot of spring pigs for sale by Impudence E. L. and Dawley's S. P. Perfection.

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If you want the best Polands on earth, get the names of What's Wanted, Long King's Best and Grand Look 2d in your herd, for there is not three better boars living today. Young stock for sale at all times. Brood sow sale Jan. 24. Pointers on hog raising free. Write your wants to

S. A. BUGG,

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BIG TYPE POLAND BOARS.

Good ones for sale sired by Expansive, Expansion See, Once Gold Bell Metal. Out of big mature sows. Write for prices.

FREELAND & WILLIAMS,

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DUROC JERSEYS**DUROC JERSEYS****RIVER BEND HERD DUROCS.**

Headed by Fitch's Kant by Kant Be Beat and out of a son by Ohio Chief, one of the best individuals and breeders in the state. Let me know your wants.

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20 choice fall yearling gilts for quick sale. 10 tried sows, at prices to move them. Will breed and hold them safe.

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Best of breeding and top quality. Some early spring boars—good, strong, growthy fellows—will be priced right. By such boars as Agra Top Notcher, Paul Jumbo, Bonney K. and I Am a Bonney K.; also gilts of equal breeding, quality and size, priced right. Address

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Headed by W. H.'s Col., first prize junior yearling boar Hutchinson State Fair, 1908, assisted by Chief Orion, third prize aged boar.

Sow Sale—Ten tried sows by Chief Orion bred to W. H.'s Col. Come and see them.

W. H. WILLIAMSON,

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R. & S. FARM

150 Spring Pigs, sired by King of Kant Be Beat No. 38333, Golden Ruler No. 80555. Write your wants. Bred sow sale Feb. 3, 1911.

RINEHART & SON,

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25-DUROC BOARS-25**For Sale**

Big, strong, smooth fellows of Neb. Wonder and Col. breeding. Excellent individuals out of matured sows.

CHESTER THOMAS,

Waterville, Kansas.

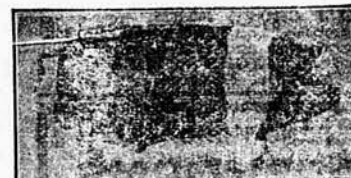
WOODLAWN DUROC JERSEYS.

Headed by Woodlawn Prince 53343. Sows of Ohio Chief, Orion, Topnotcher and other good families. For quick sale 5 good spring boars, \$25 to \$30 each; also brood gilts.

ROY H. OTT & BRO., Concordia, Kan.

HOGGETTE CURES AND PREVENTS SWINE PLAGUE

Guaranteed to knock worms, cure and prevent hog cholera. Money back proposition. Sold direct. Write for terms and particulars. UNGLE'S HOGGETTE CO., 130 No. 10th St., Lincoln, Neb.

**HAMPSHIRE HOGS.****HILLWOOD STOCK FARM.**

Breeders of Hampshire hogs. Twenty bred gilts for sale. Service boars, pairs and trios, no kin. The celebrated boar Erlanger No. 1033 heads this herd. Address

J. Q. EDWARDS,

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OHIO HERD OF MULE-FOOTED HOGS.

Stock of all ages for sale, sired by five big prize-winning boars and out of big matured and prolific sows, the equal of any breed. I have the largest herd in the land of this vigorous and healthy breed.

JOHN H. DUNLAP, Williamsport, O.

POLAND CHINAS WITH SIZE.

Headed by Pawnee Look. I have bred pure bred Polands for 26 years and have learned many valuable lessons, and in the future shall breed nothing but the big, smooth kind. More hogs and less hot air.

F. F. OERLY, Oregon, Missouri.

PRAIRIE VIEW HERD.

Hamilton, Missouri. Breeder of Big Type Poland China Hogs and Buff Orpington chickens. Address

F. E. MULLER, R. 4, Hamilton, Missouri.

STRYKER BROS.' HERD POLAND CHINAS.

The greatest show and breeding herd in the West. Write your wants and they will please you. Buy the best and make the most. They breed the kind that win; the kind that you want. Address

STRYKER BROS., Fredonia, Kan.

POLAND CHINA HOGS.

Mastodon Poland China hogs, the big-boned type that will weigh when mature 800 to 1,000 pounds. Mastodon Price leads this herd. Mastodon Price sired by A Wonder 107356, a hog weighing in full flesh 1,200 pounds. If you want the right kind, they are at Quality Ridge Farm. A number of bred gilts for sale; all choice individuals. Phone me at Dearborn, Mo. Railroad station Newmarket, Mo.

CLARENCE DEAN, R. 1, Weston, Missouri.

CROW'S DUROC JERSEYS.

Herd headed by Climax Wonder, he by Missouri Wonder. 100 head to select from. Prices reasonable. The electric car runs within three blocks of my farm. Come and see my herd at any time.

W. R. CROW, Hutchinson, Kansas.

CEDAR LAWN HERD.

Twenty boars for sale by Long Wonder 21867 and Lincoln Chief 91913, a son of Chief Tattarrax. Will also offer some spring gilts at reasonable prices by such dams as Josie Surprise, Bessie Advance, Proud Queen by Ohio Chief.

F. M. BUCHHEIM, Leecompton, Kansas.

CHOICE DUROC BOARS FOR SALE.

Good individual descendants of Orion, Valley Chief, Farmer Burns, etc. Reasonable prices.

O. A. TILLER, Pawnee City, Nebraska.

ANDERSON HIGH CLASS DUROCS.

Choice lot of fall pigs of the best of breeding for sale at very reasonable prices. For low prices on good stock, address

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JEWELL COUNTY HERD.

Headed by Bonney K. 74075, all prominent blood lines represented. Sow sale Feb. 1, 1911.

W. E. MONASMITH, Formosa, Kansas.

25-SPRING DUROC BOARS-25

Only the tops of the 1910 crop. All sired by Helen's Wonder (a son of Red Wonder and Helen Blazes 21st) and S. D.'s Inventor (a son of Inventor). Many of these boars are out of May Boy sows. All of this is rich breeding and is combined with excellent individuality, and they are priced to sell. Also have for sale Shorthorn bulls by Captain Archer.

J. F. STODDER, Burden, Kansas.

SAMUELSON BROS.' DUROCS.

Fifty spring boars for sale, the pick of 300 head of spring pigs, sired by 16 different sires; good, growthy fellows; heavy bone; the best of color; good quality. We can suit you in blood lines and quality. Our price right. Come and see or write us. Samuelson Bros., Cleburne, Kan.

BRED SOWS, AUGUST FARROW.

Duroc sows and gilts sired by Bell's Chief 4th and bred to richly bred boars. Will sell and ship when safe.

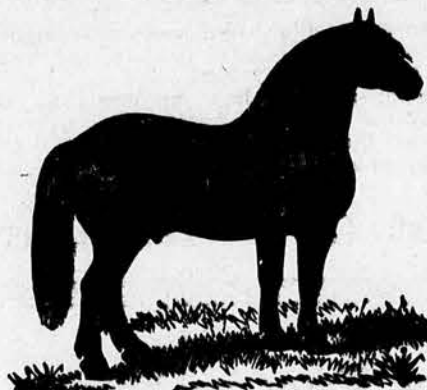
FRANK IAMS'

new importation of draft stallions and mares arrived October 23, 1910, by "Iams' own special train" of "8 express cars." They are "business propositions," that "jar the cherries" on a "wide-awake" "horseman's hat." Iams' "Peaches and Cream" stallions and mares are "eye-openers." They are "diamonds," sold "at fifty cents on the dollar." They are "winners" and "sons of winners," having won "eighty prizes and medals" at Paris and Brussels and leading European horse shows. Iams makes buyers

"SIT UP AND TAKE NOTICE"

"Ikey Boys," get into Iams' "money-saving game." Buy a stallion and mare today—save \$300.00. Iams "tickles" buyers with "Rippers" at "Let Live Prices." Owing to bad crops, panic—Iams' cash, his 29 years' successful business. He bought and sells better horses cheaper than ever. Mamma, Iams is a "hot advertiser," but, "he has the goods" and sells horses at his barn only. Buyers get the "middlemen's profits" at Iams'. Iams has

160---PERCHERONS AND BELGIANS---160



two to six years old, weighing 1,700 to 2,500 pounds; 90 per cent blacks, 50 per cent ton stallions. All registered and branded. He sells "toppers" at \$1,000 and \$1,400 (few higher), mares \$700 to \$1,000, so good they need not be "peddled" or put on the "auction block" to be sold. Iams' "selling clothes" fit all buyers. No man with money or bankable notes gets away from Iams. He buys, owns and sells more stallions than any man in the United States; saves thousands of dollars to stallion buyers. He is not in the stallion trust. Iams places \$1,500 insurance.

\$1000 SAVED AT IAMS' \$1000

Ikey, what "a graft" these "stallion salesmen" are working on the farmer, selling fourth-rate stallions at \$2,000 and \$5,000! Mr. Buyer, see Iams' stallions yourself. Take no stallion salesman's word. "Iams has the goods you read about." His establishment is worth going 2,000 miles to see. Iams' competitors "holler." He is knocking "high prices" out of the Xmas tree. Iams saws wood, "butts in," sells more stallions each year. He makes every statement good. Big Bill, buy a stallion of Iams. His \$1,200 stallions are much better than our neighbors paid those Ohio men \$4,000 for. Then I can wear diamonds. Iams speaks the languages, buys direct from breeders, pays no buyers, salesmen or interpreters; has no two to ten men as partners to share profits with. Iams guarantees to sell you a better stallion at \$1,000 to \$1,500 than are sold to stock companies at \$2,500 to \$5,000 by slick salesmen, or pay you \$500 for your trouble, you the judge. Iams' pays horses' freight and buyers' fare; gives 60 per cent breeding guarantee. Iams' guarantee is backed by one-half million dollars. Write for million dollar Horse Catalog.

REFERENCES:—ST. PAUL STATE BANK AND CITIZENS' NATIONAL BANK, ST. PAUL, NEB.; FIRST NATIONAL BANK AND OMAHA NATIONAL BANK, OMAHA, NEB.

ST. PAUL, NEBRASKA



ROBISON'S PERCHERONS

For sale now, 100 head of stallions, mares and colts, of all ages. All stock recorded in Percheron Society of America.

ADDRESS BOX C,
J. C. ROBISON, Towanda, Kan.



LAFAYETTE COUNTY JACK FARM

ONE MILE FROM TOWN.
50 JACKS
65 JENNETS

Two to five years old, my own breeding, for sale at private treaty.
Safe in foal to Dr. McCord. My prices will move them.

In my March sale Jacks sold up to \$1,625. In my present offering are many that are better. I cordially invite Jack buyers to come and see this offering or write me for further particulars and prices.

W. J. FINLEY, Higginsville, Mo.



PERCHERON MARES

Weanlings to 4 years old in matched teams, including the Kansas State Fair and American Royal champions, all registered or can be registered in Percheron Society of America. Good clean lot of heavy bone mares and bred to the champion stallion of Kansas State Fair at Hutchinson, 1910. Come and see me.

F. D. WEBB, Sterling, Kan.

PERCHERONS, BELGIANS AND GERMAN COACHERS

First importation arrived October 22. The best we could buy in the old country. Our barns are full of Stallions and Mares from 1 to 6 years old with plenty of size and quality. We have 2-year-old stallions weighing a ton or better, and are pricing them at figures that will interest every one contemplating the purchase of stallions or mares. YOU PAY NO AUCTIONEERS OR HORSE COMMISSIONER when you buy from us. Barns located so we can show horses any time between trains. A 60 PER CENT GUARANTEE GIVEN WITH EVERY HORSE.

SKOOG, REED & DE COW,

Holdredge, Nebraska.

LAKEWOOD FARM

The Greatest Breeding Establishment in the World

Our Percheron winnings at the recent Chicago International, which is conceded to have been the greatest Percheron Show ever held in the world, has never been equalled before.

At this great show, we won:

CHAMPION STALLION, showing four of his get (CALYPSO)

CHAMPION AMERICAN BRED STALLION

RESERVE CHAMPION AMERICAN BRED STALLION

CHAMPION MARE

CHAMPION AMERICAN BRED MARE

Also TWENTY-FIVE other prizes. All of these CHAMPIONS were sired by the world's famous CALYPSO.

LAKEWOOD FARM IS HEADQUARTERS FOR THE BEST, and our prices are reasonable. Send for illustrated catalog.

H. G. McMILLAN & SONS, Props.

Rock Rapids, Iowa

AVONDALE STUD FARM--CLYDESDALES

LARGEST IMPORTER AND BREEDER OF CLYDESDALES IN U. S.

Our winnings at the State Fair, including the Grand Champion Stallion of the International, 1910, is our best advertisement. Those wanting stallions or mares should write for catalog or visit the farm. To make room for other importations in February, we will make a special discount for next 30 days. We are 40 miles west of Peoria on the C., R. I. & P. Ry.

JOHN LEITCH, Proprietor, La Fayette, Ill.

PERCHERON IMPORTING CO. AT THE FOUR BEST SHOWS IN THE

12 times champion stallion any age. 29 times first in stallion classes.

6 times champion group of five stallions. 29 times first in stallion classes.

Champion Percheron stallion at Inter-State Fairs.

Champion Shire Kansas and Missouri State and Missouri State Fair.

Champion Belgian Kansas, Missouri and American Royal.

All our horses are imported. We sell as low as anyone on earth, quality considered. Our guarantee and insurance are the best.

PERCHERON IMPORTING CO., South St. Joseph, Mo.



W. H. RICHARDS, Importer

A car load of extra good 2 and 3-year-old Belgian and Percheron stallions just arrived, August 17th. Attractive prices will be given on them now to buyers so they can make a fall season.

Barns only four blocks from A., T. & S. F. depot.

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IMPORTED AND HOME-BRED STALLIONS AND MARES.

The big, rugged kind, with heavy bones, fine style and good action. No better blood lines in America. Black Kentucky Jacks and Jennets, with size and quality.

O. P. HENDERSHOT,

Hebron, Neb.



Limestone Valley Farm

—Headquarters for high class jacks and jennets. No public sale 1911, but have a barn full of good jacks and a pasture full of good jennets at private sale. Every animal a good one, fully guaranteed and well worth the price.

COME AND SEE US.

L. M. MONSEES & SONS.

Smithton, Mo., Pettis Co.

Riverside Stock Farm

Importer and Breeder

FOR SALE—12 head of registered Percheron stallions from 2 to 5 years old, 8 head of registered mares and fillies; the good bone kind; also two large standard bred stallions; also a few good big jacks. All this stock will be closed out at a low price and must be sold before March 1st. All pedigrees and breeding guaranteed. Come and see them and get your choice.

O. L. Thisler,

Chapman, Kansas

Percheron Stallions

I have as fine a bunch of stallions as you will find. I have the ton size, and 1,700 to 1,800 pound two year olds, with worlds of bone and great action. My prices are right and my horses are right.

Yours for home grown Percherons,

J. W. BARNHART, Butler, Mo.

DUNHAMS' PERCHERONS

For forty-six years renowned as the best of the breed. Six large importations since February 1, 1910 (the last arrived October 12th), insure fine selection, as each animal was individually selected for size, bone quality and excellence. If you want choice stallions or mares, write for catalogue, illustrated from life.

W. S., J. B. & B. DUNHAM
WAYNE, ILL.

Percheron Mares

To reduce my stock I am offering for sale 20 head of registered mares from yearlings up. They are only in breeding condition and will be offered at a bargain. They are well bred and good individuals. Bred to a 2100-lb. horse. Also a few good young stallions and some Hereford helpers. I am on the main line of Burlington, 100 miles east of St. Joseph and 117 miles northeast of Kansas City. Write at once.

A. M. WALKER, Laclede, Mo.

LAMER'S PERCHERON SALE

Follow the Crowds to
SALINA, KANSAS, DECEMBER 28
For Lamer's Big Percheron Sale
**78 Head of Percheron Mares
and Stallions**
16 Imported and 19 Home Bred
DECEMBER 28, 1910
C. W. Lamer, Salina, Kan.



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450-Horses-450

In Coliseum Bloomington, Illinois,

January 10, 11, 12 and 13, 1911

On Tuesday, Wednesday, Thursday and Friday, we will sell
400 Imported and Native Bred Registered
Percherons, Belgians, French Draft, Shire and Clydesdale Stallions
and Mares.

200 HEAD

of Imported Stallions and Mares that will land by sale day.

150 HEAD

of Imported Stallions and Mares that have been here a year.

150 HEAD

of the Best Registered Mares that ever went in an auction ring.

100 Head of Imported Fillies 1 and 2 Years Old.

100 Reg. Stallions

of the very choicest of breeding and individuality.

On Friday, January 13, 1911

We will sell 100 head of REGISTERED TROTTERS, GRADE DRAFT,
SADDLE and ALL PURPOSE FARM HORSES, STALLIONS, MARES
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Henning, C. L. Mays, Ed. Heath, W. H. Ritter, A. M. Storm, W. M.
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E. Stuart & Co., Rowe Bros. Catalog ready December 20.
Our Next Sale Feb. 28 and March 1, 2, 3. Entries Close Jan. 10.

Breeders' Sale Co., C. W. Hurt, Manager
Arrowsmith, Illinois

Mr. Horse Buyer



have you ever visited our importing establishment? If not, it will be money in your pocket to call and inspect our offerings and get our prices before buying elsewhere. We claim without fear of contradiction that we have the greatest importing establishment in the United States today, more good horses to select from than can be found in any other stables and we can sell you a better horse for \$1,000 to \$1,400 and give you a larger number of good horses to select from than you can find elsewhere.

75 Head of Imported Percheron and Shire STALLIONS and MARES

now in our barns, the big, heavy boned drafty type. We have been importing horses for 30 years and our business has continued to grow from year to year. This has not been done by HOT ADVERTISING, but because we have always given our customers a square deal, had the goods as advertised, selling them good horses at the lowest possible prices, given them a liberal guarantee, stood behind the same and always made our word good. We invite you to call and see us. Write Dept. "C" for our new catalog, addressing,

Watson, Woods Bros. & Kelly Co.

Lincoln, Neb.



IMPORTERS AND BREEDERS.

Percherons, Shires and Belgians

75—HEAD MARES AND STALLIONS—75

We won more prizes at Kansas State Fair than any one exhibitor, which proves the quality of our horses. Just one word with you, Mr. Buyer: If you will come and inspect our horses and if you don't say that we have as good a bunch as you ever inspected, and our prices the lowest, considering quality, we will be glad to pay your expenses. Write or come and see us before buying elsewhere, for we will save you money.

L. R. WILEY & SONS
ELMDALE, CHASE CO., KANSAS.

HOMEWOOD STOCK FARM

IMPORTERS AND BREEDERS OF

Percheron Belgian Shire Stallions and Mares

NOTICE TO PROSPECTIVE BUYERS:

For the benefit and convenience of our Western trade, we have established a permanent branch barn at Abilene. Prospective buyers are cordially invited to inspect our stock here, and if you don't find just what you are looking for, we will be pleased to accompany you to the home barn at Homewood, Ill., where we can show you 100 head of big, drafty Stallions and Mares with plenty of bone and quality. Every horse guaranteed sound and a satisfactory breeder. Prospective buyers should see this stock before buying elsewhere. We have a car load shipped direct from the International. Write us your wants, or better still, come and see us. Abilene is on the Rock Island, Santa Fe and U. P. railroads.
Barns 2 Blocks
North U. P. Depot.

S. METZ & SONS ABILENE, KANSAS

Dry Farming as Crop Insurance.

(Continued from page 1.)

sowed 92 acres of land to wheat at the rate of a bushel and a peck to the acre and had only four bushels left to sow the eight acres remaining in the field. He seeded those with four bushels. When harvest time came, Bishop Farrell reaped 17 bushels an acre from the 92 acres and 57 bushels per acre from the eight acres. He ascribes much of his many years of success to the discovery of the value of thin seeding.

Any system or method of doing things, however, needs to be made known so that it may be of benefit to the greatest number.

Deer Farming in the United States.

(Continued from page 5.)

great advantage in brushy or timbered pastures fully stocked with cattle or horses, as the food of deer rarely includes grass.

Advocates of the Angora goat industry state that within the United States there are 250,000,000 acres of land not suited to tillage or to the pasture of horses, cattle or sheep, which are well adapted to goats. Much of this land is suited also to deer and elk and can be utilized for these animals with less injury to the forest cover than would result from browsing by goats.

Virginia deer have often been bred in parks for pleasure or in large preserves for sport, but the economic possibilities in raising them have received little attention. Recently breeders have recognized the fact that they are profitable under proper management and would be much more so were conditions for market-

ing live animals, and venison more favorable.

The chief obstacle to profitable propagation of deer in the United States is the restrictive character of state laws governing the killing, sale and transportation of game. Many of the states, following precedent, lay down the broad rule that all the game animals in the state, whether resident or migratory, are the property of the state. A few states except game animals that are "under private ownership legally acquired."

The laws concerning the season for killing and the sale of deer are often equally embarrassing to those who would produce venison for profit. The owner of domesticated deer cannot legally kill his animals except in open season.

Instead of hampering breeders by restrictions, as at present, state laws should be so modified as to encourage the raising of deer, elk and other animals as a source of profit to the individual and to the state.

It is believed that with favorable legislation much otherwise waste land in the United States may be utilized for the production of venison so as to yield profitable returns and also that this excellent and nutritious meat, instead of being denied to 99 per cent of the population of the country may become as common and as cheap in our markets as mutton.

Your wife is your partner and when you buy a new farm implement to lighten your labor or enable you to produce better results you should always do as much for her and her work. If you can't do both, look after the partner first.

FIELD NOTES

FIELD MEN.

O. W. Devine.....Topeka, Kan.
Jesse R. Johnson.....Clay Center, Kan.
R. G. Sollenbarger.....Woodston, Kan.

PURE BRED STOCK SALES.

Horses.

Percherons, Belgians and Shires.
Jan. 10, 11, 12, 13, 1911—Breeders' Sale Co.,
Bloomington, Ill.
Jan. 12—J. A. Fee & Son, Stafford, Kan.
Jan. 24, 25—L. R. Wiley & Sons, Elmdale,
Kan.
Feb. 28 and March 1, 2, 3, 1911—Breeders'
Sale Co., Bloomington, Ill.
Feb. 14—J. C. Robison. Sale at farm, To-
wanda, Kan.

Jacks.

March 1, 2—W. J. Finley, Higginsville, Mo.
March 7—G. C. Roan, La Plata, Mo.

Shorthorns.

Jan. 18—Chas. D. Knight, Oketo, Kan.
Jan. 26—Mitchell County Breeders' Associa-
tion, J. W. Rogers, secretary, Beloit, Kan.
Feb. 8—T. J. Charles, Republic, Kan.
Feb. 21—S. B. Amcoats, Clay Center, Kan.
June 6—C. S. Nevius, Chiles, Kan.

Holstein Cattle.

Feb. 7, 8, 1911—Rock Brook Farm, Sta. B,
Omaha, Neb., 150 head will be offered.

Herefords.

Jan. 26—Mitchell County Breeders' Associa-
tion, J. W. Rogers, secretary, Beloit, Kan.
Feb. 28—Jones Bros., Council Grove, Kan.

O. I. C. Swine.

Jan. 24—H. L. Bode, Friend, Neb.
Feb. 16—Fants Bros., Pleasant Hill, Mo.

Duroc-Jerseys.

Jan. 18—Thompson Bros., Garrison, Kan.
Jan. 22—E. W. Davis & Co., Glenwood, Mo.
Jan. 30—A. T. Cross, Guide Rock, Neb.
Jan. 31—Ward Bros., Republic, Kan.
Feb. 1—W. E. Monasmith, Formosa, Kan.
Feb. 2—G. P. Phillips, Ebon, Kan.
Feb. 3—Rinehart & Son, Smith Center, Kan.
Feb. 4—W. C. Whitney, Agra, Kan.
Feb. 6—J. L. Williams, Belleaire, Kan.
Feb. 8—O. A. Tiller, Lawrence City, Neb.
Feb. 9—Samuelson Bros., Cleburne, Kan.
Feb. 10—Samuelson Bros., Blaine, Kan.
Feb. 14—Chapin & Nordstrom, Green, Kan.
Sale at Clay Center, Kan.
Feb. 15—White Bros., Buffalo, Kan.
Feb. 15—Leon Carter, Asherville, Kan.
Feb. 16—W. T. Fitch, Minneapolis, Kan.
Feb. 17—L. E. Boyle, Lindsay, Kan.
Feb. 22—Philip Albrecht, Smith Center,
Kan.
March 1—Frank Elder, Green, Kan.
March 15—E. S. Davis, Meriden, Kan.

Poland Chinas.

Jan. 24—S. A. Bugg, Hamilton, Mo.
Jan. 26—W. R. Stump, Blue Rapids, Kan.
Jan. 27—A. C. Lobough, Washington, Kan.
Jan. 28—J. H. Hamilton & Son, Guide Rock,
Neb.
Feb. 3—Baker Bros., Butler, Mo.
Feb. 7—J. M. Ross and W. E. Long, Valley
Falls, Kan.
Feb. 8—T. J. Charles, Republic, Kan.
Feb. 8—W. B. Wallace, Bunceton, Mo.
Feb. 9—Albert Smith & Sons, Superior, Neb.
Feb. 9—H. C. Graner, Lancaster, Kan.
Feb. 10—J. E. Bowser, Abilene, Kan.
Feb. 10—George M. Hull, Garnett, Kan.
Feb. 11—C. S. Nevius, Chiles, Kan.
Feb. 14—E. E. Carver, Guilford, Mo.
Feb. 16—J. H. Harter, Westmoreland, Kan.
Feb. 16—A. J. Wright, Valley Center, Kan.
Feb. 17—J. D. Ziller, Hiawatha, Kan.
Feb. 17—W. E. Van Horn, Overbrook, Kan.
Feb. 18—George W. Smith, Burchard, Neb.
Feb. 18—Miller & Manderschied, St. John,
Kan.
Feb. 20—H. F. Pelphrey, Humboldt, Kan.
Feb. 20—W. H. Hansen, Junction City, Kan.
Feb. 21—J. W. Pelphrey, Chanute, Kan.
Feb. 22—W. C. Milligan, Clay Center, Kan.
Bred sows.
Feb. 23—Herman Gronniger & Sons, Ben-
dena, Kan.
Feb. 28—W. R. Stump, Blue Rapids, Kan.
March 4—C. H. Picher, Glasco, Kan., and
E. C. Logan, Beloit, Kan. Sale at Con-
cordia, Kan.

Mr. E. F. Dewey, real estate agent at
Blue Rapids, Kan., starts a card with us
this week. Mr. Dewey has what he consid-
ers a real bargain in a half section located
two miles from town at \$55 per acre. This
farm belongs to a widow lady and she is
tired of the grief of dealing with renters.
Read the description contained in the ad-
vertisement and write Mr. Dewey quick.

Ross & Long Poland Chinas.

W. E. Long of Ozawake, Kan., writes very
encouraging reports regarding the bred sows
that are to go into his February 7 sale. Mr.
Long and J. M. Ross of Valley Falls are
joining forces in making this sale and it
goes without saying that this will be one of
the best offerings of the season. Watch
Kansas Farmer for more about this sale.

A. P. Wright, the big Poland China breed-
er of Valley Center, Kan., has claimed Feb.
16 as the date for his bred sow sale. He
will sell 50 head, consisting of 40 sows bred
to Plumb Sir Bredwell and Home Run 2d,
and a few open gilts and boar pigs. Don't
fail to write for a catalog, mentioning Kan-
sas Farmer.

A New Secretary for A. J. C. C.

Because of ill health Secretary J. J. Hem-
ingway of the American Jersey Cattle Club
has resigned his office and the directors
have appointed R. M. Gow to this position.
Resolutions of respect for the retiring sec-
retary were passed unanimously and he was
made secretary emeritus. Secretary Gow's
address is 8 West Seventeenth street, New
York city.

Shamrock II Dresses 67.25 Per Cent.

The Animal Husbandry Department of the
Iowa State College has just received the
following report from Shamrock II, the grand
champion beef animal fed and exhibited by
the Iowa State College: "Shamrock II, king
of the eleventh International, is history and
steaks today. Fighting gamely to the last,
the little grand champion took the count
yesterday and is now in the cooling rooms
ripening for the Christmas and New Year
roasts of Chicago's Four Hundred.

Time Is Short.

Have you read the Special Subscription
Announcement on page 5 in this issue? This
is not a cut rate in the subscription price.
It is to pay you for your effort in getting
a new subscriber. If you get a new sub-
scriber for the regular rate, you need add
only a dime to pay for your own subscrip-
tion for next year. The difference in your
remuneration for getting the new subscrip-
tion. But you must take prompt action.
Time is short until January 2 next. Why
not make it a point today to get the new
subscription?

Inside Information About Tanning Hides for
Coats and Robes.

Your cow, steer and horse hides when
converted into fur coats, robes and rugs
are far better and cheaper than anything
you can buy. There is no humbug about
such goods. You know what they are when
you furnish the material from which they
are made. See the advertisement of the
Crosby Fur Company of Rochester,
N. Y., in another column. These people—
who are pioneers in this kind of work—are
doing a large and ever increasing business
in custom tanning, due to the fact that they
not only understand their business, but treat
their patrons right. See their advertise-
ment in another column and if interested
get their illustrated catalog.

Prizes for Well Supplies.

American victories at the Alaska-Yukon-
Pacific Exposition at Seattle are recorded
in the following awards. All the grand
prizes and gold medals given to pumps were
awarded to American pumping machinery,
manufactured by the noted firm, the Amer-
ican Well Works of Aurora, Ill. The coun-
try has long been familiar with the steady
progress of this great corporation in im-
provements in pumping machinery, and in
all varieties of well supplies. The manu-
facturers are to be congratulated on their
great success. Our readers interested in the
pumping problem should write this com-
pany for their late pump catalogue, No. 104,
which is extensively illustrated and con-
tains a fund of information on the subject
of handling liquids of every variety. The
company has numerous branches in dif-
ferent parts of the country from which it
can furnish supplies on short notice, not
only for wells, but for irrigation and min-
eral prospecting.

About Automobile Tires.

While the manufacturers have reduced
their prices on tires and inner tubes only
about 12 per cent you will see that the net
quotations made by The Atlas Tire Co. of
Kansas City represent so wide a difference
that you cannot afford to buy any but their
stock at the cash prices offered. They said
a year ago that the unguaranteed tire would
meet with tremendous favor by the customer
and so it has to the extent that they have
sold several thousand tires and tubes direct
to the user, giving each and every customer
satisfaction. Every tire is guaranteed to be
fresh from 1910 stock—no old or retreaded
casings. Every tire is shipped subject to
return if not found satisfactory upon re-
ceipt—less express. Note comparative prices
in advertisement in this issue of Farmer.

R. W. Murphy's Durocs.

Nine years ago R. W. Murphy of Camden
Point, Mo., commenced breeding Duroc hogs.
At the outset Mr. Murphy purchased the
best blood that money would buy and by
adhering strictly to that principle and mak-
ing a close study of the business he has a
herd of prize winning Durocs second to none
in Missouri. His herd is headed by Crim-
son Rambler No. 78303. The sows of this
herd are all of the most excellent breeding
and representatives of the very best and most
popular Duroc families are to be found in
Mr. Murphy's herd and a better lot of indi-
viduals would be hard to find. In addition
to Crimson Rambler Mr. Murphy has added
to his herd R. W. Col., sire B. & C. Col.,
dam Bold's Model, Minnie's Perfection No.
169020, sired by Ambition No. 3741, dam
Ponnie Perfection 127556, is one of Mr. Mur-
phy's choice sows that won laurels as an
individual of rare merit. Mr. Murphy is the
breeder and owner of Crimson Velvet, a
yearling boar that was first in his class at
the Royal in 1909 and the grand champion
boar at St. Joseph in 1910. Crimson Velvet
as an individual will have to be seen to be
appreciated, and very competent judges
have classed him as the best boar of any
breed in Missouri today. This boar and two
extra fine spring boars are for sale at this
time, and Duroc breeders desiring a herd
leader can hardly afford to miss this oppor-
tunity. Mr. Murphy will also sell a few ex-
tra fine gilts, also two very fine jacks.

Jacks Worth the Money.

F. S. Burgess of Dearborn, Mo., a well
known breeder of fine jacks, has decided to
close out his breeding stock and is offering
a number of very fine jacks at prices that
should interest breeders and farmers desir-
ing to purchase good stock. The following
jacks are among the lot offered for sale at
this time: Hindu, a 5-year-old jack sired
by Old Hindu, dam a Hector Jennet. Hindu
is black, 15½ hands high and measures 9
inches below the knee, extra heavy bone,
fine style and action and a jack with a rep-
utation as a prize winner. Bob, a 4-year-
old jack by Old Compromise, dam a Hector
Jennet, plenty of size, good bone, fine style
and action, and a very fine individual. Mr.
Burgess is also offering two 2-year-olds
and a yearling jack of Compromise and
Hector blood that are all young jacks of
rare promise. Mr. Burgess will sell any or
all of the jacks mentioned at a bargain if
taken at once, and this opportunity should
not be overlooked by anyone wanting to pur-
chase an extra fine jack. All stock sold by
Mr. Burgess is sold on a guarantee.

Woodlawn Duroc Jerseys.

A recent visit to the famous Woodlawn
Duroc Jersey herd located at Concordia,
Kan., renews the interest that the writer
has always had in this noted herd. The
herd was established something like a dozen
years ago by John W. Jones with stock
from the best herds in existence at that
time, and it is a matter of real satisfaction
to the friends of the herd in former years
to note the wonderful progress being made
by its present owners, Roy H. Ott & Bros.
The present location of the herd is at the
Ott farm, about one mile east of the town
of Concordia. Mr. Burgess will sell any or
all of the jacks mentioned at a bargain if
taken at once, and this opportunity should
not be overlooked by anyone wanting to pur-
chase an extra fine jack. All stock sold by
Mr. Burgess is sold on a guarantee.

three of her sisters by Shorty Orion, once a
boar of great note in the herd. Three of
them are out of Proud Advance, dams
Woodlawn Lady, a daughter of W. L. A's
Top by Tom Watson, Woodlawn Perfection
by Fanny Topnotcher, he by Kant He Beat,
Lady Chief and Fanny Maud, both by Fanny
Chief by Ohio Chief, Keesa Belle by Bell's
Chief 2d and a lot of other good ones. The
sows in the herd are exceptionally large and
have the motherly appearance that is so
necessary. The Ott Bros. have a card in
this issue offering boars for sale. They also
have some good bred and open gilts. Write
them for description, price, etc. Mention
this paper.

Dean's Mastodon Poles.

Clarence Dean of Weston, Mo., is the
owner of one of Missouri's best herds of Pol-
and China hogs. Mr. Dean is breeding the
Mastodon Poland Chinas, the big boned
kind that will weigh when mature 800 to
1,000 pounds. His herd is headed by Mas-
todon Price 144281, a great, massive hog
sired by A Wonder 107355, a hog weighing
in full flesh 1,200 pounds and has a bone
measuring 11 inches. Mastodon Price is a
fine individual, extra heavy bone and while
he has the size he has all the qualities that
go to make a well finished individual. Mr.
Dean's sow herd is made up of representa-
tives of the best blood in big boned Poland
Chinas. He has used every care in select-
ing breeding stock and has succeeded in
combining all of the best qualities charac-
teristic of the breed to the extent that his
herd is attracting the attention of the lead-
ing Poland China breeders of the country.
One of his best herd sows is Miss Wonder
3d, bred by W. W. Wheeler. This is a re-
markably fine sow weighing 550 pounds,
length 67 inches, heart 70 inches, loin 78
inches, bone 8½ inches, a splendid breeder
with litters of from eight to 12. Lady Mas-
todon 15th is another representative of this
herd with more than ordinary merit, lots of
size and finish and a record for large lit-
ters. Mr. Dean is also proprietor of Quality
Ridge Hereford herd, headed by Beau An-
drew 3d 289629, a grandson of Beau Brum-
mel. He has a number of bred gilts for
sale, all of them choice individuals, and we
call attention to the fact that Mr. Dean
sells the stock on a positive guarantee and
his motto is that all customers must be sat-
isfied, and red tape methods will not be
necessary as his guarantee is good. He
stands only for a fair deal. If in need of
breeding stock write him at Weston, Mo.,
Route 1, and kindly mention the Kansas
Farmer. His phone station is Dearborn,
Mo., and his railroad station is Newmarket,
Mo.

A Breeders' Calendar.

Most farmers, and especially those who
are breeders of live stock, are familiar with
the periods of gestation in farm animals,
but even in this case some calculation is
necessary when determining the end of the
period. The period of gestation varies with
different breeds and as well as with the dif-
ferent breeds and the birth of the young
cannot always be forecast with accuracy.
The table gives the general average and will
be found accurate for all practical purposes.
This is a good table to paste in the herd
registry or memorandum book. The table
is self-explanatory, but if it is not readily
understood by the reader we will explain;
for instance, if a mare is bred on December
2, she will deliver her foal about Novem-
ber 6 the year following; a cow thus bred
will freshen September 10; a ewe will lamb
April 30 and a sow farrow March 23. We
suggest that our readers preserve this table
and make the best use of it.

	Week.	Days.	Extremes.
Cows	40½ or 283	240 and 311	
Ewes	22 or 150	146 and 157	
Mares	48½ or 340	307 and 412	
Sows	16 or 112	109 and 120	

Date of Service.	Mare.	Cow.	Ewe.	Sow.
Jan. 1	Dec. 6	Oct. 10	May 30	Apr. 27
Jan. 6	Dec. 11	Oct. 15	June 4	Apr. 27
Jan. 11	Dec. 16	Oct. 20	June 9	May 2
Jan. 16	Dec. 21	Oct. 25	June 14	May 7
Jan. 21	Dec. 26	Oct. 30	June 19	May 12
Jan. 26	Dec. 31	Nov. 4	June 24	May 17
Jan. 31	Jan. 5	Nov. 9	June 29	May 22
Feb. 5	Jan. 10	Nov. 14	July 4	May 27
Feb. 10	Jan. 15	Nov. 19	July 9	June 1
Feb. 15	Jan. 20	Nov. 24	July 14	June 6
Feb. 20	Jan. 25	Nov. 29	July 19	June 11
Feb. 25	Jan. 30	Dec. 4	July 24	June 16
Mar. 2	Feb. 6	Dec. 11	Aug. 1	June 21
Mar. 7	Feb. 11	Dec. 16	Aug. 6	June 26
Mar. 12	Feb. 16	Dec. 21	Aug. 11	July 1
Mar. 17	Feb. 21	Dec. 26	Aug. 16	July 6
Mar. 22	Feb. 26	Dec. 31	Aug. 21	July 11
Mar. 27	Mar. 3	Jan. 3	Aug. 26	July 16
Apr. 1	Mar. 8	Jan. 8	Aug. 31	July 21
Apr. 6	Mar. 13	Jan. 13	Sep. 5	July 26
Apr. 11	Mar. 18	Jan. 18	Sep. 10	July 31
Apr. 16	Mar. 23	Jan. 23	Sep. 15	Aug. 5
Apr. 21	Mar. 28	Jan. 28	Sep. 20	Aug. 10
Apr. 26	Mar. 31	Feb. 1	Sep. 25	Aug. 15
May 1	Apr. 5	Feb. 5	Sep. 30	Aug. 20
May 6	Apr. 10	Feb. 10	Oct. 5	Aug. 25
May 11	Apr. 15	Feb. 15	Oct. 10	Aug. 30
May 16	Apr. 20	Feb. 20	Oct. 15	Sep. 4
May 21	Apr. 25	Feb. 25	Oct. 20	Sep. 9
May 26	Apr. 30	Mar. 1	Oct. 25	Sep. 14
May 31	May 5	Mar. 5	Oct. 30	Sep. 19
June 5	May 10	Mar. 10	Nov. 4	Sep. 24
June 10	May 15	Mar. 15	Nov. 9	Sep. 29
June 15	May 20	Mar. 20	Nov. 14	Oct. 4
June 20	May 25	Mar. 25	Nov. 19	Oct. 9
June 25	May 30	Mar. 30	Nov. 24	Oct. 14
June 30	June 4	Apr. 4	Nov. 29	Oct. 19
July 5	June 9	Apr. 9	Dec. 4	Oct. 24
July 10	June 14	Apr. 14	Dec. 9	Oct. 29
July 15	June 19	Apr. 19	Dec. 14	Nov. 3
July 20	June 24	Apr. 24	Dec. 19	Nov. 8
July 25	June 29	Apr. 29	Dec. 24	Nov. 13
July 30	July 4	May 4	Dec. 29	Nov. 18
Aug. 4	July 9	May 9	Jan. 3	Nov. 23
Aug. 9	July 14	May 14	Jan. 8	Nov. 28
Aug. 14	July 19	May 19	Jan. 13	Dec. 3
Aug. 19	July 24	May 24	Jan. 18	Dec. 8
Aug. 24	July 29	May 29	Jan. 23	Dec. 13
Aug. 29	Aug. 3	June 3	Jan. 28	Dec. 18
Sep. 3	Aug. 8	June 8	Jan. 31	Dec. 23
Sep. 8	Aug. 13	June 13	Feb. 4	Dec. 28
Sep. 13	Aug. 18	June 18	Feb. 9	Jan. 2
Sep. 18	Aug. 23	June 23	Feb. 14	Jan. 7
Sep. 23	Aug. 28	June 28	Feb. 19	Jan. 12
Sep. 28	Sep. 2	July 2	Feb. 24	Jan. 17
Oct. 3	Sep. 7	July 7	Feb. 29	Jan. 22
Oct. 8	Sep. 12	July 12	Mar. 6	Jan. 27
Oct. 13	Sep. 17	July 17	Mar. 11	Jan. 31
Oct. 18	Sep. 22	July 22	Mar. 16	Feb. 5
Oct. 23	Sep. 27	July 27	Mar. 21	Feb. 10
Oct. 28	Oct. 2	Aug. 1	Mar. 26	Feb. 15
Nov. 2	Oct. 7	Aug. 6	Mar. 31	Feb. 20
Nov. 7	Oct. 12	Aug. 11	Apr. 5	Feb. 25
Nov. 12	Oct. 17	Aug. 16	Apr. 10	Mar. 1
Nov. 17	Oct. 22	Aug. 21	Apr. 15	Mar. 6
Nov. 22	Oct. 27	Aug. 26	Apr. 20	Mar. 11
Nov. 27	Oct. 31	Aug. 30	Apr. 25	Mar. 16
Dec. 2	Nov. 5	Sep. 4	Apr. 30	Mar. 21
Dec. 7	Nov. 10	Sep. 9	May 5	Mar. 26
Dec. 12	Nov. 15	Sep. 14	May 10	Mar. 31
Dec. 17	Nov. 20	Sep. 19	May 15	Apr. 5
Dec. 22	Nov. 25	Sep. 24	May 20	Apr. 10
Dec. 27	Dec. 1	Oct. 1	May 25	Apr. 15
Dec. 31	Dec. 5	Oct. 5	May 30	Apr. 21

Lamer's Big Percheron Sale.
C. W. Lamer of Salina, Kan., has re-

turned from quarantine with a big consignment of imported Percherons, some of which
will be sold in his public sale which will
be held at Salina on Wednesday, Dec. 28.
There will be 75 head offered and of these
there will be 16 imported and 19 home bred
stallions. The remainder of the offering will
be bred mares and fillies. This will be a
great Kansas sale. Make yourself a Christ-
mas present of the stallion you need or the
team of mares you must have. Percherons
are the money makers on the farm. Ask
Mr. Lamer for a catalog and mention Kan-
sas Farmer.

Farm Machinery at K. S. A. C.

One of the important features of the State
Farmers' Institute meetings at the Kansas
State Agricultural College this month will
be the display of farm engines. One of the
important departments of teaching in the
engineering building at the Kansas State
Agricultural College gives the students care-
ful instruction in the use of all these engines
of convenience. E. B. McCormick, dean of
mechanic arts, has arranged an attractive
program, beginning December 27 and con-
tinuing through the state institute meeting
to December 31. Instruction will be given
all the week in the construction, care and
operation of gasoline and oil engines of all
types, including small and medium sized
stationary engines, traction engines, gasoline
trucks for earth roads and motor cars. Sev-
eral of the leading manufacturers will co-
operate with the college so that almost all
types of engines will be shown here. A num-
ber of the companies will send experts to
lecture about these engines and to demon-
strate their operation. In so far as possible,
an opportunity will be given to those attend-
ing the state institute to obtain individual
instruction in the particular type of engine
in which they are interested. Beginning at
10 o'clock Tuesday morning, December 27,
and continuing to 12 or 12:30 o'clock every
day as necessary, lectures on gasoline en-
gines will be given in the new engineering
building, in the amphitheater built espe-
cially for this kind of instruction. These
lectures will be illustrated with charts,
drawings, models and full sized engines. A
part of every afternoon will be set aside for
demonstrations with the engines upon which
the lectures of the morning were based.
During the hours of the day not devoted to
lectures or demonstration of a particular
engine, opportunity will be presented to
study any or all of the several types of ma-
chines shown here.

In the course in motor car engines, lec-
tures will be devoted to the manufacture
and repair of tires, and how to care for
them. The average motor car carries a set
of tires worth from \$200 to \$300. Manu-
facturers say that with proper care the life
of a tire can be increased 50 to 100 per cent.
One manufacturer of tires will bring to the
college a full set of samples, showing the
entire process of manufacture, how to apply
and how to remove them, how to repair and
how to judge the air pressure carried in the
tire.

Particular interest attaches to Dean Mc-
Cormick's program because of the fact that
farm boys are turning with increased in-
terest to the study of engines of every kind,
but particularly, of course, to those engines
used upon the farm. Farmers are using
motor cars nowadays for more purposes
than merely riding in them. Already the
motor car manufacturers say, many motor
cars have been thrown into the junk heap
with the old fashioned plow. Every boy
that leaves the college and goes back to the
farm, or upon a farm of his own, takes with
him the knowledge of how to operate motor
engines and all the other engines of the
farm. The display during the institute
meetings is expected to arouse much in-
terest among the 1,500 visitors here.



We herewith present the likeness of Mr.
Joseph D. Ryan, one of the successful real
estate men of Central Kansas. Mr. Ryan
is located at Abilene. He is a Kansas man
and knows land values. Write for his list,
mentioning Kansas Farmer.

Imported Percheron Sale.

On January 12, 1911, Mr. J. A. Fee & Son
of Stafford, Kan., will sell at public sale a
clean bunch of imported Percheron mares
and young stallions. This firm had the mis-
fortune to lose their large stud barn by
fire. This is the main reason for making
this sale. J. A. Fee & Son spent two months
in France and

NO CROP FAILURES ON IRRIGATED FARMS

You water your crops when they need it. It's all up to you. Why continue to take chances on rainfall, when you can just as well farm where crops are big and absolutely sure?

The best irrigated land opportunity in the United States today, is the district just now open for sale—Orchard Park—20 miles east of Pueblo, Colo. Here are 10,000 acres of the most fertile soil—all lying in the great Arkansas River Valley—every foot of it level—and water—**RUNNING WATER**—provided for every inch of the whole tract. Not an inch of waste land in the whole 10,000 acres. There is no "blue sky" in this project. It is all real farming land, as fine as lies out of doors anywhere. All the development work, to put water on all these 10,000 acres, has been done.

We do not offer you a promise of water in some dim, distant time. This project is a reality. Water is now flowing through the ditches and every one who buys a farm in Orchard Park can raise a crop in 1911. This is a present, tangible fact.

All the corn belt crops and fruit grow on this land to perfection. It is exceptionally fine for Alfalfa, Corn and Hogs. Alfalfa crops are put into the stack without loss or risk from rain-spoil. It grows 7 tons per acre, and sells for \$12 per ton, with plenty of buyers looking for it, right on the ground. The nearness of this tract to Pueblo, Denver, Colorado Springs, Cheyenne and other western cities insure a ready market for all products at higher prices than are available farther east. Besides, the short freight haul to these markets means greater profits to the farmer, from all he sells. Climate here is the finest in the United States. No fogs, no mud, no malaria. Over 300 days sunshine during the year. Finest drinking water at 35 feet on this land. Only 25 miles to coal mines. Mountains to the west furnish cheap building lumber—ideal conditions in which to establish a home, and have a farm that makes big money every year.

This excellent land and this fine climate were always here. If there had been water available before, all of this land would have been occupied long ago, and selling now for \$300 to \$500 per acre, as is now the case with land 15 miles to the west, in the same valley.

Only recently we completed our superb water system. We had to perform an unusual task to insure plenty of water for this land. This is how it is done. If some one had thought to do it before, you couldn't buy an acre of this tract now for less than \$300.

Doubly Insured Water Supply

The Huerfano River, a confluent of the Arkansas River, has been tapped at two places:

FIRST—One place at the surface, from which the state of Colorado has decreed to us, forever, a flow of 53.2 cu. ft. of water per second—enough to irrigate the whole 10,000 acres, in any ordinary season.

SECOND—The second tap into the river is made a mile above the surface tap—this tap is into the **UNDERFLOW**—made on bed rock, 17 feet under the river bed. Here is laid a 33-inch concrete pipe line, a mile long, right up the river bed—with abundant inflow taps. Even with the river bed dry there will still be 17 feet of running water over this underflow tap. This underflow develops a giant spring throwing a 38-inch stream of water, every minute in the year—a flow of 77 cubic feet a second—enough to irrigate the entire 10,000 acres, for 365 days in a year.

Besides these two sources of water supply, the state of Colorado has decreed to us, forever, the right to use 275 cubic feet per second, of the flood waters coming down the Huerfano every year.

These provisions absolutely insure to every acre in Orchard Park an abundance of water for all crops, in the driest year that can happen. No project in the United States has such an adequately insured water supply as



WATER FLOWING TO REACH EVERY SQUARE FOOT IN ORCHARD PARK.

ORCHARD PARK

Never before has such an opportunity been offered, to get a farm, having such an absolutely certain water supply. Water rights in fee simple go with land deeds. Land owners here do not have to buy water every year. The first cost covers it all.

Orchard Park has been investigated thoroughly by some very prominent Kansas men. Chas. E. Sutton, proprietor of Sutton Farm at Lawrence, is president of the development company now owning this land, and selling a part of it. Sutton has put thousands of dollars of his hard money into this land, because he considers it the greatest alfalfa, corn, hog, and cattle land in America.



HOGS ON ALFALFA IN ORCHARD PARK.

Best irrigated land in the United States. Three crops will pay for one of these farms and provide a living at the same time. All of this land remaining unsold on March 1, 1911, will be held at \$125 per acre, without fail. This is no bluff. The land is simply worth that now and will be worth more then. Buy now and get the raise, as well as the finest farm land on earth.

This land has never been advertised before. It may not be again. There is not much of it to sell. Don't put off investigating this, if you want to better yourself. **WRITE US TODAY FOR OUR DESCRIPTIVE BOOK—IT IS SENT FREE. READ IT, STUDY IT AND GET READY TO**

Join Our Excursion January 3rd, 1911

We want you to look into this. It is worth while. Send us your name so we can register you for our first excursion. If we can't show you everything we claim here—and a whole lot more that is good—we will refund you the entire expense of making the trip. We will have representatives on Santa Fe trains Nos. 5 and 9 January 3d next. Come on one of these trains if you can. Come any way you can, and when you can. Let us send you our book by return mail.

PUEBLO LAND & IRRIGATION CO.

524-526 North Main St., Pueblo, Colorado

We Guarantee to Show the Cheapest and Best Irrigated Land in the United States