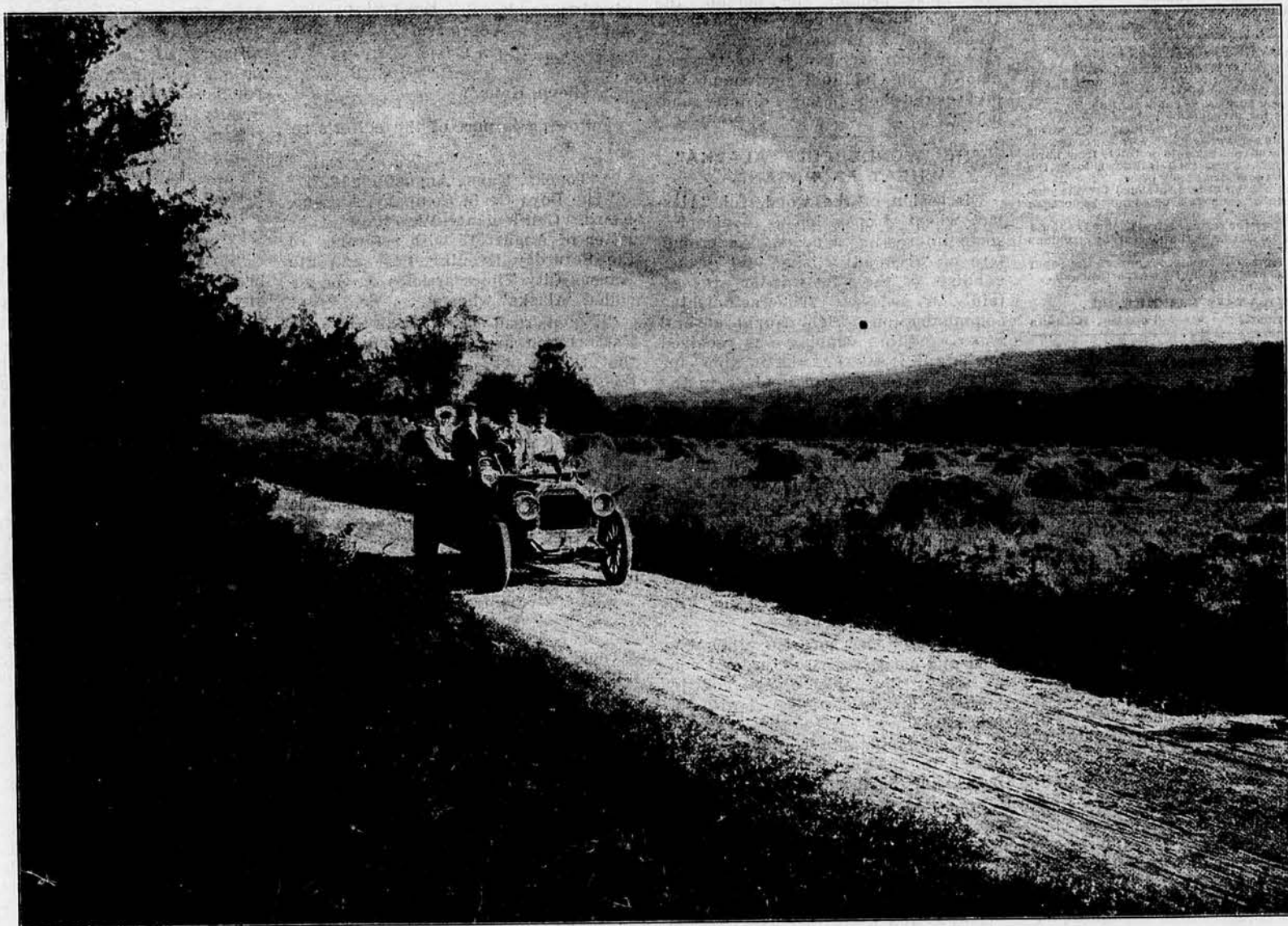


# KANSAS FARMER

Volume XLVI. Number 35

TOPEKA, KANSAS, AUGUST 27, 1908

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IN THE KANSAS RIVER VALLEY. BY COURTESY OF THE SMITH AUTOMOBILE CO., TOPEKA, KANS.

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## KANSAS FARMER.

Established in 1883.

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All new advertising orders intended for the current week should reach this office not later than Monday.

Change of copy for regular advertisement should reach this office not later than Saturday previous to publication.

Each advertiser will receive a copy of the paper free, during the publication of his advertisement.

Address all communications to

**THE KANSAS FARMER CO.,**

625 Jackson St., Topeka, Kansas

Prof. A. M. TenEyck, of the Kansas State Agricultural College, is this week attending the meeting of the Co-operative Experiment Association of the Plains Area, of which he is president. The meeting is held this year at Fargo, N. Dak.

The premium list of the Sixteenth National Irrigation Congress and Inter-State Industrial Exposition, to be held at Albuquerque, N. M., September 29 to October 10, 1908, is a work of art. It presents scenes of a country of which most people have vague notions, but of which few have such knowledge as leads to appreciation. There are thirty-three beautiful illustrations. Nearly all are full-page representatives of interesting views in a land differing from ours. Whether intending to visit the Irrigation Congress and the Exposition or not, it is worth while for the reader to ask for a copy of this premium list. The secretary is R. E. Twitchell, Albuquerque, N. M. The editor is of the opinion that copies of the book can be obtained by addressing the Passenger Department of the A. T. & S. F., Topeka, Kans.

## THE RACE PROBLEM.

Race troubles at Springfield, Ill., last week resulted in violent deaths of a large number of people, the burning of many homes, the calling out of the State troops, and the indictment of several persons for murder. Most of those killed were negroes. The homes destroyed were those of negroes. The scene of these occurrences was not in the South, but at the capital of a Northern State and almost under the shadow of the monument to Abraham Lincoln, the great emancipator.

The fact that this country has in hand a serious race problem is not to be doubted. Race problems are among the most difficult ever undertaken by mankind. Branches of the white race which blend, presently eliminate race or caste troubles in this country. Even though the Jews constitute an unblending element in our population, the hatred and persecutions to which they have been subjected in other lands are, with comparatively few exceptions, unknown in America. But the case of the Indians, which seems likely to settle itself by the extinction of the "noble red man,"

the case of the Chinese; the case of the Japanese; and especially the case of the negroes, present barriers to assimilation that promise to keep open a series of race questions to which the answers are not apparent.

Race contentions are complicated, and, as time passes, are likely to be intensified on account of relations with the already intricate labor problems. As the opportunities of this country become more universally appropriated the demand for opportunities, the contention for place, becomes fiercer. This affects the lower strata of society most. Here it is that the race riot at Springfield occurred.

It is useless to moralize that there ought not to be a race problem. The race problem is here and is growing. The Governor of Illinois set a good example by using the power of the State for the enforcement of law and the establishment and preservation of order. The lives and properties of the high as well as the lowly depend upon the observance of law and the orderly trial of offenders against the good order of society. The administration of law must protect the person, the rights, and the property of the black man as well as of the white man. The race problem may lead to violence and disorder but its final settlement will be brought about in some orderly manner.

## THE WONDERFUL "ALASKA" WHEAT PROPAGANDA.

Discussion of the wonderful "Alaska" wheat proposition is developing some interesting aspects. As promoters of "free advertising" the propagandists of the new wonder are certainly a success. The astonishing communication which caught several veteran editors napping was received by THE KANSAS FARMER in time for this paper to preempt a place in the front rank of the deluded, but for some reason we sent the article to Professor TenEyck instead of printing it, and so we missed an opportunity. Consequently, about the time some esteemed contemporaries were regaling their readers with a big advertisement in the belief that it was great reading matter, THE KANSAS FARMER published a sane and sensible discussion of the subject from Professor TenEyck.

Great was the surprise when the staid and conservative Saturday Evening Post, the paper established by Benjamin Franklin, appeared with the free advertisement beautifully printed as a highly appreciated contribution to its reading columns. Then I. D. Graham, business manager of THE KANSAS FARMER, wrote to the editor of the Saturday Evening Post and enclosed with his letter the page of THE KANSAS FARMER containing editorial comments and Professor TenEyck's discussion of the subject.

Here is the reply that Mr. Graham got to his letter:

"Editorial Rooms, The Saturday Evening Post, The Curtis Publishing Company, Philadelphia, George Horace Lorimer, Editor.

"August 17, 1908.

"Mr. I. D. Graham, Dear Sir:—Many thanks for your letter. The article in question was accepted without proper investigation by a too-confiding associate during my absence in the West. When I read it on my return, I felt certain that it was a fake, but it was then too late to stop its publication, as the number containing it was already distributed. I at once started a man for Idaho, got in communication with the Agricultural Station at Moscow, and gave orders to hold up all mail for both Adams and Day.

"We shall, of course, take the first opportunity possible to make a correction in the columns of the Saturday Evening Post.

"Yours very truly,

"GEORGE H. LORIMER.

The enthusiasm of the original promoters of the much-mentioned new wonder seems to be contagious. THE KANSAS FARMER has received the following letter illustrating this fact:

"Abilene, Kans., August 15, 1908.

"EDITOR KANSAS FARMER:—We suppose you read the article on the 'Mir-

acle" wheat as described in the last issue of the Saturday Evening Post and the comments on same by Mr. Coburn in the issue of the Times of August 14, also that you received this same article written by Mr. Adams and that you threw it in the waste basket.

"Our W. H. Boyd of this firm has just returned from a two weeks' trip through Idaho and brought back samples of a wheat which we think is the same as described in the Saturday Evening Post. The wheat as he saw it in the field would easily make a yield of 100 bushels per acre. It was growing on rough, gravelly soil not adapted to wheat-growing. If some of our Kansas farmers were growing this wheat, I think they could make it produce 125 bushels per acre. We are sending you sample which was gathered too green to show the quality. It is no fake wheat. If convenient, please show this sample to Mr. Coburn.

"If any readers of THE KANSAS FARMER want any further information in regard to this wheat we will gladly give it by addressing Boyd Grain Company.

Yours truly,

"BOYD GRAIN COMPANY,

"W. H. Boyd."

"Abilene, Kans."

Following is part of the editor's reply:

"Topeka, Kans., August 19, 1908.

"The Boyd Grain Company, Abilene, Kans., Gentlemen:—We have your letter of August 15 with reference to the Saturday Evening Post and the Kansas City Times articles on the so-called 'Alaska' wheat.

"If you read last week's KANSAS FARMER you are doubtless convinced that this paper takes little stock in the 'Alaska' wheat. Further testimony on this subject will appear in this week's paper.

"THE KANSAS FARMER is always glad to promote every improvement in agriculture and agricultural products. The editor is not from Missouri, but will have to be shown better evidence than has yet been advanced before he can become enthused about this 'Alaska' wheat.

"Very truly yours,

"E. B. COWGILL, Editor."

That Professor TenEyck receives some attention from these promoters is not surprising. The following correspondence illustrates thoroughness of the propagandist's organization:

"Dodge City, Kans., August 16, 1908.

"Prof. A. M. TenEyck, Manhattan, Kans., Dear Sir:—I note in this morning's State Journal, of Topeka, Kans., that you condemn Mr. Adams' wheat. I enclose you a circular and would ask that you give the statements contained therein your careful consideration. That they are true is beyond dispute and can be easily proven if you care to investigate, and further, the wheat is a good milling wheat. Trusting you will be interested enough to give the matter your attention, I am,

Yours truly,

"LLOYD EVANS."

The circular contains some of the statements of the original communication, gives the address of the Denver agent, and informs the reader that the writer of the above letter is "agent for the State of Kansas."

Following is Professor TenEyck's reply:

"Kansas State Agricultural College, Manhattan, Kans., August 20, 1908.

"Mr. Lloyd Evans, Dodge City, Kans., Dear Sir:—I enclose copy of letter which I have just written as a general reply on the point in question. Even if the 'wonderful' story which you tell of the 'Alaska' wheat is entirely true there would be no reason for me to recommend this wheat for growing in Kansas, without having given it a test at this Experiment Station. The work of the Experiment Station is to test just such new productions, and also to protect the farmers of the State from the imposition and expense which is often thrust upon them by advertisers of novelties and monstrosities. Again, I have

stated in the circular letter that this wheat is well-known and has been tested at several of our experiment stations. Possibly in some particular locality or localities of the United States it may give excellent results and be a very valuable wheat to grow, but from the tests which have already been made it is quite evident that its adaptation as a useful and valuable wheat will be quite local.

"You ought to have known that the State experiment stations are, to-day, authority among the farmers; that if you had a valuable variety of wheat you should have had it tested by the experiment stations in the several States in which you intended to introduce it, when if the tests prove satisfactory there would have been no difficulty in introducing the wheat. Under the present situation, however, you will perhaps be able to sell but little of this wheat in Kansas or any other State in which the State experiment station is doing this particular line of work.

"The United States Department of Agriculture, in cooperation with the Experiment Station, has been testing varieties of wheat in this State from all parts of the world, growing them on our experimental farms in order to compare their yield, hardiness, and quality of grain produced, and also testing the milling qualities of this grain. The Poulard wheats have been tested along with others and have not proven equal to the hard red winter wheats of the Turkey and Russian type.

"So far as I can find no test has been made of this 'Adams' wheat by any experiment station as to its yield compared with other varieties, its hardiness and adaptation to different soil and climate, or its milling qualities. A chemical analysis of the wheat such as was made at the Idaho Experiment Station proves nothing regarding its milling qualities. The softest and most inferior wheats may show a chemical analysis equal to the hardest and best milling wheats. Again, the fact that this wheat may succeed well on Mr. Adams' farm, in peculiar conditions of soil and climate and doubtless well irrigated, does not prove at all that it will be adapted for growing in this State or any other soil under different conditions of climate. Experts who have been in this wheat



Stalks of corn 15 feet 2 inches tall. Nine feet to the ear. Raised by Chas. Broom near Bennington, Kans., where all corn is unusually fine this season.



work for years and who know most about wheat would not think for a moment of recommending this wheat for general planting in other soil and climate in which it has not been grown or tested.

"As I stated in a former letter to Mr. Oscar Day, of Minneapolis, Minn., who seems to be the originator of the story which has been published through a number of papers, I shall be pleased to accept a sample of the wheat and give it a fair test at this station in comparison with standard varieties, both as regards yield, hardness, and milling qualities, when if the wheat proves anywhere equal to what is claimed for it, I shall certainly be pleased to recommend it to the farmers of Kansas. Until such tests have been made, however, I shall attempt to advise farmers of Kansas not to spend money on wheat which has not proven its value for growing in this State. A. M. TENEYCK, "Professor of Agronomy, Kansas State Agricultural College."

#### TAXATION.

When the present law governing assessment and taxation had been enacted and had received sufficient attention to make it certain that the returns of taxable property would be increased several fold, there was alarm least tax levies would be so made as to greatly increase the burdens of taxation. There are certain statutory limitations which can not be exceeded in the laying of taxes. These are on a percentage basis. When the valuations are increased several fold the effect is to raise the taxation limit in the same proportion. There was some consideration of a proposition to change the statutory limitation so that the amount of taxes that might be raised should in no case be excessive. But, it was not known how much or little increase would be made in the assessment, and on this account the Legislature hesitated to change the statutory percentage limitation. At the extra session, however, a law was passed which provides that the amount of taxes levied for any general purpose shall not exceed by more than two per cent the amount levied for such purpose last year. It is further provided that in certain cases the State Tax Commission may grant premiums to exceed the two per cent limit.

It is to be put down to the credit of the Tax Commission that nearly all applications for authority to exceed the limit have been denied. Only in cases of actual emergency has the limit been raised.

The power to tax is one of the dangerous powers of government. The demands of the beneficiaries of taxation are always insistent. Their arguments are always plausible. The appeals to patriotism, to philanthropy, to National, State, and local pride are feelingly and persistently presented. Every board and every official connected with any public work or enterprise is ambitious to please the workers in the service of the public and to leave behind him worthy monuments to witness his connection with the work or the enterprise. The ever-increasing expanding undertakings prosecuted by common effort or at common expense add mightily to the amounts to be raised by taxation. The educational system, consisting of common schools, grammar schools, high schools, colleges, and universities, all provided and maintained at public expense, constitutes an example of the progress of this kind of socialism. The money expended upon this system constitutes the largest item in the tax bill. It is money well invested. To discontinue it would be to reduce by a very large proportion the desirability and the money value of all property in the State.

Having to face the persistence of the ever-increasing demand for more money for public and semi-public purposes, taxing boards are verily in need of legal limitations to enable them to keep taxes low enough to be enduring. In addition to this help, these boards should always remember that the money levied has to be earned by the people and that next

December some people will have to divide needed comforts in order to pay the taxes. Possibly every person who lives on tax money ought to be better paid. Possibly every present and proposed public enterprise ought to be provided with twice as much money as it has ever had. Possibly the productive energies of the people are able to meet such demands. Possibly, also, the case of the productive toiler who labors "from dawn to dewy eve" and at times well into the hours of the night should receive consideration.

#### Miscellany

##### Comment on Coburn's Conundrum.

I regret that Mr. Coburn made the comparison in his "conundrum" published in the August 13 issue of THE KANSAS FARMER. In the first place, the comparison is unjust both to myself and to Professor Willard. I have not attained that degree of greatness as an authority on agriculture as suggested by Secretary Coburn. On the other hand, Professor Willard has a high standing among the chemists of the United States and is well and favorably known throughout this State. He is one of the ablest scientists in the West and is well informed in agriculture. His ability, long acquaintance with the agriculture of this State, and long and faithful service at the Agricultural College have made him an authority on many agricultural problems. Personally, I have great respect and esteem for Professor Willard. He is one of the most methodical men I have ever met. He was acting director of this Experiment Station for many years and so far as the routine work of the office is concerned, there are few men better qualified to undertake it.

This comparison and the reflection on the members of our board of regents can not, of course, help either of the parties concerned toward securing the election as director of this Experiment Station. For myself I have never made a personal application for the position. It seems now that the position will go to some candidate outside the State. As a matter of principle and not from any personal reason, I would rather see an able, broad-minded, well-trained agriculturist secure this position, and I believe we have just such a candidate in Prof. E. H. Webster, now Chief of the Dairy Division, United States Department of Agriculture, Washington, D. C.

A. M. TENEYCK.

Manhattan, Kans., Aug. 21, 1908.

##### Institute and Experiment Station Workers.

EDITOR KANSAS FARMER:—The next annual meeting of the American Association of Farmers' Institute Workers will be held at Washington, D. C., November 16 and 17.

At the same place and beginning November 17 will be held the annual meeting of the Association of American Agricultural Colleges and Experiment Stations. The secretary of the Association of Colleges and Stations writes: "It seems impossible to secure reduced railroad rates."

Notice is sent out thus early in order that the farmers' institute workers of the country may have time to arrange for attendance upon this meeting. A program of the exercises will be mailed you at least one month prior to the date of the meeting.

JOHN HAMILTON,

Farmers' Institute Specialist, Department of Agriculture.

##### The Government Wants Horses.

Some weeks ago THE KANSAS FARMER announced that Captain L. Hardeman, quartermaster at Fort Reno, Okla., was compiling a list of horsebreeders in Kansas for the purpose of securing a knowledge of where to go when horses for the cavalry remount or for the artillery were needed by the army.

We have received many letters from farmers who desire to know what type

## When Your Subscription Expires

One month before a subscription expires we enclose a renewal blank on which you may write your order for the renewal, and in the last copy sent on the old subscription we again enclose a similar blank.

When we first notify you that your subscription has expired you should send your renewal at once. Should you receive a renewal blank after having sent your order for renewal, please disregard the notice. Owing to the fact that our circulation is growing so very rapidly we are obliged to make up our lists several days in advance of publication day, hence orders for change of address must reach us not later than Monday of any one week in order to become effective with that week's issue. New subscriptions which are received by us on or before Wednesday of any week will begin with that week's issue.

Address, THE KANSAS FARMER CO., Topeka, Kans.

of horse is necessary for these services, and Captain Hardeman was asked to furnish the information, which he has done in the following specifications:

The young cavalry horse must be sound, well bred, and of a superior class; gentle, free from vicious habits; with free and prompt action at the walk, trot, and gallop; without blemish or defect; of a kind disposition; with easy gait, and otherwise to conform to the following description:

A gelding of uniform and hardy color; in good health and fair condition, from 3 to 4 years old, weighing from 875 to 1,000 pounds, depending on the height, which should be from 15 to 15½ hands.

Head small and well set on neck; with muzzle fine, mouth deep, lips thin and firmly compressed, nostrils large and fine, branches of under jaw wide apart, forehead broad and full, eyes large, prominent and mild, vision perfect in every respect, and ears small, thin, and well put on.

Neck, light, moderately long and tapering (toward its upper end) with crest firm and longer than under side.

Withers, elevated, not unduly fine, well developed and muscled.

Shoulders, long, oblique, and well muscled.

Chest, full, deep, moderately broad and plump in front.

Fore legs, vertical and properly placed, with elbow large, long, prominent, and clear of chest, forearm large at the elbow, long and heavily muscled, knee large, prominent, and wide in front.

Back, straight and well muscled.

Loins, broad, short, and muscular.

Barrel, large and ribs well arched from girth to flank.

Hind quarters, long, wide, full, rounded externally and muscular.

Hocks, neatly outlined, lean, large, wide from front to rear and well directed.

Limbs, from knees and hocks downward, short, wide, laterally with tendons and ligaments standing well out from bone and distinctly defined.

Pasterns, strong, medium length, not too oblique and well directed.

Feet, medium size, circular in shape and sound, with horn black, smooth and fine of texture, sole moderately concave and frog well developed,

sound, firm, large, elastic, and healthy in appearance.

Each horse will be subjected to a rigid inspection and any animal that does not meet the above requirements in every respect must be rejected.

The young artillery horse should be a stockier animal than the young cavalry horse, 4½ to 5 years old, weight 1,050 to 1,150 pounds, depending on the height (15¼ to 15¾ hands), gentle in harness, with shoulders sufficiently broad to support the collar and otherwise conform with the above specifications.

#### THE NECESSITY FOR GOOD TOOLS.

##### Better Tools Required in the Home Than in the Shop.

It used to be the general idea that almost any tools were good enough for home use. It is just as generally recognized nowadays that it is really necessary to have even better tools for the home than for the shop, not only because good tools are required for good work, but because few homes have the facilities for grinding, sharpening, setting and adjusting.

When you buy tools for home use, therefore, it is necessary to get the very best quality, tools that will hold their edges, and whose adjustments are accurate and permanent. The question is how to get such tools.

Nearly forty years ago Simmons Hardware Company, realizing the demand for tools of quality, put on the market the famous Keen Kutter Tool Cabinets.

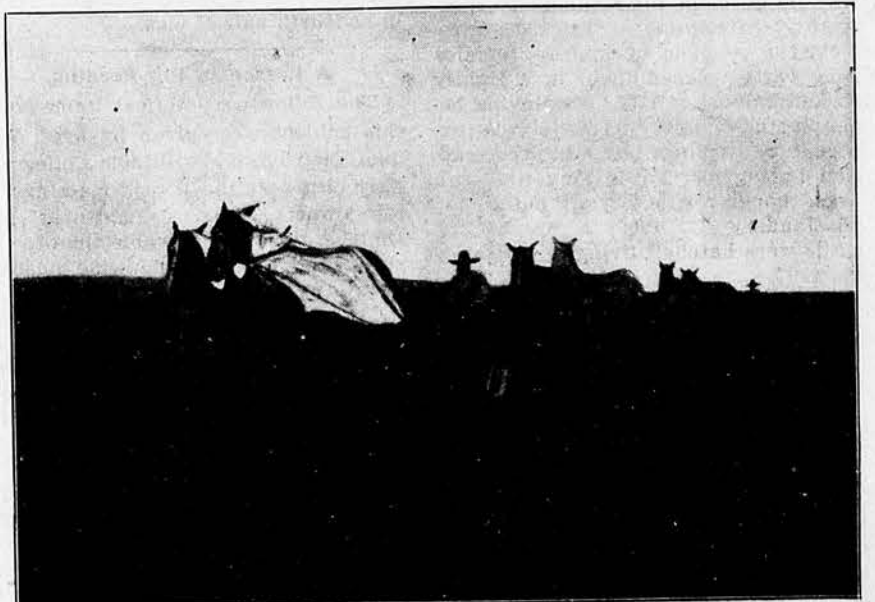
Every tool in these cabinets bears the Keen Kutter name and trademark, and is guaranteed by the makers to be satisfactory—if not, your money will be refunded.

To make this guarantee possible every Keen Kutter tool, before it leaves the factory, is carefully inspected and put to tests more severe than the wear and tear of actual use.

Keen Kutter Tool Cabinets give the home man an opportunity to possess as good a set of tools, kept in as good condition, as the most experienced carpenter or cabinet maker. Racks and hooks for every tool keep them from being nicked and battered from contact with each other.

Keen Kutter Tool Cabinets are the only ones containing a set of tools, every one of which belongs to the same brand, stamped with the same trademark and backed by the same guarantee. The cabinets are of polished oak and are fitted with drawers in which are the necessary helps to all work, such as glue, sand paper, nails, tacks, screws, brads, steel wire, picture wire, clamps, oil can, oil-stone, etc.

There are various sizes and styles of Keen Kutter Tool Cabinets, from the box of tools at \$8.50 to the complete outfit sufficient for every need at \$85.00. There is surely one that will exactly suit you both as to assortment of tools and price. If not at your dealer's write to Simmons Hardware Company, Inc., St. Louis and New York, U. S. A.



Scene on the Alfalfa Valley Ranch in Trego County, Kansas. Owned by Otto Young, Utica, Kans. This shows what alfalfa does in the so-called "short-grass country."



## Stock Interests

### The Texas Fever Tick.

DR. P. S. KERSHNER, UNITED STATES BUREAU OF ANIMAL INDUSTRY, BEFORE THE KANSAS STATE VETERINARY MEDICAL ASSOCIATION.

Among the most important parasites of domestic animals that occur in the State of Kansas is the Texas fever tick, *Boophilus Annulatus*, though usually only a temporary resident, yet during this short period of time the loss of cattle is great and if allowed to pass through its life cycle unmolested the destruction of cattle would be greater with sections permanently infected.

The ordinary life history of this tick follows: Mature females drop off cattle and in a few days begin to lay eggs to the number of from 1,500 to 3,000. These eggs are hatched in from two to six weeks. The larvæ on emerging are of a brownish color about one-thirty-second of an inch long with six legs. They attach themselves to blades of grass, weeds, fences, etc., to lay in wait for some host, and, unless they can secure blood, development ceases. Upon becoming attached to a host—be it cow, horse, ass, mule, or deer—they begin to grow, and in a week will molt the first time by adding one pair of legs, the male and female being of the same size. At the end of the second week the final molt is about completed, the male and female being readily distinguished. At this time the female

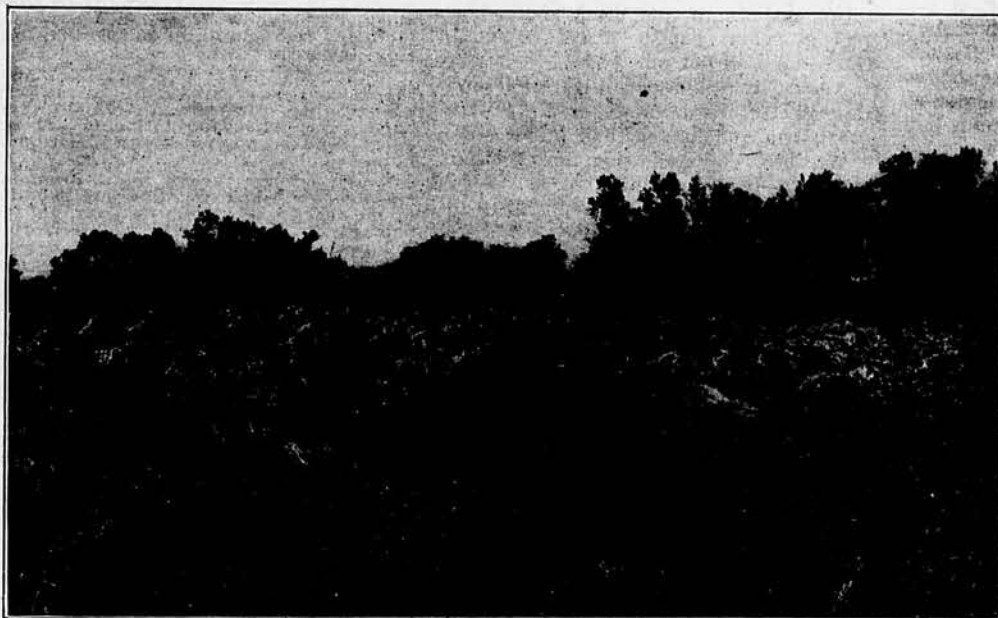
should mature on a bovine, which has in its blood the piroplasma bigeminum, the following generations will again become infected. Occasionally outbreaks of fever occur within the quarantine area, some of which are due to a lowering of the vitality, such as starvation, want of water, long drives without water, etc., also the disease may appear among Southern cattle dipped and placed on Northern pastures. In the latter case there need be no fear of the relapse as the intermediate bearer is absent and disease will only occur among the animals exposed to the debilitating conditions.

### TREATMENT.

Tick infested cattle can be successfully treated with crude oil either as a dip or hand dressing or if this material is not available, equal parts of kerosene and cottonseed oil with or without sulfur are used to good advantage. In treating infected cattle, I have used the two preparations and as a rule lost only the animals visibly affected.

Pastures which have been infected may in these parts be used the following season without danger, since the cold of winter kills the ticks unless well protected. If one wishes to increase safety, burning off the pasture late in the fall is good policy.

There are at least eight species of ticks reported as found upon cattle of this country as follows: *Boophilus Annulatus* (Texas fever), *Ixodes Ricinus* (castor bean), *Dermacentor Reticulatus* (net), *Dermacentor Electris* (dog or wood), *Amblyomma Americanum* (Lone star), *Ornithodoros*



Wheat Field in Riley County, Kansas. Photo by S. C. Orr, Manhattan, Kans.

becomes fertilized, enlarges slowly from one to three weeks, then rapidly increases in size a few days prior to falling off. The male tick develops little after the second molt, and is usually found attached to the ventral surface of the female, his known role being the fertilization of the female.

### HARD TO KILL.

The eggs are tenacious of life and may lie dormant for a time. To illustrate: On September 12, 1906, I removed a number of mature females from cattle, placed them in a tightly corked half-ounce vial. Egg-laying began in three days. The vial was exposed to varying temperatures, carried in a grip. For a long time the eggs, though fertile, did not hatch, but on January 31, 1907, a number of larvæ were hatched, living until March 31, 1907.

The most interesting fact in connection with the life of this tick is that the female, after gorging herself with blood from cattle of certain sections, drops to the ground, lays eggs, and the larvæ hatched are capable of transmitting Texas fever. Numerous experiments made by injecting an emulsion of larvæ, subcutum and intravenously, have failed to produce the disease.

### A PECULIARITY.

Ticks grown on horses, asses, or mules will not produce fever in cattle. However, if any future generation

Megnini (ear), *Argas Miniatus* (chicken), and *Oxodes Hexagonus* (European dog tick). The last two are seldom found on cattle. *Argas Miniatus* is the chicken bug of the Southwest and Mexico, causing heavy losses of poultry and frequently causing sitting hens to leave the nest. The fever can be known from the other species by the small dorsal shield, the lines of each side being nearly straight, drawn in at fourth pair of legs.

### A Lesson in Pig Feeding.

The following practical items upon this subject were given by Prof. William Dietrich of the Illinois College of Agriculture at the Peoria meetings of the Illinois Farmers' Institute. Mr. Dietrich devotes his whole time to the study and teaching of swine husbandry:

"The average market hog should weigh 300 pounds at eight months of age. For the pig two to six months old protein is the most important feed. Without protein it can not build up the lean meat or grow to any size.

### SIX PROTEIN FEEDS OF THE FARM.

"Protein is found in skim-milk, clover, and alfalfa. Corn is nine-tenths carbohydrates; oats have a little more protein than corn, but not sufficient for the pig. Rye contains a little more protein than corn. Barley is one of the best feeds on the farm; it contains more protein than rye. In

## \$14.90 FOR THIS OAK BEDROOM SUITE

SEND US \$14.90, cut out and return this ad. and we will send you this handsome bedroom suite, with the understanding and agreement that you will find it the equal of bedroom suites that sell everywhere at \$25.00, strictly well made and finished, and if you are not perfectly satisfied in every particular, or if you have not made a great saving in price, you may return it to us at our expense and we will promptly return your \$14.90, including what you paid for freight. Weight, 300 pounds. Securely packed and shipped from either northern or southern factory, nearest your home, so that the freight charges will be very little, nothing compared to what you will save in price.



Write for Free Furniture Catalogue

French beveled plate mirror, 20 by 24 inches. Note the ornamental carvings on bed and dresser. Washstand has a double top with small top drawer to match dresser. Fitted with locks, cast brass handles and casters. Drawers perfect fitting and smooth running. Every detail first class throughout. \$14.90 is a special cut price. We have only 2,000 of these suites to sell at this special price to advertise this department. We advise that you order at once.

**GREAT FURNITURE BARGAINS.** In our special free Furniture Catalogue we show pictures and descriptions of everything we sell in furniture of every description. If you don't order this bedroom suite immediately and you are interested in anything in furniture, don't fail to write us a letter or postcard and say, "Send me your new Furniture Catalogue and all your latest offers." You will be surprised at the money we can save you. We have arrangements with different furniture factories, north, south, east and west, so that we can make shipment promptly and from a point near you and thus make the freight charges very low. If you expect to buy anything in furniture don't fail to write at once for our new Furniture Catalogue and see what we can offer you.

Address SEARS, ROEBUCK & CO., CHICAGO, ILL.

clover and alfalfa there is a large bulk for the required nutrients and pigs can not go enough for a maximum growth. Even if you have corn and clover it is still necessary for the young pig to have some protein food—cow-peas, soy-beans, or Canada field-peas. There is nothing better grown on the farm to balance up the ration.

### RICHER COMMERCIAL FEEDS.

"Rape is a bulky feed for fattening and it is necessary to use some nitrogenous feed with it. If you feed clover hay in racks the pigs will not eat as much of it as if it were chopped up as finely as possible, scalded with steam, and mixed with the slop. You can buy middlings, low grade flour; it has protein, but not enough. Tankage, meat-meal, and blood-meal are very much richer than shorts. Perhaps the most concentrated nitrogenous feed we have is tankage. It was found by test that 60-per-cent tankage contained about 46 per cent of digestible protein. There is danger in feeding too much protein; it is worse than feeding too little.

### THE LAST TWO MONTHS.

"During the last two months of the feeding period carbohydrates or fattening feeds are of greater importance. We must use feeds that are digestible like corn, wheat, flour, or middlings, but bran is practically indigestible for the pig. Oil-cake contains as much protein as middlings, and ranks with meat-meal or oil-meal; the last is perhaps better because it contains much ether extract.

### NECESSARY TO MIX THE FEEDS.

"It is much better to mix the feeds than to feed corn at one time and something else at another time. Otherwise the pigs are liable to get too much of the protein feed, lose their appetite for corn and become stunted for their lives."

### TWICE THE GAINS ON HALF THE FEED.

Nine lots of pigs were fed in one of Professor Dietrich's experiments and he gradually reduced the feed of two lots of young pigs until he had taken away just half of the ration, and then they were making twice the gain they did before. Lots 5 and 6 which were fed according to the old scientific feeding standard weighed 270 pounds at nine months, while the two lots fed by Professor Dietrich's method averaged 298 and 305 pounds respectively. How was this done? By holding the pigs down at the beginning, by feeding less protein. The gains were not only larger but the gain at the close was made off of cornmeal, which is a cheaper feed. If allowed to do so pigs will eat too much protein at first and that will keep their weight down forever afterward.

This is a valuable result, but one must be careful not to misinterpret it. The more common error is to feed

too little protein than to feed too much. Professor Dietrich's statement gives no sanction whatever to the attempt to raise hogs on corn and water.

### DIFFERENT RESULTS FROM DIFFERENT RATIONS.

"The pigs in lot 1 started in the experiment when they were three months old, weighing 50 pounds, and were fed until they were nine months old, making a gain of 20 pounds; they had carbohydrates. The pigs in lot 2 were fed the same as in lot 1 on carbohydrates in the form of corn, and had mineral matter in the form of air-slaked lime, charcoal, ashes, and a few loads of dirt. They gained 70 pounds. The pigs in the remaining lots had protein in addition to the mineral matter. The pigs in lot 3 weighed 240 pounds. This bunch were fed straight corn on clover pasture and they made a gain of two and a half times that of lot 2.

"Pigs can be overfed on skim-milk. In an experiment last year pigs which were fed three times a day made larger and more economical gains than pigs that were fed twice, but the former were not given all they would eat each time.

### YOUNG PIGS MAKE GREATEST GAINS.

"A 2 months pig will not weight much over 30 pounds; at three months, 50 to 60 pounds. At 5 months the pig has gained 50 pounds in about three weeks. At 7 months he weighs about 250 pounds and has put on 150 pounds of pork in three months. It takes two months to put on the next 50 pounds, and the pig gains only 50 pounds from nine to twelve months.

### AND THE MOST ECONOMICAL GAINS.

"When the pig (in a certain experiment) is 3 months old it eats 2.2 pounds of food per day; when 7 months old he weighs five times as much but eats only three times as much. Between 4 and 5 months of age the pig makes 50 pounds gain in 30 days from 120 pounds of feed. But after the pig is 9 months old it takes three months to put on 50 pounds of pork from 630 pounds of feed. Which is the more economical. The only way to figure feed is in proportion to the live weight.

### SELF-FEEDER NOT BEST.

"We have found that hogs do not have worms when they are given charcoal, air-slaked lime, and ashes. We have a trough in which we put each part by itself and let the hogs help themselves.

"A self-feeder is not best for young pigs, for under 5 months old they will eat too much."

Springfield, Ill. ARTHUR J. BILL.

There are some things we ought to learn to do for ourselves: Sharpen our own knives; hang up our own caps; hunt up things that are lost; keep the cry back when it seems bound to come; go after the cows; count up a hundred; be brave always; help everybody. Let's do these things.

The fellow who boasts that he does the best he can, generally does other people the best he knows how.



## Horticulture

### Apple Rust.

We are mailing to you, under separate cover, two specimens of apples affected with fungus diseases which are new to us. One, a Red June variety, the other Cooper's Early White. We have seen very few, perhaps three or four, apples during the season affected as the Red June is. The Cooper's Early White disease is more common, having put in its appearance two or three years ago. It seems to be closely related to the black spot or scab, but is different in some ways. Please inform us what these diseases are called, also whether or not they are considered dangerous.

J. F. FAGERT & SON.

The Red June apple is affected with the apple rust (*Gymnosporangium macropus*). This fungus spends part of its life history on the apple and part on the red cedar. On the cedar it attacks the twigs and branches, causing the formation of spherical or irregular shaped knots which are somewhat fleshy when green and corky when dry. These knots are swellings of the stem due to the irritation of the fungus parasite within the tissue. Within these swellings, or cedar apples, as they are called, the fungus comes to maturity and produces its spores. In the spring these cedar apples become conspicuous, especially after a rain, when the jelly like masses containing the orange-colored spores swell and form long tags hanging from the cedar apples. The spores after drying are blown about by the wind and infect the leaves and fruit of the apple, wild crab, hawthorne, and other related trees. The leaves are much more frequently attacked than the fruit.

On the apple leaves or fruit the summer stage of the fungus forms spots which are at first yellow, but which may afterwards turn brown on account of the dying of the tissue. On the under side of the leaf these spots will be found to contain numerous pores or minute cups. The stage of the fungus on the apple is therefore called the cluster cup stage. Apple trees are often seriously damaged by this disease, which may become epidemic over considerable areas. The writer is not aware, however, of any serious outbreak of this disease in the State of Kansas.

Since part of the life history of the fungus occurs in the cedar, these trees when in the vicinity of orchards, should be carefully watched and even removed if necessary. At any rate, branches bearing cedar apples should be promptly removed and burned. It must be borne in mind that the branch and not simply the cedar apple itself should be removed, for the reason that the fungus has been shown to be perennial in the branches of the cedar and may therefore form new cedar apples for several successive years. The best time to remove these affected cedar branches and twigs is in the fall and winter, since at that time the swellings are about grown and therefore most conspicuous, and the spores are not yet disseminated. It will be too late to remove the cedar apples after the yellow tags begin to appear on the cedar trees in the spring, for the spores will already have been formed and partly scattered.

Spraying the apple-trees with Bordeaux mixture has been recommended but it is considered by many to be of doubtful value in the control of this disease. When Bordeaux mixture is used the first spraying is made just as the leaves expand and a second a few weeks later. A third is recommended in very rainy seasons. Different varieties of apples vary widely in their susceptibility to this disease. In general apples of the crab type are most frequently attacked.

The Cooper's Early White apple which you send is attacked by the scab. This is caused by the fungus (*Fusicladium dendriticum*). The specimen which you send is a typical case, but owing to the nature of the epidermis of this variety of apple and

to the fact that the fungus is now in an active state of growth, the appearance is perhaps more velvety than you were expecting it to be.

The apple scab first appears in the spring on the young foliage producing velvety, olive-colored patches. This form is sometimes known as mildew or leaf blight. In severe cases the leaves become shriveled and discolored, eventually falling off. The fungus also attacks the stems of young apples at blossoming time, especially if the weather is unusually cool and moist. This causes the young fruit to shrivel and drop off, often greatly reducing the crop of mature fruit.

The most characteristic effects of the fungus, however, are found on the fruit itself. Here the spots appear at first much like those on the leaves but as the fruit develops, the fungus works under the cuticle or outer layer of the skin, causing it to scale off. These spots on mature apples have a dark brown or blackish color with a narrow border of light gray. On badly affected fruit the spots run together, sometimes thereby covering one-third of the surface. Deep cracks often occur in such cases, which allow the apple to dry out.

Apple scab is without doubt the worst disease affecting this fruit. This is due not alone to its destruction of the foliage and young apples, but also to the unsightly spots which reduces the market value of only slightly-affected fruits and again to the fact that the scabby spots and cracks open a way for the entrance of numerous rot-producing fungi which may cause a greater loss of apples in the cellar.

Since it has been found that this fungus spends its winter in the fallen leaves under the apple-trees, one method of holding it in check is the careful cleaning of the orchard in winter or early spring. All old leaves, weeds, dead branches, and twigs should be gathered together and burned.

Spraying with Bordeaux mixture has also been proven to be of practical value in the prevention of this disease. The first spraying, made before the buds open, may consist of a strong solution of copper sulfate in water (about one pound to twenty-five gallons). After the leaves appear, Bordeaux mixture must be used. The first spraying of this should be before the flowers are out and should be very thorough. The next spraying should be just after the blossoms fall; and this should be followed by subsequent sprayings at intervals of about ten days to two weeks, according to the weather.

GEO. F. FREEMAN.

## The Apiary

### Apiary Exhibits for the Fair.

Now that the great State-Wide Fair is near at hand let no beekeeper fail to be with us and help make a good showing in the apiary department. Try your best to be with us and help encourage the industry, as we here at the Topeka Fair do not want to be outdone by any county fair.

We have a nice building to make our showing in, so put your shoulder to the wheel and help what you can. Do not wait to let the other fellow do it.

Hutchinson is hard at work to outdo us at Topeka. I know they can not if we all do our best. If you have not a premium list write to R. J. Kreipe, Topeka.

J. P. LUCAS.

Shawnee County.

### Kansas Beekeepers.

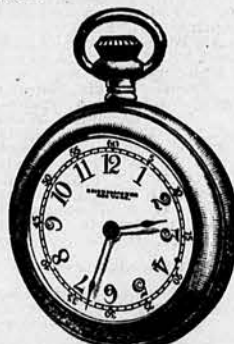
EDITOR KANSAS FARMER:—The annual meeting of the Kansas State Beekeepers' Association will be held at Hutchinson, September 16-17. First session will be held Wednesday the 16th at 2.30 p. m. As this meeting comes during the State Fair, it will give all an opportunity to visit the fair and also attend the association meetings. It is expected that there will be several noted beekeepers present from different parts of the country. The discussions of the different topics will be both interesting and instructive.

O. A. KEENE, Secy.  
Osage City, Kans.

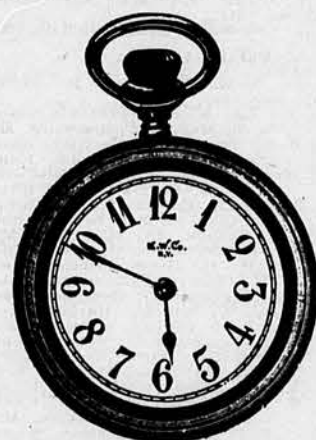
# Do You Want a Watch?



No. 49. Man's Watch. Sixteen size, open face, German silver watch with a genuine jeweled movement, "The Knickerbocker." Stem wind and set, porcelain dial, engraved case that is guaranteed to wear permanently. Guaranteed an excellent time-piece. Not a clock but a real watch. Given for three subscriptions at \$1.00 each.



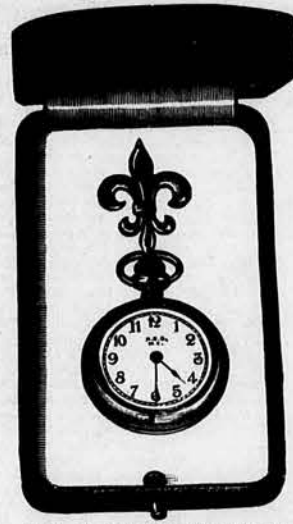
No. 45S. Lady's Nickel Silver Watch. Popular 6 size, genuine American Watch movement, finest of material and adjustment, an excellent time-piece, enamel dial, nickel silver case will never change color, antique bow, fully guaranteed, furnished in satin lined box. Given for three subscriptions at \$1.00 each.



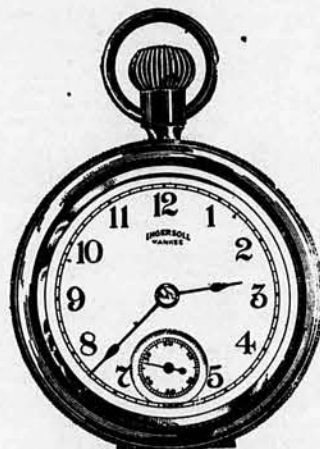
No. 47S. Boy's or Outing Watch. Nickel silver, 8 size, will never change color, engraved back, full bezel, heavy Arabic dial, genuine watch movement, regulated and fully guaranteed, antique bow and crown, stem wind and set. Given for three subscriptions at \$1.00 each.



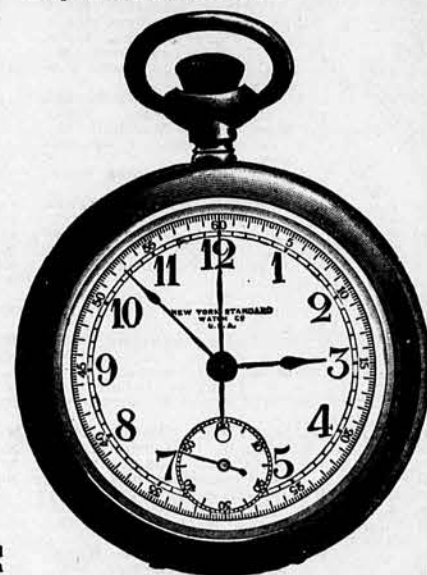
No. 981. The Skeleton Watch. The "Skeleton" is a most unique and novel watch; the front and back plates of the movement are cut so as to give an unobstructed view of its innermost mechanism. You can see through it. An absolutely guaranteed time-keeper, strong and durable enough to last a lifetime; it is furnished in nickel and gun metal. Given for five subscriptions at \$1.00 each.



No. 136. Lady's 20-year Gold Filled Watch. An O size chateaufort watch with high grade American jeweled movement, the case is gold filled, plain polished, warranted to wear for 20 years, stem wind and stem set, porcelain dial and fully guaranteed. Given for twelve subscriptions at \$1.00 each.



The Alarm Watch. Novel and most useful in many ways: an excellent watch with an alarm attachment will insure your keeping your engagements; the back when opened serves as a desk stand which makes it not only valuable on account of the alarm but as a desk watch; gun metal case, making it an artistic, novel and guaranteed watch. Given for ten subscriptions at \$1.00 each.



Stop Watch. Nickel silver case, regular high grade 7-jewel New York Standard movement, with split second attachment. A perfect recorder for timing sports, races or mechanical movements; fully guaranteed. Given for ten subscriptions at \$1.00 each.

Address, KANSAS FARMER CO., Topeka, Kans.



## Field Notes

## LIVE STOCK REPRESENTATIVES.

L. K. Lewis.....Kansas and Oklahoma  
A. L. Hutchings.....Kansas and Nebraska  
Geo. E. Cole.....Missouri and Iowa

## PURE-BRED STOCK SALES.

## Shorthorns.

Sept. 10.....H. K. Frantz, University Place, Neb., at State Fair Grounds.  
Sept. 29.....S. W. Hogue, Bladen, Neb.  
Sept. 30.....H. H. Hess, Surprise, Neb.  
Oct. 5.....A. O. Stoney, Sheridan, Mo.  
Nov. 11.....A. C. Shallenberger, Alma, Neb., and Thos. Andrew & Son, Cambridge, Neb., at Cambridge.  
Nov. 25.....E. D. Luuwig, Sabetha, Kans.  
Feb. 17.....J. F. Stodder, Wichita, Kans.  
Feb. 17.....J. C. Robinson, Agri. Wichita, Kans.

## Herefords.

Sept. 15, 16.....J. F. Gulick, Jasper, Mo.  
Sept. 28.....Jesse Engle, Sheridan, Mo.  
Sept. 29.....Mrs. S. W. Hudson, Sibley, Mo.  
Oct. 15.....R. N. Lewis estate, Bladen, Neb.  
Oct. 26, 27.....Chas. Ritchie, W. B. Stine, Mgr., Surprise, Neb.  
Mar. 3, 4.....Dispersion sale of Cornish & Patten Herefords at Osborn, Mo., to settle Patten's estate.

## Red Polls.

Oct. 7.....J. B. Davis, Fairview, Kans.  
Nov. 5.....Dispersion of Anderson & Findlay herd at Iola, Kans., W. C. Metgavock, Mgr., Springfield, Ill.

## Jerseys.

Oct. 12.....J. B. Gliven, Watonga, Okla., at Oklahoma City.  
Oct. 20.....Kinloch Farm, Kirksville, Mo.

## Poland-Chinas.

Sept. 1.....F. C. DeMoth and W. B. Seyfer, Arkansas City, Kans.  
Sept. 9.....A. K. Sell, Fredonia, Kans.  
Sept. 9.....R. E. Maupin, Pattonsburg, Mo.  
Sept. 11.....J. F. Thomas, Maple City, Kans.  
Sept. 12.....Ed McDaniel, Parsons, Kans.  
Sept. 23.....Knorr Bros., Pleasant Hill, Mo.  
Sept. 24.....A. K. Sell, Fredonia, Kans.  
Sept. 25.....J. A. Jenkins, Conway Springs, Kans.  
Sept. 26.....P. L. Clay, Broken Arrow, Okla.  
Sept. 28.....W. L. Wright, Jr., Rosendale, Mo.  
Sept. 29.....J. H. Harvey & Son, Maryville, Mo.  
Sept. 30.....H. H. Hess, Surprise, Neb.  
Sept. 30.....B. H. Colbert, Tishomingo, Okla.  
Oct. 1.....W. J. Wright, Jr., Rosendale, Mo.  
Oct. 1.....W. W. Wheeler, Harlan, Iowa.  
Oct. 2.....J. M. Devlin, Cameron, Mo.  
Oct. 3.....Lee Stanford, Lyons, Kans.  
Oct. 3.....Andrews Stock Farm, Kearney, Mo.  
Oct. 3.....D. C. Loneragan, Florence, Neb.  
Oct. 5.....L. D. Arnold, Enterprise, Kans.  
Oct. 5.....E. A. Vanscoy, Mont Ida, Kans.  
Oct. 6.....A. O. Stanley, Sheridan, Mo.  
Oct. 6.....J. D. Spangler, Sharon, Kans.  
Oct. 6.....J. M. Baier, Elmo, Kans.  
Oct. 7.....F. E. Muller, Hamilton, Mo.  
Oct. 9.....Delos S. Hazen, Hollis, Kans.  
Oct. 9.....Barkley Bros., Louisburg, Kans.  
Oct. 9.....Eli Zimmerman, Fairview, Kans.  
Oct. 10.....Crofford & Drummond, Norton, Kans.  
Oct. 10.....H. H. Harshaw, Butler, Mo., at Harrisonville, Mo.  
Oct. 10.....C. D. Swain, Robinson, Kans.  
Oct. 10.....A. & P. Schmidt, Alma, Kans.  
Oct. 12.....Fred Collet, Lincolnville, Kans.  
Oct. 12.....Fred Willie, Columbus, Neb.  
Oct. 12.....E. E. Axline, Oak Grove, Mo.  
Oct. 12.....D. A. Moats, Polo, Mo.  
Oct. 12.....Andrew Johns, Rosendale, Mo.  
Oct. 13.....H. H. Crawford, Rea, Mo.  
Oct. 13.....O. E. Hade, Rising City, Neb.  
Oct. 14.....W. V. Hope & Son, Stella, Neb.  
Oct. 14.....G. W. Allen, Tonganoxie, Kans.  
Oct. 15.....Frank Davis & Son, Holbrook, Neb.  
Oct. 15.....Robert Greer, Ramona, Kans.  
Oct. 15.....W. R. Webb, Bendena, Kans.  
Oct. 15.....W. O. Golde, Scribner, Neb.  
Oct. 15.....M. W. Adamson, Lincoln, Kans.  
Oct. 15.....Thos. Collins, Lincoln, Kans.  
Oct. 15.....G. E. Hayden & Son, Newkirk, Okla.  
Oct. 16.....E. A. Herbert, Mulhall, Okla.  
Oct. 16.....G. M. Hull, Burchard, Neb.  
Oct. 17.....H. L. Faulkner, Jamesport, Mo.  
Oct. 17.....Scott & Singer, Hiawatha, Kans.  
Oct. 17.....Stryker Bros., Fredonia, Kans.  
Oct. 19.....Frank Michael, Erie, Kans.  
Oct. 19.....W. H. Griffiths, Clay Center, Kans.  
Oct. 19.....Herman Groninger, Bendena, Kans.  
Oct. 19.....W. E. Adams, Elk Falls, Kans.  
Oct. 20.....L. P. Fuller, Morrowville, Kans.  
Oct. 20.....A. R. Enos, Lost Springs, Kans.  
Oct. 20.....S. U. Peace, Princeton, Mo.  
Oct. 20.....Jno. McKelvie, Dawn, Mo.  
Oct. 20.....J. L. Darst, Huron, Kans.  
Oct. 20.....Boian & Aaron, Leavenworth, Kans.  
Oct. 20.....Davidson & Chrysler, DeWitt, Neb.  
Oct. 20.....G. M. Hoadley, Sedalia, Mo.  
Oct. 21.....Walter Hillwein, Fairview, Kans.  
Oct. 21.....John Blain, Pawnee City, Neb.  
Oct. 21.....Leon Calhoun, Potter, Kans.  
Oct. 21.....Jno. Blaine, Pawnee City, Neb.  
Oct. 21.....A. B. Hale, Cameron, Mo.  
Oct. 22.....W. H. Bullen & Son, Belleville, Kans.  
Oct. 22.....A. H. Harnes, Hamilton, Mo.  
Oct. 22.....J. F. Hastings, Edgerton, Kans.  
Oct. 22.....C. H. Hays, R. 2, Vermillion, Kans.  
Oct. 22.....F. D. Faley, Abilene, Kans.  
Oct. 23.....A. P. Young, Lexington, Mo.  
Oct. 23.....Carl Jensen & Son, Guide Rock, Neb.  
Oct. 23.....S. W. Coleman, Sedalia, Mo.  
Oct. 23.....Everett Hayes, Hiawatha, Kans.  
Oct. 24.....Stedens' Stock Farm, Marshall, Mo.  
Oct. 24.....T. F. Walker, Alexander, Neb., at Fairbury, Neb.  
Oct. 24.....J. H. Hamilton & Son, Guide Rock, Neb.  
Oct. 24.....Reischick, Wittrock & Wyatt, Falls City, Neb.  
Oct. 24.....B. T. Wray & Sons, Hopkins, Mo., at Maryville, Mo.  
Oct. 26.....Geo. J. Hibbs, Pattonsburg, Mo.  
Oct. 26.....D. S. Weil, Clay Center, Kans.  
Oct. 26, 27.....W. B. Stine, Mgr., Surprise, Neb.  
Oct. 27.....C. E. Tennant, New Hampton, Mo.  
Oct. 27.....W. Logan & Gregory, Beloit, Kans.  
Oct. 27.....H. Johnston, Frankfort, Kans.  
Oct. 27.....Homer L. McKelvie, Fairfield, Neb.  
Oct. 27, 28.....W. B. Sleen, Mgr., Surprise, Neb.  
Oct. 28.....W. E. Epley, Diller, Neb.  
Oct. 28.....Thos. F. Miller and E. J. Hays, York, Neb.  
Oct. 28.....Cavett Bros., Phillip, Neb.  
Oct. 28.....R. E. Maupin, Pattonsburg, Mo.  
Oct. 28.....C. H. Picher, Glasco, Kans.  
Oct. 29.....Thos. Shattuck, Hastings, Neb.  
Oct. 29.....W. H. Lake, Hampton, Neb.  
Oct. 29.....F. D. Fulkerson, Brimson, Mo.  
Oct. 29.....Thos. F. Miller & E. J. Hays, York, Neb.  
Oct. 29.....Klaus Bros., Bendena, Kans.  
Oct. 30.....J. H. Lovell, Hastings, Neb.  
Oct. 30.....Geo. W. McKay, Laredo, Mo.  
Oct. 31.....F. D. Page, Orrick, Mo.  
Nov. 4.....Henry Metzinger & B. F. Porter, Caldwell, Kans.  
Nov. 5.....John Cook, Talmage, Kans.  
Nov. 6.....C. S. Nevius, Chiles, Kans.  
Nov. 6.....J. E. Bowser, Abilene, Kans.  
Nov. 6.....J. E. Summers, Clifton Hill, Mo.  
Nov. 6.....Kivett Bros., Burr Oak, Kans.  
Nov. 7.....W. B. Hayden, Campbell, Neb.

Nov. 7.....Shipley Bros., Grant City, Mo.  
Nov. 7.....D. C. Stayton, Blue Springs, Mo.  
Nov. 9.....Herbert Griffith, Clay Center, Kans.  
Nov. 10.....Anton Roesler, Wilcox, Neb.  
Nov. 10.....N. E. Copeland, Waterville, Kans.  
Nov. 10.....Aylch L. Perrin, Buckner, Mo.  
Nov. 10.....H. H. Harshaw, Butler, Mo.  
Nov. 11.....Albert Smith & Son, Superior, Neb.  
Nov. 11.....J. W. & H. F. Pelphrey & Sons and Jewell Bros., at Humboldt, Kans.  
Nov. 12.....L. A. Dawley, Hastings, Neb.  
Nov. 12.....Schneider & Moyer, Nortonville, Kans.  
Nov. 12.....H. O. Sheldon, Wichita, Kans.  
Nov. 12.....J. R. Sparks, Hunter, Okla.  
Nov. 13.....Frank Zimmerman, Centerville, Kan.  
Nov. 13.....J. W. Pelphrey & Son, Humboldt, Kans.  
Nov. 13.....Francisco Bros., Hastings, Neb.  
Nov. 14.....J. E. Bundy & S. N. Hodgson, Park-er, Kans.  
Nov. 14.....Geo. B. Rankin, Marion, Kans.  
Nov. 16.....Wm. Wingate, Trenton, Mo.  
Nov. 17.....C. G. Mills, Pleasant Hill, Mo.  
Nov. 17.....W. R. Crowther, Golden City, Mo.  
Nov. 18.....Geo. F. Beezley, Girard, Kans.  
Nov. 19.....Leyhe & Purcell, Marshall, Mo.  
Nov. 20.....Sensintaffer Bros., Brookfield, Mo.  
Nov. 21.....Edw. Goodspeed, Independence, Mo.  
Nov. 22.....W. E. Gates, Sheridan, Mo.  
Nov. 22.....Goodrich Stock Farms, Eldon, Mo.  
Nov. 23.....J. J. Roy, LeVoy, Kans.  
Nov. 23.....F. G. Niese & Son, Goddard, Kans.  
Nov. 24.....A. P. Wright, Valley Center, Kan.  
Nov. 25.....F. F. Oerly, Oregon, Mo.  
Nov. 25.....F. G. Niese & Son, Goddard, Kans.  
Nov. 26.....D. E. Crutcher, Drexel, Mo.  
Nov. 27.....J. H. Harvey & Son, Maryville, Mo.  
Nov. 27.....T. P. Sheehy, Hume, Mo.  
Nov. 28.....J. D. Willifong, Zeandale, Kans., at Manhattan, Kans.  
Nov. 28.....C. T. Coates, Cleveland, Okla.  
Dec. 5.....G. W. Roberts, Larned, Kans.  
Dec. 5.....H. N. Holdeman, Meade, Kans.  
Dec. 15.....Frank Huddleston, Ado, Okla.  
Jan. 19.....A. W. Shriver, Cleveland, Kans.  
Jan. 19.....T. A. McCandless, Bigelow, Kans.  
Jan. 19.....W. H. Shriver, Cleveland, Kans.  
Jan. 21.....J. H. Harshaw, Butler, Mo., at Sedalia, Mo.  
Jan. 25.....Frank Michael, Erie, Kans.  
Jan. 27.....Homer L. McKelvie, Fairfield, Neb.  
Feb. 3.....W. H. Johnston, Frankfort, Kans.  
Feb. 3.....F. G. Niese & Son, Goddard, Kans.  
Feb. 4.....W. W. Martin, Anthony, Kans.  
Feb. 4.....H. O. Sheldon, Wichita, Kans.  
Feb. 9.....Kivett Bros., Burr Oak, Kans.  
Feb. 9.....Henry Metzinger and B. F. Porter, Caldwell, Kans.  
Feb. 10.....W. W. Wheeler, Harlan, Iowa.  
Feb. 10.....Albert Smith & Son, Superior, Neb.  
Feb. 10.....Lemon Ford, Minneapolis, Kans.  
Feb. 11.....C. S. Nevius, Chiles, Kans.  
Feb. 12.....Geo. Wedd & Son, C. S. Nevius, at Spring Hill, Kans.  
Feb. 12.....D. A. Wolfersperger, Lindsey, Kans.  
Feb. 13.....Thos. F. Walker, Alexander, Neb., at Fairbury, Neb.  
Feb. 13.....Frank Georgia, Mankato, Kans.  
Feb. 17.....John Book, Talmage, Kans.  
Feb. 18.....J. C. Larrimer, Wichita, Kans.  
Feb. 18.....J. E. Bower, Talmage, Kans.  
Feb. 19.....J. C. Larrimer, Wichita, Kans.  
Feb. 19.....W. C. Toplin, Edinburg, Kans.  
Feb. 24.....Logan & Gregory, Beloit, Kans.  
Feb. 25.....H. H. Harshaw, Butler, Mo.  
Feb. 25.....W. A. Prewett, Asherville, Kans.  
Feb. 26.....C. H. Picher, Glasco, Kans.

**Duroc-Jerseys.**  
Sept. 2.....F. L. Bowman, Kingston, Mo.  
Sept. 4.....Coppins and Worley, Potwin, Kans.  
Sept. 8.....A. F. Russell, Savannah, Mo.  
Sept. 9.....C. A. Wright, Rosendale, Mo.  
Sept. 10, 11.....D. A. Beamer, Lamar, Mo.  
Sept. 24.....J. W. Taylor, Edwardsville, Kan.  
Sept. 29.....J. L. Williams, Bellair, Kans.  
Sept. 29.....W. H. Cummings & Son, Tecumseh, Neb.  
Sept. 29.....S. W. Hogue, Bladen, Neb.  
Sept. 30.....John Showalter, Cook, Neb.  
Oct. 1.....Dittmars Bros., Turney, Mo.  
Oct. 1.....C. W. Buck and W. F. Waldo, DeWitt, Neb.  
Oct. 6.....Ford Skeen, Auburn, Neb.  
Oct. 6.....N. J. Fuller, Garnett, Kans.  
Oct. 7.....J. B. Davis, Fairview, Kans.  
Oct. 7.....W. H. Diffenderfer, Lost Springs, Kan.  
Oct. 7.....J. F. Tucker, Elk City, Kans.  
Oct. 7.....J. F. Staadt, Ottawa, Kans.  
Oct. 8.....W. M. Putman & Son, Tecumseh, Neb.  
Oct. 8.....F. J. Miller, Wakefield, Kans.  
Oct. 9.....C. R. Green, Spring Hill, Kan.  
Oct. 10.....F. C. Crocker, Filley, Neb.  
Oct. 10.....S. W. Hogue, Bladen, Neb.  
Oct. 16.....W. G. Unitt, Seward, Neb.  
Oct. 16.....Lyne & Addy, at Independence, Mo.  
Oct. 17.....Forest Ray, Sheridan, Mo.  
Oct. 17.....W. J. Constant, Grant City, Mo.  
Oct. 19.....J. E. Ellsworth, Formosa, Kans.  
Oct. 19.....John Morrison, College View, Neb.  
Oct. 20.....Sweeney Bros., Kidder, Mo.  
Oct. 20.....G. Van Patten, Sutton, Neb.  
Oct. 20.....E. F. Larne, Lyons, Neb.  
Oct. 21.....Geo. Briggs & Sons, Clay Center, Neb.  
Oct. 21.....E. D. Ludwig, Sabetha, Kans.  
Oct. 21.....T. S. Larrowe, Miltonvale, Kans.  
Oct. 21.....Pearl H. Pagett, Beloit, Kans.  
Oct. 22.....Ola Nordstrom, Clay Center, Kans.  
Oct. 22.....W. T. Hutchinson, Cleveland, Mo.  
Oct. 22.....H. G. Warden, Inland, Neb.  
Oct. 23.....Hopkins Bros. & Sanstead, Holdrege, Neb.  
Oct. 23.....J. C. Monk, Ridgeway, Mo.  
Oct. 24.....O. G. Smith & Son, Kearney, Neb., and Ross R. Steele, Wood River, Neb., at Wood River.  
Oct. 26.....Watts & Dunlap, Martin City, Mo., at Independence, Mo.  
Oct. 27.....E. S. Watson, Torney, Mo.  
Oct. 27.....R. B. Adams & Son, Thayer, Kans.  
Oct. 27.....O. N. Wilson, Silver Lake, Kans.  
Oct. 28.....Geo. Davis & Son, Mulford, Neb.  
Oct. 27, 28.....S. A. Hands, Thayer, Kans.  
Oct. 28.....Geo. Davis & Son, Mulford, Neb.  
Oct. 28.....Grant Chapin, Green, Kans., at Manhattan, Kans.  
Oct. 28.....W. H. Wheeler & Sons, and W. H. Miller, Cameron, Mo.  
Oct. 29.....Chas. Leilhart, Marquette, Neb.  
Oct. 29.....G. W. Colwell, Summerfield, Kans.  
Oct. 29.....Geo. Hammond & K. S. A. C., Manhattan, Kans.  
Oct. 30.....Thompson Bros., Garrison, Kans.  
Oct. 30.....Burton Hahn, Norton, Kans.  
Oct. 30.....J. E. Rowe, Stockham, Neb.  
Oct. 31.....E. C. Gwinner, Holdrege, Neb.  
Oct. 31.....J. E. Joines, Clyde, Kans.  
Oct. 31.....E. M. Meyers, Burr Oak, Kans.  
Nov. 3.....E. M. Meyers, Burr Oak, Kans.  
Nov. 4.....R. M. Wilson, Chester, Neb.  
Nov. 4.....F. G. McDowell, Goff, Kans., at Corns, Kans.  
Nov. 4.....E. F. Porter, Mayfield, Kans., at Caldwell, Kans.  
Nov. 4.....H. Metzinger, Caldwell, Kans.  
Nov. 5.....J. F. Stodder and Marshall Bros., Burden, Kans.  
Nov. 6.....B. F. Porter, Caldwell, Kans.  
Nov. 6.....B. F. Roberts and Harter, Hebron, Neb.  
Nov. 6.....Coppins & Worley, Potwin, Kans.  
Nov. 9.....S. R. Murphy, Savannah, Mo.  
Nov. 10.....W. L. Adley & Son, Parnell, Mo.  
Nov. 10.....Rhinehart & Slagle, Smith Center, Kans., and W. C. Whitney, Agra, Kans., combination sale at Smith Center.  
Nov. 11.....Chester Thomas, Waterville, Kans.  
Nov. 11.....J. W. Beauchamp, Bethany, Mo.  
Nov. 12.....Ellis F. Hopkins, Ridgeway, Mo.  
Nov. 13.....T. I. Woodall, Fall River, Kans.  
Nov. 17.....L. D. Padgett & Segrist, Beloit, Kan.  
Nov. 20.....A. A. Alkin, Parsons, Kans.  
Nov. 21.....Lant Bros., Parsons, Kans.  
Nov. 23.....J. Harvey & Son, Marysville, Kan.  
Jan. 19.....Jas. L. Cook, Marysville, Kans.  
Jan. 25.....W. C. Whitney, Agra, Kans.  
Jan. 26.....Ward Bros., Republic, Kans.  
Jan. 27.....J. C. Logan, Onaga, Kans., at Havenaville, Kans.

Jan. 28.....Samuelson Bros., Manhattan, Kans.  
Feb. 1.....W. T. Fitch, Minneapolis, Kans.  
Feb. 2.....Pearl H. Pagett, Beloit, Kans.  
Feb. 3.....Jno. W. Jones & Son, Concordia, Kans.  
Feb. 3.....G. W. Colwell, Summerfield, Kans.  
Feb. 4.....J. E. Joines, Clyde, Kans.  
Feb. 5.....Grant Chapin, Green, Kans., at Manhattan, Kans.  
Feb. 6.....G. M. Hammond and K. S. A. C., Manhattan, Kans.  
Feb. 9.....B. F. Porter, Mayfield, Kans., at Caldwell, Kans.  
Feb. 9.....Thompson Bros., Garrison, Kans.  
Feb. 9.....H. Metzinger, Caldwell, Kans.  
Feb. 10.....T. E. Goethe, Leonardville, Kans.  
Feb. 11.....Ola Nordstrom, Clay Center, Kans.  
Feb. 11.....J. F. Stodder and Marshall Bros., Burden, Kans.  
Feb. 12.....L. E. Kretzmer, Clay Center, Kans., at Emporia, Kans.  
Feb. 13.....Frank Georgia, Mankato, Kans.  
Feb. 15.....J. A. Rathbun, Downs, Kans.  
Feb. 16.....D. O. Bancroft, Downs, Kans.  
Feb. 17.....R. G. Sollenburger, Woodstock, Kan.  
Feb. 18.....John W. Jones & Son, Concordia, Kans., at Emporia, Kans.  
Feb. 18.....E. M. Myers, Burr Oak, Kans.  
Feb. 19.....H. B. Miner and A. T. Cross, Guide Rock, Neb., at Superior, Neb.  
Feb. 23.....A. B. Skadden & Son, Frankfort, Kan.  
Feb. 23.....Wm. Sutter, Liberty, Neb.  
Feb. 24.....James M. Williams, Home, Kans.  
Feb. 28.....James M. Williams, Home, Kans.

**The Lincoln Top Sale Circuit.**  
Oct. 5.....A. Wilson, Bethany, Neb.  
Oct. 6.....Ford Skeen, Auburn, Neb.  
Oct. 7.....W. M. Putnam, Tecumseh, Neb.  
Oct. 8.....R. F. Miner, Tecumseh, Neb.  
Oct. 9.....Elmer Lamb, Tecumseh, Neb.  
Oct. 10.....F. C. Crocker, Filley, Neb.  
Oct. 6.....N. J. Fuller, Garnett, Kan.  
Oct. 7.....J. F. Staadt, Ottawa, Kans.  
Oct. 8.....H. F. Gingrich, Wellsville, Kans.  
Oct. 9.....C. R. Green, Spring Hill, Kans.

**Southeastern Kansas Sale Circuit.**  
Nov. 11.....Samuel Drybread, Elk City, Kans.  
Nov. 12.....Frank Drybread, Elk City, Kans.  
Nov. 13.....J. J. Baker, Elk City, at Thayer, Kans.  
Nov. 11.....O. W. Simmerly, Persons, Kans.

**Chester Whites.**  
Oct. 13.....J. E. Simpson, Sheridan, Mo.

**Berkshires.**  
Sept. 18.....T. F. Guthrie, Strong City, Kans.  
Oct. 15.....American Royal, Kansas City, Mo.  
Oct. 17.....A. C. Dugan, at Blackwell, Okla.  
Oct. 27.....C. A. Robinson, Kirksville, Mo.

**O. I. C.**  
Sept. 24.....Combination sale, St. Joseph, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Sept. 30.....Combination sale, Cameron, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 1.....Combination sale, Independence, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 6.....Wm. Bartlett, Pierce, Neb.  
Oct. 8.....Combination sale, Sedalia, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 10.....D. C. Stayton, Blue Springs, Mo.  
Oct. 13.....J. E. Simpson, Sheridan, Mo.  
Oct. 15.....Combination sale, Independence, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 22.....Combination sale, Hastings, Neb., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 27.....Combination sale, Holdrege, Neb., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Oct. 30.....Combination sale, Concordia, Kans., I. M. Fisher, Mgr., box K, Hastings, Neb.  
Nov. 4.....Combination sale, Sioux City, Iowa, I. M. Fisher, Mgr., box K, Hastings, Neb.  
Nov. 5.....D. C. Stayton, Blue Springs, Mo.  
Nov. 18.....A. T. Garth, Larned, Kans.  
Dec. 19.....S. W. Artz, Larned, Kans.  
Jan. 15.....E. Forward & Son, Bayneville, Kans.  
Feb. 19.....Isaac Briggs, Minneapolis, Kans.

**Horses.**  
Feb. 16.....J. C. Robinson, Mgr., Wichita, Kans.  
Nov. 23, 24, 25.....Draft breeds registered horses at Springfield, Ill., W. C. McGavock & Co., Mgrs.

**Combination Sales.**  
Oct. 1 and 2.....Woodson County Breeders' Association, G. A. Loude, secretary, at Yates Center, Kans.  
Feb. 16, 17, 18.....J. C. Robinson, Mgr., Towanda, Kans., at Wichita, Kans.

**American Royal Sales.**  
Oct. 13.....Herefords.....C. R. Thomas, superintendent, 221 West 12th St., Kansas City, Mo.  
Oct. 14.....Galloways.....C. R. Thomas, superintendent, 221 West 12th St., Kansas City, Mo.  
Oct. 15.....Aberdeen-Angus.....C. R. Thomas, superintendent, 221 West 12th St., Kansas City, Mo.  
Oct. 15.....Berkshires.....C. R. Thomas, superintendent, 221 West 12th St., Kansas City, Mo.

**International Sales.**  
Tuesday, Dec. 1.....Aberdeen-Angus.  
Wednesday, Dec. 2.....Galloways.  
Thursday, Dec. 3.....Herefords.  
Friday, Dec. 4.....Shorthorns.

**Among the Breeders.**  
Our genial friend, John Schowalter, who owns the Fancy Herd of Duroc-Jerseys at Cook, Neb., says his prospects for corn are fine, and this means that all of those Lincoln Tops, Kant Be Beats, and Gold Finches will have plenty of their staff of life. He mentions that the Durocs are coming fine and we think he is in the business to stay. Wish there were more like him.

The American Shorthorn Association has issued Circular No. 22, which contains a synopsis of the business transactions of the association for 1907 and prizes offered for 1908 at the great National shows; the by-laws, rules of entry, and other matters of interest to stockholders. This circular can be had by addressing Secretary John W. Groves, 13 Dexter Park Avenue, Chicago.

H. C. Dawson Sons, who own the famous Expansion herd of Poland-Chinas at Endicott, Neb., have just sold six head of Expansion-Grand Look boars and sows to the Argentine Republic, South America. The Dawsons have long been known as breeders of the big-boned, big-litter kind and this sale into the Argentine shows that their ideas have been "catching." Ever since old Expansion first stepped into the show ring he has been the most talked about boar in the Middle West. His type is the type of the corn belt, and the selection of his sons and daughters to go to

## HORSE OWNERS! USE



## CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, best and most effective used. Removes all bunches from horses. Impossible to produce sores or blennies. Send for circular. Special advice free.

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NEWTON'S Heave, Cough, Diarrhea and Indigestion Cure. A Veterinary Remedy for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can, of dealers, or exp. prepaid. The Newton Remedy Co., Toledo, Ohio.

**"Rockford" Engines** All Styles  
From 3 to 30 H. P.  
"Rockford" is the Engine that will please. Before you contract or buy get the Rockford proposition.  
Address Dept. 16, NEAT-NORRY-HANDY Rockford Engine Works, Rockford, Ill.



Send or Circulate The Pet-Is'n Mfg. Co., Kent, Ohio

**HEIDER**  
2, 3, 4 and 5-Horse Eveners  
For SULKY, GANG and DISC PLOWS  
Ask Your Dealer for "Heider" Eveners, or Write Us  
**HEIDER MFG. CO.,**  
Mfrs. of all kinds of Eveners, Ladders, Etc.  
Dept. 6, CARROLL, IOWA.

# 16th National Irrigation Congress

Interstate Industrial Exposition and New Mexico Territorial Fair, all at

**Albuquerque, N.M.**

**Sept. 29 to Oct. 10**

Come and see the prosperous Santa Fe Southwest—where all the way from Colorado to California water is king.

The U. S. Government is spending millions of dollars to get a permanent water supply for the semi-arid lands.

It means millions of acres made tillable and fit for homes.

A National event, worth crossing a continent to see. Foreign diplomats, Government officials, noted irrigation experts and captains of industry will attend.

A great exposition of Southwest farms, ranches, mines, and industries. Indians too and cowboys.—U. S. Cavalry.

**Very low round-trip rates to Albuquerque will be made for this occasion.**



Attractive side-trips to U. S. Reclamation projects and Grand Canyon of Arizona.

**J. M. CONNELL,**  
General Passenger Agent,  
A. T. & S. F. Ry.  
Topeka, .. Kansas

Ask for Irrigation Booklet.



Argentine shows that other peoples appreciate this type as well as the farmers and breeders of the corn belt.

W. R. Crow, of Hutchinson, Kans., is making exhibits of his Duroc-Jersey swine for the first time in several years. At the Pratt County Fair held last week he won as follows: First on boar over one year, boar under one year, sow over one year, sow under one year, best boar any age or breed, best sow any age or breed, best sow and five pigs, best boar and two sows any age or breed. He won other prizes as follows: Second on sow over one year, second on sow under one year, third on sow and five pigs. His prize-winning aged boar is Climax Wonder and his prize-winning young boar is Crow K.

"Lightning never strikes but once in the same place." Well, it doesn't need to. Once is enough. Once is enough to destroy your house or barn and with it your savings of years. It is this "once" that you want to protect your property against. You can only do this by using a lightning rod, a real lightning rod. Such a rod is made of a good conducting material that will afford the lightning an easier path to the ground than is afforded by the wet roof and walls of the building. It must also be properly put on, as even the best material will not be effective unless it is perfectly adjusted to its purpose. The woven copper cable has been found to be the best form of rod for absolute protection. Lightning has been very severe this year and many buildings have been destroyed. More will be. Read what Dodd & Struthers say about their copper cable lightning rod in their advertisement and ask them questions if you need more information. They undoubtedly have one of the best rods made.

#### WICHITA FAIR, SEPTEMBER 7 TO 12.

Biggest Event in History of Southwestern Fairs at Wichita, Kans.

The Wichita and Southwestern Fair Association is advertising its third annual fair for September 7 to 12, and it is justly claiming the distinction of offering more and greater attractions to the farmers, horsemen, and fair-goers than ever in the history of past fairs of the Southwest. Over \$20,000 in purses and premiums will be awarded.

Realizing the value to every fair of excellent exhibits, the association early set about to make the stock, poultry, farm products, and horticultural departments leading features. Each department has been placed under the management of a superintendent who is especially familiar with his work, and the results obtained even at this advanced date assure those who visit Wichita September 7 to 12 of seeing the largest assortment of exhibits arranged under fifteen distinct classifications ever shown in Kansas or Oklahoma.

The association this year will have nearly 100 acres in which to spread its exhibits. The live stock and farm machinery exhibits will be together while all other exhibits will be in large, spacious, concrete buildings in Wonderland Park, which is adjacent to and a part of the fair ground this year. This park is one of the most delightful summer resorts in the West. Large spreading trees cover the ground, making it very attractive and comfortable. No extra charge will be made to gain entrance to Wonderland.

The poultry show this year is expected to be far greater than the State Poultry Show. The premiums offered are larger than those offered by the State institution and this department is being managed by a successful poultryman. Similar mention might be made of every other department. Any information may be secured by communicating with Secretary Chas. Mosbacher.

Horse breeders, cattlemen, hog fanciers, sheepmen, farmers and housewives will find interesting facts in the handsome premium list gotten out by the fair association, and on investigation they will readily observe that it will be worth their time and what trouble is entailed to visit the Wichita Fair, September 7 to 12, with either exhibits or merely to see and learn the advantages Kansas and Oklahoma have and how these advantages have been rightly understood by those exhibiting.

A fine racing card is offered. There will be over twenty-four races, consisting of trotting, pacing, and running. There will be more race horses in Wichita fair week than will be seen on any one track in Kansas or Oklahoma this year, and every fast horse in the West is booked for the Wichita races.

#### State-Wide Fair.

The special premiums offered by the management of the Kansas State Fair will be quite a feature from the standpoint of the exhibitors. Secretary Kreipe has listed the following specials up to date:

Four days' butter contest for pure-bred cows: Cow giving largest yield of milk, first, \$10; second, \$5. Cow showing largest amount of butter from her milk, first, \$10; second, \$5. Cow giving largest yield of milk and amount of butter from milk, first, \$15.

Best herd of Tamworth swine, consisting of one boar and three sows over one year old, first, \$10; second, \$5. Four pigs under 6 months old, the product of one sow, bred by exhibitor, first, \$10; second, \$5.

Shawnee County special: Best ten stalks of yellow corn, first, \$10; second, \$6; third, \$4. Best ten stalks of white corn, first, \$10; second, \$6; third, \$4. Must be grown by boy or girl under 18 years old; no award will be made unless the exhibit is meritorious.

Best suckling mule, first, \$5; second, \$2.50.

Secretary Kreipe received word from Zach Mulhall to-day in which the noted ranchman says that he will send a couple of swell cowboy and cowgirl suits to Topeka and asks if they can be put on exhibition in a clothing and dry goods store on wax figures. The secretary has already answered in the affirmative and expects to put in a wild west window display next week in a couple of leading stores.

Kansas dairymen and beekeepers are urged to all pull together for a big dairy and honey exhibit. And the fol-

lowing letter is given publicity by A. E. Jones, superintendent of dairy and apriary exhibits, at the State-Wide Fair, September 7 to 12, 1908:

"Topeka, Kans., August 22, 1908. To Whom It May Concern: Having been appointed superintendent of dairy and apriary exhibits at the approaching fair and exposition next month, I wish to remind all butter- and cheese-makers, also beekeepers, that in making attractive exhibits, you not only help yourselves, but render valuable service to the county and State.

"No section in the West has better facilities for first-class dairy products than Kansas, and as for honey, our alfalfa fields furnish material for the highest scoring article of condensed sweetness to be found in any country.

"A large refrigerator show case is under construction for exhibiting and storing butter and cheese, and plenty of space in a good location will be at the disposal of all who wish to make a showing in this department.

"There are plenty of good farm butter-makers accessible to Topeka, who, if they would devote a few hours' time could make a creditable display, and thereby learn from their score cards where any errors exist in churning and working butter, and making it attractive for market.

"The prime results of these tests should be viewed in the light of education in addition to the cash premiums offered.

"Entries are solicited from all, both creamery and dairy and honey producers; that the coming fair will demonstrate the many advantages offered by Topeka and the Exposition Company, as the ideal place to exhibit such products.

"This is a year of plenty. Let the farmer and his family feel glad, bring the best you have, spend a few days at the fair with the assurance that you will be well paid for your time and expense.

"Send for premium list showing our liberal cash prizes.

"A. E. JONES, Superintendent."

#### The American Royal.

The executive committee of the American Royal Live-Stock Show which is to be held at the Kansas City Stock Yards October 12 to 17, met at the Savoy Hotel, Kansas City, on Saturday, August 22, to perfect arrangements for the coming exhibition.

The committee consists of the following gentlemen: Allen Thompson, Nashua, Mo.; Geo. Kitchen, Jr., Gower, Mo.; C. R. Thomas, Kansas City, Mo.; W. H. Weeks, Kansas City; Wm. McLaughlin, Kansas City; and N. H. Gentry, Sedalia, Mo. Messrs. Thomas, Gentry, and McLaughlin were absent, but Mr. Thomas was represented by J. W. Rouse, of the Hereford Breeders' Association. Mr. Kitchen called the committee to order and the following business was transacted:

J. C. Wright, of Smithville, Mo., was appointed as superintendent of the light horse department. C. C. Glenn, superintendent of the draft horse department; committee on light horse department, C. R. Thomas, A. D. Cottingham, and W. H. Weeks. Printing committee, Allen Thompson, C. R. Thomas, and W. H. Weeks.

The following judges have been appointed: Shorthorns, E. K. Thomas, Thomas Clark, and Rankin Forbes; Galloways, Prof. H. R. Smith; Angus, O. E. Bradfute; Herefords, W. S. Ikard, of Texas, and W. A. McHenry, of Iowa; Berkshires, C. F. Curtis, I. L. Weirick, and F. A. Scott; Durocs, R. J. Kinzer; O. I. C's, judge yet to be appointed; poultry, Jos. A. Tucker; harness horses, W. B. Galbreath, Churchill Bradford, and Thomas Hutt.

The American Royal Live-Stock Show is of international renown and each year attracts breeders from all parts of the country where pure-bred stock is raised, and this year promises to be the greatest in its history.

#### The State Beekeepers Meet at Hutchinson.

The Kansas State Beekeepers' Association will hold its meeting during the State Fair at Hutchinson. The first session will open at 2.20 p. m. on September 16, when everybody interested in bees is invited to be present. In connection with the meeting and the fair there will be a demonstration by Frank A. O'Dell, of Lincoln, Neb., who lectures on beekeeping while working in a cage filled with bees. By owning bees the alfalfa farmer can greatly increase his annual income and this meeting is sure to be a success.

#### Swine Breeders Meet at Hutchinson.

In the new swine pavilion at the Kansas State Fair the breeders will have their headquarters, and it is planned to hold a called meeting of the Kansas State Swine Breeders' Association and perhaps a number of the different breed associations will also meet. This new pavilion is something that has long been needed as there has been no suitable meeting place at any great fair for such associations.

#### Crow's Durocs.

W. R. Crow, of Hutchinson, Kans., who has one of the largest and best herds of Durocs in the State, is making a change of copy in this issue of THE KANSAS FARMER. He now calls attention to the fact that he has one hundred and forty large, early spring pigs, both sexes, representing some of the best families of the breed, such as Ohio Chief, Buddy K., Oom Paul, Missouri Wonder, and Kant Be Beat, from which to supply his fall trade.

These pigs are out of large, smooth, prolific dams, and by the best of sires. They have been well developed on the right kind of feed and are one of the best lots that the writer has seen.

Mr. Crow's herd is headed by Climax Wonder 59953 and Crow K. 67979. Climax Wonder is by Missouri Wonder, and his dam is Lady Climax 2d by 2d Climax. In this fellow we believe that Mr. Crow has one of the greatest, if not the greatest, herd boar in the State. He is a hog of great substance and quality, a massive fellow weighing close to 1,000 pounds at 25 months old. He is very smooth with a strong masculine head and fancy ears; he has a strong,

# Public Sale

## 300 DUROC PIGS 300

I will sell at Public Auction the above matchless collection of PURE BRED PIGS at College Hill Farm, adjoining

LAMAR, MO., SEPT. 10-11, 1908

These pigs are the tops selected from our College Hill Farm herd of 600 of February, March and April, 1908 farrow, and will weigh from 200 to 300 pounds.

The foundation animals of this herd of Durocs are:

King of the Golden Circle, Royal Joe, Iowa King, Red Advance, Buster Brown, King Brilliant.

Mated with the very largest types of pure bred sows.

Certificate of College Hill Farm as to purity of breeding with each animal sold.

TERMS OF SALE: All sums of \$20 or less, cash in hand. On all sums over \$20, a credit of 12 months will be given. Purchaser giving bankable note without interest if paid when due. On all cash paid a discount of 8 per cent will be allowed.

## D. A. BEAMER,

AUCTIONEERS—Tom Carlton, Lamar, Mo.,  
Frank J. Zaun, Independence, Mo.

# DUROC-JERSEY AUCTION

Coppins & Worley's Sale of 30 Head of Good Stuff at the farm 2 miles east of

POTWIN, KANS., FRIDAY, SEPT. 4

The Tops of this Entire Herd will be Included.

Some choice bred sows.

Some choice bred gilts.

Some fine open gilts.

Some fine young herd headers.

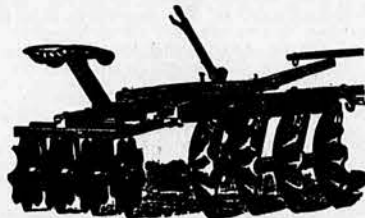
Some sows with young litters.

This offering comes from Ohio Chief, Kant-Be-Beat, Morrison's Bell Top, Model Chief Again, Improver 2d, and Oom Paul blood lines.

Send bids to L. K. Lewis in our care.

## Coppins & Worley, Potwin, Kans.

JNO. D. SNYDER, Auctioneer.



Don't Wait for Rain. Get a RIGHT LAP CUTAWAY

and thoroughly prepare at least 8 acres per day of that dry, hard wheat ground. Guaranteed to do the work. Send for particulars.

Southwest Headquarters, Wichita, Kas.  
J. C. CONLEY, Gen. Agt.



thick-fleshed back, great bulging hams, and plenty of bone to carry his great weight. He is a show hog and an excellent sire. Crow K. is of the strong medium type, very fancy, with good color and splendid conformation. Both of these boars are being fitted and will be shown at the leading fairs in several States, and we believe that in them Mr. Crow has something that will be very hard to beat.

In addition to these Mr. Crow has fitted and will exhibit enough animals from his herd to make double entries in every class. Few herds can furnish this amount of show material, and it is certainly a strong testimonial to the quality of Mr. Crow's Durocs that he is able to do this. His yards are located at 200 E. Osborne Street, Hutchinson, Kans., and the electric cars run within two blocks of them, so that prospective buyers can easily visit and inspect his herd.

Mr. Crow is prepared to furnish young stock of high quality at reasonable prices. In writing please mention THE KANSAS FARMER.

#### H. K. Frantz's Dispersion Sale.

One of the best Shorthorn sales to be held this year is the dispersion sale of H. K. Frantz, University Place Station, Lincoln, Neb., September 10, 1908. This sale will be held at the State Fair grounds the week after the State Fair. About a dozen animals in this sale will be on the fair grounds the week of the State Fair so Shorthorn breeders can see the kind of stuff that is in this sale.

Mr. Frantz has gotten together one of the best herds of Shorthorns in Nebraska and it is with regret that he is obliged to go out of the Shorthorn business. But his large banking interest is taking all his time so his Shorthorns have to be sold.

In getting this herd together individual merit and breeding was the first consideration, and some of the cows in this herd were purchased at a long price. We looked this herd over a short time ago and was pleased with the uniform type and individual merit of the whole herd. Rarely do you find so many good, useful, high-class animals in one herd of this size. These cattle are in good breeding condition, not fat or overfed.

A number of the cows will be sold with calves on foot and safe in calf again so the buyer will get three for the price of one.

The bull that sired a number of calves to be sold and that all the cows and heifers are bred to is Lavender Victor 265627, a grandson of Lavender Viscount 124775, twice grand champion of America and one of the best breeding bulls living to-day. Lavender Victor is a grand bull and ought to head one of the best herds anywhere. He is a large, smooth fellow with lots of quality and a good handler, solid red in color and of pure Scotch breeding.

Lot 2 in the sale is the Canadian bred cow, English Lady 16th, one of the best cows to be found in the breed anywhere. She was champion yearling of Canada, also champion 2-year-old of Canada. She will be sold with a heifer calf sired by Lavender Victor.

Lots 3 and 5 are two good Scotch heifers, full sisters. One of them will be sold with a bull calf that is a show calf right now. These heifers were bred by R. Mitchell & Sons, Nelson, Ont., and would be a good addition to any herd. Beauty C. 58th, lot 7, is a grand young cow and is bred right. She comes from one of the best prize-winning families in England. This heifer would be a valuable addition to any herd.

A number of the cows and heifers in this sale were bought of the best breeders of Canada and the United States at good prices, as Mr. Frantz in getting his breeding herd together gave first consideration to individual merit, quality, and breeding and was obliged to pay long prices to get what he wanted.

Any one in the Middle West that expects to buy cows, heifers, young bulls, or a grand herd header should attend this sale for a better lot will not be sold this year.

Write for catalogue to H. K. Frantz, University Place Station, Lincoln, Neb. See sale advertisement elsewhere in THE KANSAS FARMER.

#### Ridgley's Poland-Chinas.

Nebraska is the recognized home of the large Poland-China hogs and the demand for this hog is spreading very rapidly. "Why?" Because the farmer and feeder demand a hog that is large enough to fatten and raise a good litter of pigs that will pay when fed out for pork. The pure-bred stock breeder that sells to the farmer has got to sell him what he wants, and that is very rapidly getting to be the large type and smooth pig.

One of the good herds in Nebraska of the large, strong bone, smooth Poland-Chinas is owned by B. E. Ridgley, Pickrell, Neb. Mr. Ridgley is a good judge of a hog and has gotten together a good herd of brood sows from the best known families of the large type in Nebraska.

We found in this herd, when we saw it a short time ago, a very even, growthy, smooth lot of spring pigs that will grow into large, fine hogs. Mr. Ridgley also had on hand sixteen fall boar pigs that were well grown and smooth that would do good service in any herd.

The boar at the head of this herd is Billy Boy, sired by Utter's Chief, he by Over Chief by Chief Over, dam Maud Perfection 1st, sired by Highland Chief Jr. Billy Boy is a litter brother to Black Beauty, that large, fine show sow that was a winner at Nebraska and Iowa State Fairs last fall in the herd shown by C. A. Lewis, Beatrice, Neb. Billy Boy is a very large, smooth hog with two good ends and the right kind of middle. He has large, strong bones and stands well upon his toes. The spring pigs and fall boars are most all sired by this hog and their individual merit and quality prove him to be a good sire.

One of the good sows in this herd is Maud R., sired by National Crown by V. & W. Perfection, he by Chief Perfection 2d, dam Gipsy Queen 3d, sired by Varsity Expansion. Maud R. is not only a fine sow but is a great breeder farrowing fifty-six pigs in five litters. Another good brood sow is Gipsy

Queen 2d, sired by Varsity Expansion by old Expansion, dam Gipsy Queen by Varsity Chief. Another one is Perfect Lady, sire National Crown by V. & W. Perfection by Chief Perfection 2d, dam an Expansion-bred sow. Polly 27th, an Expansion-bred sow, and Miss Lewis, a Perfection-bred sow, are two more good ones.

You can see from the breeding of the herd boar and sows in this herd that they are from the families that have made the large Poland-China famous in Nebraska.

Parties wishing this kind of Poland-Chinas should write Mr. Ridgley for prices where you will get good stock and just treatment.

Notice Mr. Ridgley's card elsewhere in THE KANSAS FARMER.

#### Kinloch's Great Sale.

The Berkshire sale from the Kinloch Farm at Kirksville, Mo., which was held on Wednesday of last week, was a grand success in every particular.

The superb offering that had been advertised through the agricultural press attracted breeders from many States, and the auction was spirited and interesting throughout.

The feature attraction of the sale was the World's Fair champion sow, Duchess 279th, selling to W. E. Darnell, of Armington, Ill. There were fifty head sold to an average of \$146.30.

The following is a list of some of the sales:

No. 1. W. E. Darnell, Armington, Ill.	\$2,000.00
No. 2. W. S. Corsa, Whitehall, Ill.	75.00
No. 3. L. M. Gilmer, Agency, Ia.	55.00
No. 8. W. S. Corsa, .....	100.00
Nos. 12, 13, 14. Lester Sturm, Vandalla, Ill., each.	227.50
No. 16. E. J. Barker, Thornton, Ind.	300.00
No. 17. E. J. Barker, .....	200.00
No. 27. C. A. Robison, Kirksville, Mo.	115.00
No. 28. G. G. Council, Vandalla, Ill.	1,012.50
No. 29. G. G. Council, .....	250.00
No. 34. Morley Rily, Thornton, Ind.	225.00
No. 35. A. M. Wilkes, Castalian Springs, Tenn.	175.00
No. 54. Phil Sanford, Springfield, Ill.	105.00
No. 60. Bert McMillin, Blanchard, Ia.	135.00

#### Last Call for Coppins & Worley's Duroc-Jersey Auction.

This is the last call for Coppins & Worley's Duroc-Jersey auction, which is being advertised on another page of this issue of THE KANSAS FARMER. The date of their sale will be Friday, September 4, and the place will be at their farm two miles east of Potwin, Kans. Messrs. Coppins and Worley have one of the largest and best herds of Durocs in the State, comprising some of the best blood lines of the breed, such as Ohio Chief, Oom Paul, Kant Be Beat, Morrison's Bell Top, Model Chief Again, and Improver 2d.

Their offering will consist of thirty head, the tops of their entire herd, including their fine show herd, which has been exhibited at some of the leading fairs this fall.

They are advertising some choice bred sows in the prime of their usefulness, some extra good bred gilts, some fine open gilts, some crackerjack young boars, and a few good sows with litters at foot. The females that are bred are mated for early farrow to Coppins' Notch Higher, a grandson of Kant Be Beat, and the show boar, Chief Justice, one of the best breeding sons of Model Chief Again, who made such a splendid record at the head of Grant Chapin's herd. The young stuff is nearly all by these sires.

Every animal in the offering has been developed on free range, with an abundance of alfalfa pasture and plenty of muscle- and bone-producing feed. The young stock is well grown out, and the entire offering is strong in substance, bone, and finish, and have fancy heads, good, strong, thick-fleshed backs, the best of feet, and excellent feeding qualities.

Everything will be well fitted and presented in the pink of condition, and in the best possible shape to go out and make good in the hands of purchasers.

This offering has been carefully inspected by the writer, and we know of no better place to buy first-class breeding stock. Those wishing to buy should not miss this opportunity, for it will be one of the best of the season. Remember the time and place, Friday, September 4, at Potwin, Kans. Send for a catalogue and arrange to be at the sale.

#### The Hutchinson State Fair.

Secretary A. L. Sponsler reports a large demand for room for exhibits and says that everything points to the largest and most successful fair ever held at Hutchinson.

A number of valuable improvements have been added to the fair grounds. One of these is a comfortable building for the use of press representatives, and containing a large, comfortable rest room for ladies. This has been erected near the judging rings and will be appreciated by the public and newspaper men.

Secretary Sponsler also reports that he will endeavor to organize a press bureau to compile the awards and furnish them to the papers at a reasonable price.

#### George Haas' Poland-Chinas and Red Polls.

George Haas, of Lyons, Kans., is establishing a reputation as a breeder of Poland-China swine and Red Polled cattle. His fine 320-acre farm, which is located five miles east of Lyons, is provided with an abundance of shade, pure water, alfalfa pasture, and every convenience for caring for his herds.

His Poland-Chinas are richly bred, representing some of the best families of the breed. They are of the strong, medium type, with plenty of finish and excellent feeding qualities. The herd is headed by D. S. Perfection, one of the best breeding sons of that good sire, Grand Perfection that we have seen.

Mr. Haas' Red Polls are exceptional for good size, fine color, and heavy milking qualities. Hope, the chief stock

## Don't Buy a Stove or Range Until You First See How Much You Save By Getting

# "A Kalamazoo Direct to You"

TRADE MARK REGISTERED

YOU want to make every cent you spend this year, count for quality and economy.

If you need a stove or range, don't buy until you get our factory prices. I promise you that I will save you \$5, \$6 or \$10 on our smallest stoves, and as high as \$18, \$20 and even \$30 on our largest. And I promise you that you cannot get anywhere at any price, a better stove or range than the Kalamazoo.

Just let me quote you prices. Take our catalogue and compare the Kalamazoo quality and prices, with the best line of stoves and ranges you can find sold at retail. That will tell the story. You can see for yourself. You want to save money and you want to get high quality. Why not investigate our plan, then? Why not let me show you the difference between manufacturers' prices and retail prices on stoves or ranges?

We sell to you, direct from the factory, at actual factory prices.

### On 360 Days Approval Test—We Pay the Freight

I promise, in black and white, to refund your money—every cent of it—if you do not find your purchase in every way exactly as represented.

Remember, every Kalamazoo is of the highest possible grade, made of the best materials and in the best manner. You deal directly with the manufacturers—a company that has a larger number of individual customers than any other stove company in existence. We have sold thousands of stoves and ranges to readers of this journal, and no doubt can refer you to near neighbors who have saved money by buying a Kalamazoo. Many customers write that they have saved enough on a single Kalamazoo to pay for a whole season's fuel. You can save enough to buy a new suit, a new dress, an article of furniture, or perhaps to pay your taxes. Is it not to your interest to get our prices?

### Send Postal for Catalogue No. 189

describing more than 300 sizes and styles of Coal and Wood Ranges, Coal and Wood Heaters, Hotel Ranges, Base Burners, Laundry Stoves, Etc.

I know that if you get our prices—and see our quality you will not even think of buying any other make. Let me show you how much you can save.

William Thompson, Vice-Pres. & Gen. Mgr.  
KALAMAZOO STOVE CO., Mfrs. Kalamazoo, Mich.



All Kalamazoo cook stoves and ranges have patent thermometers which make baking and roasting easy.



## KHARKOV WHEAT

The heaviest yielding and surest crop wheat possible to secure just now. Our price is \$1.25 per bushel. If interested ask for samples.

## ALFALFA SEED

We have some good seed and want to sell it—prices and samples for the asking.

ROSS BROS. SEED HOUSE,

311 E. Douglas.

WICHITA, KANSAS



## Order Today—Apple Shipping Boxes

Just what you need to get the top market price. One bushel size nicely lettered. Made by California Pine Box Lumber Co. For prices address at once,

Topeka Fruit & Produce Brokerage Co.

Wholesale Fruit Dealers.

TOPEKA, KANS.

bull in service, is an animal of substance, bone, finish, and splendid breeding qualities, and will weigh in full flesh at least 2,400 pounds. He was bred by Geo. Groenmiller & Son, of Ottawa, Kans., and was a winner in his "under a year" form at the St. Louis World's Fair.

The young stock that we saw were good, and Mr. Haas has a few for sale. Those interested in these breeds and wishing to buy should write Mr. Haas at Lyons or visit his herds. His prices are reasonable, the quality of his stock is good, and he always gives a square deal.

#### The International Live-Stock Show.

The preliminary classification for the International Live-Stock Show has been issued and copies may be had by addressing General Superintendent B. H. Heide, Union Stock Yards, Chicago. This great show opens its doors on November 28 next and continues until December 10. On December 1 there will be a public sale of Aberdeen-Angus cattle. On December 2 the Galloways will sell, while the Herefords sell on December 3 and the Shorthorns on December 4. Other sales of pure-bred stock will be held but the breeds and dates are not yet announced.

#### Apple Shipping Boxes.

The Topeka Fruit and Produce Company, whose advertisement appears on another page, has the best box on the market for shipping apples. This box holds one bushel and has not a nail in it.

A better price for apples can be gotten when they are packed in a way convenient for the wholesale dealers. Apple buyers prefer these boxes above any barrel, basket, or other box manufactured.

The Topeka Fruit and Produce Company can supply you with any number of these boxes. They also buy apples shipped in these boxes. Look up their advertisement and write to them, mentioning THE KANSAS FARMER.

#### A Roofing that Needs No Painting.

Labor-saving devices are constantly being discovered, and one of the most important for farmers has been the development of a new type of roofing which does not require continual painting to keep it tight.

The leader in this new development is Amattite roofing, which has a surface of real mineral matter. The pitch in which this mineral is imbedded is so adhesive that the mineral surface will not wash off.

After an Amattite roof is laid there is nothing more to do to it. It is not necessary to look after it each year for painting or patching, and all the labor and cost of coating the roof is done away with.

The manufacturers of Amattite are glad to show samples of their materials, and these may be obtained by a postal card request addressed to the nearest office of the Barrett Manufacturing Company, New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburgh, Cincinnati, Kansas City, Minneapolis, New Orleans.

## Cribbing Corn

Let the horses do the work while you rest from husking. They will unload your biggest load in five minutes, saving you hours every day, with the

## "Little Giant"

Wagon Dump and Grain Elevator. It's the business unloader. The huskers all like it; they husk from a quarter to a half-cent a bushel cheaper. So it soon pays for itself. It is triple geared, simple and strong—the biggest capacity unloader made. Shifting conveyors or stationary drags distribute corn and grain perfectly. You can build cribs higher and fill them full—save space, time, labor, money. Sort and pick seed as corn goes up. Write today for catalog and let us show you all its advantages.

PORTABLE ELEVATOR MFG. CO.  
107 McClum Street  
Bloomington  
Illinois



## INDIANA PITLESS

NO PIT TO DIG  
HEAVY, SOLID STEEL FRAME AND JOIST



The strongest, most durable and accurate scale made. Built more substantially and contains 300 to 500 pounds more material than any other scale. If Indiana Pitless Scales are not the best, why do others try to imitate them? The cost to erect scale ready for service will hardly exceed \$6.00. Complete scale above the ground.

WE SAVE YOU \$40 TO \$50  
Every scale guaranteed absolutely U. S. standard for 10 years. For catalog and prices write to

INDIANA PITLESS SCALE CO  
NEW CASTLE, IND.  
KANSAS CITY, MO., Station A.

HENRY W. ROBY, M. D.  
Surgeon,  
706 Kansas Ave., Topeka, Kans.



## Agriculture

### More Grain From Fewer Acres.

FROM J. H. MILLER'S FARMERS' INSTITUTE REPORT.

For many years Kansans have been so wont to pride themselves on great acreages that we have failed to see that our yields per acre have been away below those of other States with no better soil and no more favorable climate. It is high time that the farmers' institute organizations take a decided stand on this matter and start the new "slogan"—"more grain from fewer acres." It is not good farming for a man or a group of men to devote even one-half their acreage to any one crop. In Eastern Kansas too many farmers have too many acres of corn, and in the Western part probably two-thirds of the farmers have too many acres of wheat—too many to permit the making of a good seed-bed; too many to permit the seeding in October, the only safe month in Kansas for sowing wheat; too many acres to permit of its being cut at the proper stage of ripeness for the best germinating condition, and too many acres to permit it all to be cut without loss from shattering; too many acres to permit the farmer to grow and save properly his alfalfa; and last, but not least, as a result of the above conditions, too many acres for a reasonable profit if he would apply business methods in estimating cost of labor and add interest on land and equipment. We must begin a new method of keeping farm accounts and find ways of decreasing the cost of production of a bushel of grain or a pound of pork, or butter, or poultry. In 1907 Kansas had over 7,051,882 acres of wheat, but the average yield was only a trifle over ten bushels per acre, or a gross value of say seven dollars per acre. From this must be taken interest on market value of the land, interest on value of equipment, pay for labor of men and teams for plowing, seeding, harvesting, thrashing, and marketing, and after that comes the profit. The fact is, not one Kansas farmer in a hundred is doing his best, because he has too many acres in cultivation for his farming force, and hence he is not making enough on his investment. Why not stop bragging about acreages and get ready to brag about yields, due to brains? Why not begin to figure out the cost of every bushel of corn, every pound of pork and beef? Why not reduce our acreages in both the wheat and corn columns? Who is the better farmer; he who raises 1,000 bushels from 100 acres, or his neighbor, who uses only 50 acres to produce that amount? The crying need is for better farming—diversified farming.

### Testing Grain to Determine Weight Per Bushel.

Will you kindly give the proper way to test wheat or other grain? Here the buyer takes the wheat from the top of the load and pours it into the test bucket with his hands. Should he not dip the test bucket into the wheat rather than pour the wheat into the bucket? Now, as it makes a difference of two or three pounds per bushel, I would like to know which is right.

R. R. METZLER.

### Osage County.

There seems to be no rules or regulations governing the method of weighing grain in order to determine the weight per bushel. It is usual, however, to pour the grain into the weigher, letting it fall loosely and avoid jarring the weigher so as to settle the grain. The measure is filled to overflowing and the surplus cut off to the level of the measure with a straight edge. The weight of this sample is then taken as representing the average weight per bushel of the wheat. It is usual to hold the sample of wheat eight or ten inches above the weigher so that it will settle some and fill the weigher evenly. Of course considerable difference in the weight of the wheat may be made in the manner of pouring into the weigher. In my judgment rules ought to be made by

our State grain inspectors on this point. In any case the inspector should not pour the grain into the weigher with his hands. It would be almost impossible to get the same weight in two or three successive tests by filling the measure in this way. The inspector should use a metal scoop or bucket which has a lip or groove through which the seed may flow regularly and evenly, when by holding such vessel at a given height above the weigher, very uniform results in weighing may be secured. The method outlined above is a very fair one, and if the farmer is not satisfied with the weight per bushel secured from the buyer or inspector, he may make a test himself by carefully following the plan given above and thus prove the weight.

The question which you raise is a very important one, and I am sending a copy of your letter to J. W. Radford, chief inspector of the State Grain Inspection Department, who has an office at Kansas City, Kan. He will doubtless be pleased to send you a copy of Kansas laws, rules, and regulations governing inspection of grain if you request him to do so.

A. M. TENEYOK.

### Alfalfa on Sorghum Land.

I would like to ask you what is the matter with my alfalfa and what is the remedy? I will try and fully describe the conditions under which it is growing. This is one of the pioneer experimental patches of alfalfa on the uplands in the Southwestern part of the State, having been sown in April, 1907.

In 1906 this ground had sorghum sown on it broadcast, and for several years before that it had grown feed crops, such as sorghum and Kafir-corn. In the spring of 1907 I plowed it about five inches deep, harrowed it about half a dozen times, and sowed 20 pounds seed per acre. I secured a fair stand of alfalfa on about two-thirds of the ground, or four acres, on the other third the stand was poor, though it nearly all started, but on the poor patches it just stood there nearly all summer and then died. I had to mow it several times to keep the sorghum down, which I did.

I reseeded the thin places over the whole field this last April and secured a splendid stand all over it, but on the places where it was poor last year it has failed to do any good this year. I gave the ground a thorough disking in the first half of March but have not bothered it since. The drouth kept it back this spring, so that there was nothing to mow when the first crop should have been cut, and as I am trying to raise a seed crop, it is not quite ready to cut yet.

The ground is "buffalo" with a slight mixture of sand. Part of the ground has grown as fine a crop of alfalfa this year as one could wish. Where did I make my mistake and how should I do in the future? I intend to grow this crop quite largely in the future. A few others who are experimenting here are reporting good success.

WILLIS P. WRIGHT.

### Stevens County.

I think your mistake was in sowing the alfalfa directly after the sorghum on land which was full of sorghum seed. Sorghum is considered a hard crop on the land and on this account is not a desirable crop with which to directly precede a crop of alfalfa. Again, the volunteer sorghum would be even more objectionable than weeds in its effect on the young alfalfa, tending to smother the young plants and starve them out. The frequent clipping which you gave the alfalfa in order to keep down the volunteer sorghum would also weaken the young plants. Even on the best soil it is often rather difficult to get a good stand of alfalfa on sorghum or Kafir-corn ground. If you sow in the spring, and this is the best time to sow in your section of the State, I would advise to prepare the land the year previous by giving at least a part summer fallow, plowing late in the summer or at least early in the fall after wheat or some small grain crop, and disking or cultivating the land occa-

## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

If you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

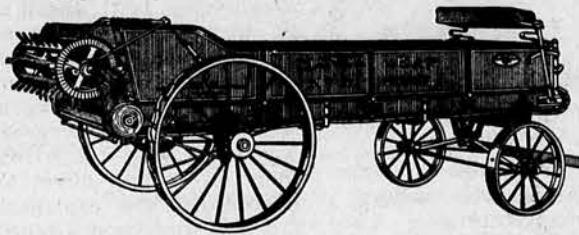
For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading. The Cloverleaf Endless Apron Spreader The Kemp 20th Century Return Apron Spreader The Corn King Return Apron Spreader

You will make no mistake in buying any one of these right working, durable I. H. C. spreaders. I. H. C. spreaders are not built excessively heavy, but they have all the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tired wheels, simple and strong driving parts, are easily and conveniently controlled, and do first class work with any kind of manure.

A n y I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to the Home Office for any information desired.



INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A. (Incorporated)

## WHY BUY A CORN-BINDER

When You Can Purchase a SLED-CUTTER for One-Tenth the Price.

Runs easy, and cuts and gathers corn, cane, Kafir-corn, or anything which is planted in rows

Ask your Implement Dealer for it or send

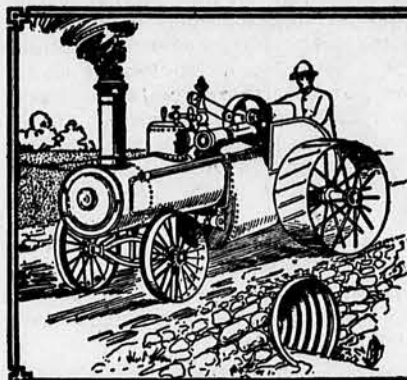
\$10.00

—TO—

Green Corn Cutter Co., TOPEKA, KANS.



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## CORRUGATED METAL ROAD CULVERTS

made by us stand up under the heaviest traction engines. Made any length. Easy to place. Cost no more than wood or tile. Our culverts are used by the U. S. Government and many railroads. The safe, economical culvert for every road. Illustrated catalogue free.

Corrugated Metal Mfg. Co., Emporia, Kan.

## Harrow While Plow

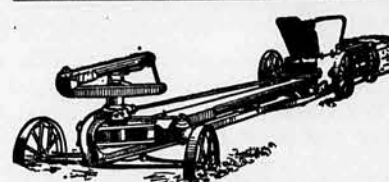
Make one job out of the two, and get your ground in finest condition by harrowing when the soil is first turned up.



### KRAMER'S Rotary Harrow Plow Attachment

enables you to do this. Regular rotary harrow which attaches to any gang or sulky plow. It levels, pulverizes and makes a mulch of the "moist soil" that is not possible after the ground dries and "sets." Draft only slightly heavier—you'll be surprised to see how little. Everybody needs this great time and labor saver. Write for circular No. 33

THE E. M. KRAMER CO., Paxton, Illinois



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THE OLD RELIABLE IN USE 25 YEARS

HORSE POWER AND BELT POWER

Our Various Styles Meet All Demands

SELF FEED WOOD OR STEEL PITMAN

Quality Gives Best Results Send for Catalog

Kansas City Hay Press Co., 129 MM Street, Kansas City, Mo.

## ALFALFA SEED

OUR SPECIALTY. We are headquarters for this kind of Forage Plants and furnish vigorous seed in car load or bushel lots. Write us for prices and samples. McBETH & DALLAS, Garden City, Kans.

## J. G. PEPPARD ALFALFA SEED

1101-17 W. 8th St., KANSAS CITY, - - MO.

Write for Samples

## Big Profits Baling Hay

Two men can run it. Record, 3 tons in one hour.

Auto-Fedan Hay Press—Three Stroke

Smooth bales, easy draft, automatic feed, free trial, satisfaction guaranteed. Ask for catalog 66

Auto-Fedan Hay Press Co., 1521 W. 12th Street, Kansas City, Mo.





sionally during late fall and early spring, thus clearing the soil of weeds, conserving the moisture, and putting the soil into good seed-bed condition. Again, corn which has been given clean culture, makes a much more desirable crop than sorghum to precede spring sowing of alfalfa. The corn may be cut and removed and the seed-bed prepared by disking and harrowing. For further information on this subject I have mailed you circular No. 10 on "Seeding Alfalfa." Have also included circular 15 on the "Alfalfa Seed Crop" as I observe that you are saving the crop for seed.

A. M. TENEYCK.

## Stock Interests

### Treatment for Roundworms in Sheep, Goats, and Cattle.

CH. WARDELL STYLES, ZOOLOGIST, BUREAU OF ANIMAL INDUSTRY, U. S. DEPARTMENT OF AGRICULTURE.

Sheep, goats, and cattle suffer from the effects of roundworms. This is especially true during wet years. These parasites are found particularly in the lungs, the fourth stomach, and the bowels, and, when present in large numbers, they may result in the death of 5 to 50 per cent of a flock. For some of these parasites, treatment is possible; but for others, treatment has not been found altogether satisfactory.

#### TREATMENT.

Roundworms which live free in the fourth stomach or in the bowels may be expelled by using various drugs in drenches. A long list of medicines might be mentioned, but many of the drugs most highly recommended frequently fail to effect a cure. Failures are due to several causes: The drug itself may be of little or no value; it may not be administered in the proper dose; it may not be administered in the proper way.

One of the most commonly used drenches is turpentine, but more satisfactory results are obtained from the use of coal-tar creosote, or coal-tar creosote and thymol, or gasoline, or bluestone.

#### COAL-TAR CREOSOTE.

I have had excellent success in treating sheep, goats, and cattle for the twisted wireworm (*Strongylus contortus*) with a 1 per cent solution of coal-tar creosote. The medicine is easily prepared and quite inexpensive. It may be purchased of the druggist in small quantities of one ounce, or in pound bottles. One ounce is sufficient for about 20 adult sheep, and the cost of the treatment is less than one-half a cent per head; if creosote is purchased by the pound, the cost is reduced to less than one-quarter of a cent per head. If creosote is called for at a drug store, beechwood creosote will usually be dispensed. This is more expensive than the coal-tar creosote and not so satisfactory in expelling worms.

A 1 per cent solution of coal-tar creosote is made as follows:

Coal-tar creosote. . . . . 1 ounce  
Water. . . . . 99 ounces\*

\*Twisted wireworms (*Strongylus contortus*) taken directly from the stomach of sheep or cattle die in one-half to one and a half minutes when immersed in this solution.

If, in dosing, this liquid enters the lungs the animal may succumb in a few minutes. If the dosing is performed carefully, as much as 6 2/3 ounces may be given to a full-grown sheep without fatal results. In some

cases, however, the animal shows ill effects, from which it usually recovers within half an hour. Six ounces were given to a number of sheep without the slightest ill effects. The following table gives the doses of the 1 per cent mixture which were used in about 400 cases without ill effects:

Lambs 4 to 12 months old, 2 to 4 ounces (about 60 to 120 c. c.); yearling sheep and above, 3 to 5 ounces (about 90 to 150 c. c.); calves 3 to 8 months old, 5 to 10 ounces (about 150 to 300 c. c.); yearling steers, 1 pint (about 480 c. c.); 2-year-olds and above, 1 quart (about 960 c. c.).

Sheep, goats, and calves which received this treatment showed a marked improvement a few days after receiving a single dose.

In experiments with creosote at Washington, D. C., sheep were drenched with a 1 per cent solution and killed immediately afterwards. Upon opening the fourth stomach, it was found that the wireworms present were dead. In some cases where this was tried later, the wireworms were found to be still alive; but it is believed that the explanation of this fact has now been discovered. Creosote does not appear to have much effect upon the worms below the stomach.

If an overdose is given by mistake, and if the sheep appears severely affected by it, the animal should be placed in the shade. Even in some cases of very severe overdoses, where the animal is given up for dead practically, it may entirely recover within an hour or so.

#### COAL-TAR CREOSOTE AND THYMOL.

If, in addition to the stomach worms, the animals were suffering from severe infection of bowel worms, such as the hook worms, better results were obtained in the treatment when powdered thymol was added to the creosote. In cases of this kind, the creosote solution is prepared as directed above, and 30 to 80 or even 100 grains of thymol added to each dose after it has been measured.

Thymol is expensive, the price varying in different parts of the country. It may be purchased by the ounce, but it is considerably cheaper if purchased by the pound. Avoid using thymol which has become yellowish or reddish and which has run together in the bottle so as to form a solid mass. Powder the crystals and have the druggist measure 30 grains. Give 30 grains to a lamb, about 50 grains to a yearling, and 70 to 80 grains or 100 grains to older sheep, according to size.

In experiments I have had excellent results with a single dose of the creosote and thymol mixture. If necessary, however, the dose could be repeated after a week.

#### BLUESTONE.

In the recent experiments with bluestone by Hutcheon, in South Africa, against wireworm disease in sheep, it has been claimed that the same treatment expels tapeworms.

February 21, 1895, he gave the following proportions:

Dissolve 1 pound avoirdupois (1 pound=16 ounces) of good commercial powdered bluestone (sulfate of copper) in 2 imperial quarts (=2 1/2 quarts U. S.) of boiling water; when the bluestone is thoroughly dissolved, add 6 1/2 imperial gallons (=26 imperial quarts=7 1/2 U. S. gallons=31 1/2 U. S. quarts) of cold water, making in all 7 imperial gallons (or 8 3/4 U. S. gallons) of water.

In 1897 he changed the strength of the solution to 1 pound of bluestone to "40 whisky bottlesful of water." This is practically 1 pound to 7 1/2 imperial gallons (=9 U. S. gallons=about 34 liters, metric) of water.

Use only bluestone which is of a uniform blue color; avoid that which is in conglomerate lumps with white patches and covered with a white crust.

The equivalents of 1 pound avoirdupois and of 7 imperial gallons in other weights and measures are as follows: One pound avoirdupois=1 pound 2 ounces 280 grains of apothecaries' (also is equal to 453.59 grams of metric weight). Seven imperial gallons=8 gallons 3 pints 3 fluid ounces 3 fluid drams 56 minims (or practically 8 gallons 3 1/4 pints, or 8 3/4 gallons) of apothecaries' (also is equal to 31.804409 liters, metric system).

The farmer is cautioned against guessing at the weights and measures, for this is sure to result either in too strong a solution, which will kill his animals, or too weak a solution, which will fail to be effective. Scales and measures should be tested before they are used. If reliable scales are not at hand, buy the bluestone already weighed and have the exact weight in avoirdupois, apothecaries', or metric system marked on the package.

If a smaller quantity than the above is desired, this can be made up on the proportion of 1 ounce avoirdupois of bluestone to 4 1/2 U. S. pints of water.

(b) Preparation of the animals.—Fast the sheep or cattle 20 to 24 hours before dosing. If the fast is 30 hours (longer fasts are dangerous), an extra half gallon of water should be added to the solution, as animals are more liable to suffer after a long fast.

(c) Size of the dose.—Hutcheon has several times changed the size of the doses he advises, in some papers basing it on the imperial fluid ounce and in others on the tablespoon. The doses for sheep (in imperial ounces and in tablespoons) given below are his most recent (January 10, 1895) recommendations, and, though based upon a solution with 5 per cent less water than the first solution given above, they may be used for the weaker mixture.

I have given the metric doses to a number of sheep and goats, and the animals showed no ill effects. On the contrary, they gained in weight.

#### SIZE OF DOSE FOR ANIMALS AT SEVERAL AGES.

Age of animals.	Tablespoons, a	Approximate equivalents.		
		Imperial.	United States apothecaries.	Metric.
For a lamb 3 months old...	1	About 3/4 fluid oz.	About 2-3 fluid oz.	About 40 c. c.
For a lamb 6 months old...	2	About 1 1/4 fluid oz.	About 1 1/2 fluid oz.	About 60 c. c.
For a sheep 12 months old...	3	About 2 1/4 fluid oz.	About 2 fluid oz.	About 80 c. c.
For a sheep 18 months old...	4	About 3 fluid oz.	About 2 3/4 fluid oz.	About 90 c. c.
For a sheep 24 months old...	4 1/2	About 3 1/2 fluid oz.	About 3 fluid oz.	90 to 100 c. c.
For a calf 3 months old...	4 1/2 to 5	About 3 1/2 to 3 3/4 fluid oz.	About 3 to 3 1/2 fluid oz.	100 to 110 c. c.
For a calf 6 months old...	5 to 5 1/2	About 3 3/4 to 4 1/4 fluid oz.	About 3 1/2 to 3 3/4 fluid oz.	About 20 c. c.

\*"The tablespoon I refer to is the modern, full-sized tablespoon (6 fluid drams). The medicinal tablespoon contains exactly half an ounce."—Hutcheon.

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A 1 per cent solution of coal-tar creosote is made as follows:

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\*Twisted wireworms (*Strongylus contortus*) taken directly from the stomach of sheep or cattle die in one-half to one and a half minutes when immersed in this solution.

If, in dosing, this liquid enters the lungs the animal may succumb in a few minutes. If the dosing is performed carefully, as much as 6 2/3 ounces may be given to a full-grown sheep without fatal results. In some

\*99 ounces=6 points and 3 ounces.

Caution.—Repeated accidents have happened from using too strong a solution or too large doses, or in giving it in such a way that the medicine gained access to the lungs. Dr. Hutcheon's method of procedure, which is here given in detail, is safe in the hands of the average farmer if the directions are followed. The person who gives stronger doses than indicated, or who is careless about the measurements, must take the entire responsibility of the miscarriage of the treatment. It is a good plan to make up a smaller quantity of the solution and try it upon a few sheep before attempting to dose the entire flock.

(a) To prepare the mixture.—Hutcheon has changed his formula slightly from time to time. On Feb-

Be careful not to give a two-toothed young sheep as much as a full-grown four-toothed sheep. Mistakes may occur in judging the age unless the teeth are examined.

The doses should be measured off in bottles and the point of each dose plainly marked with a file.

(d) Dosing.—In dosing, use long-necked bottles—as castor-oil bottles, Worcester-sauce bottles, or anchovy-sauce bottles—or, better still, a drenching tube.

Let one person set the sheep on its haunches and take its fore legs in his left hand while he steadies the head with the right. Another person inserts the neck of the bottle into the mouth. The head of the sheep should not be raised too high, as in that case the solution may enter the lungs and

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I have given the metric doses to a number of sheep and goats, and the animals showed no ill effects. On the contrary, they gained in weight.

Imperial equivalents.	Metric.
1 fluid oz. . . . .	About 30 c. c.
2 fluid oz. . . . .	About 60 c. c.
3 fluid oz. . . . .	About 90 c. c.
4 fluid oz. . . . .	About 120 c. c.
5 fluid oz. . . . .	About 150 c. c.
6 fluid oz. . . . .	About 180 c. c.
7 fluid oz. . . . .	About 210 c. c.
8 fluid oz. . . . .	About 240 c. c.
9 fluid oz. . . . .	About 270 c. c.
10 fluid oz. . . . .	About 300 c. c.
11 fluid oz. . . . .	About 330 c. c.
12 fluid oz. . . . .	About 360 c. c.
13 fluid oz. . . . .	About 390 c. c.
14 fluid oz. . . . .	About 420 c. c.
15 fluid oz. . . . .	About 450 c. c.
16 fluid oz. . . . .	About 480 c. c.
17 fluid oz. . . . .	About 510 c. c.
18 fluid oz. . . . .	About 540 c. c.
19 fluid oz. . . . .	About 570 c. c.
20 fluid oz. . . . .	About 600 c. c.

(d) Dosing.—In dosing, use long-necked bottles—as castor-oil bottles, Worcester-sauce bottles, or anchovy-sauce bottles—or, better still, a drenching tube.

Let one person set the sheep on its haunches and take its fore legs in his left hand while he steadies the head with the right. Another person inserts the neck of the bottle into the mouth. The head of the sheep should not be raised too high, as in that case the solution may enter the lungs and

kill the sheep. A safe rule is to raise the nose to the height of the animal's eyes.

(e) Overdose.—If, after dosing, any of the sheep seem to be suffering from an overdose—indicated by lying apart from the flock, not feeding, manifesting a painful, excited look and a spasmodic movements in running, walking with a stiff gait, purging, the discharge being a dirty brownish color—take them away from the flock to a shady place and dose with laudanum and milk as follows: For a lamb 4 to 6 months old, 1 teaspoonful of laudanum in a tumbler of milk; for a sheep 1 year old, 2 teaspoonfuls of laudanum in a tumbler of milk. Repeat half the dose in two to three hours, if necessary.

(f) After-treatment.—The animals should not be allowed water for several hours after receiving their dose. I have used bluestone on several occasions and, although it proved more or less successful, it was not so satisfactory as creosote or as gasoline.

GASOLINE. Gasoline has recently gained considerable reputation as a vermifuge. I have used it in a number of cases and have found the claims made for it to be more or less justified. Three objections, however, arise to its use, and I can not, therefore, consider it an ideal treatment. These objections are:

(1) Not less than three doses, and usually four to six, are required to expel the worms. Its use involves a great expenditure of labor, and it is therefore impracticable on the large ranches.

(2) While several doses are not necessarily injurious to the stock, still, if the doses are large, repeated drenches cause a more or less severe congestion of the bowels. Not only that, but repeated handling of range sheep, with the necessary preliminary treatment of withholding food, is injurious to the animals.

(3) If used on animals suffering from pleurisy, it is likely to be fatal. I have had several fatal cases of this kind.

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GASOLINE. Gasoline has recently gained considerable reputation as a vermifuge. I have used it in a number of cases and have found the claims made for it to be more or less justified. Three objections, however, arise to its use, and I can not, therefore, consider it an ideal treatment. These objections are:

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(2) While several doses are not necessarily injurious to the stock, still, if the doses are large, repeated drenches cause a more or less severe congestion of the bowels. Not only that, but repeated handling of range sheep, with the necessary preliminary treatment of withholding food, is injurious to the animals.

(3) If used on animals suffering from pleurisy, it is likely to be fatal. I have had several fatal cases of this kind.

Nearly all vermifuges are, however, more or less poisonous in one way or another, and gasoline, properly used, is not particularly dangerous. The necessity of repeating the dose from four to nine times in order to effect a complete cure will, however, militate against its general adoption.

If gasoline is used, ammonia also should always be kept on hand. If an animal is suddenly overcome by the effects of gasoline, a small amount (a teaspoonful or so) of aromatic spirits of ammonia may be given in water as a drench, to be repeated if necessary, and will usually result in the recovery of the patient.

The usual doses of gasoline for stomach worms are:

Lambs . . . . .	1/4 ounce
Sheep . . . . .	1/2 ounce
Calves . . . . .	1/2 ounce
Yearling steers . . . . .	1 ounce

I have used these doses repeatedly without any serious effects. Each dose is mixed separately in linseed-oil, sweet milk, flaxseed tea, or an egg, and given as a drench. If given directly in water, it is more severe on the patient.

An ounce and a half of gasoline has resulted in the immediate death of a full-grown ewe, but in some cases I have given to full-grown sheep as high as 2 to 3 ounces without serious results. I have also given as much as 3 ounces to a yearling steer, and 7 ounces (within an hour) to a horse without causing serious symptoms. I have also given 3 ounces to a full-grown chicken; the animal became very stupid for a time, but eventually recovered. On the other hand, in one case, a yearling steer, in apparently quite healthy condition, succumbed within two minutes after a dose of 1 1/2 ounces. These large doses were given experimentally to determine the danger point, and they should never be used by farmers in treating stock.

In one instance a steer was suddenly overcome because the man who was administering the dose for me accidentally held the head too high and the medicine entered the lungs. The

animal fell immediately and appeared to be almost dead. I happened to have a hypodermic syringe with me and some tablets of sulfate of strychnin. A hypodermic injection of this substance was immediately given and within five minutes the animal was feeding as if nothing had happened.

This incident led me to overdose several animals with gasoline and then to try to revive them with hypodermic injections of strychnin. In all cases the treatment was successful. It is thus seen that injury from gasoline may be counteracted by either aromatic spirits of ammonia or by strychnin.

METHODS OF DRENCHING ANIMALS. The proper method of drenching is with a bottle. The use of a drenching tube is, however, far more satisfactory. A drenching tube may be made by taking an ordinary tin funnel, which may be purchased for five or ten cents, and inserting the narrow end into one end of a rubber tube or hose, say three feet long, and three-eighths or one-half inch in diameter; into the other end of the rubber tube is inserted a piece of three-eighths-inch brass or iron tubing about 4 to 6 inches long.

The metal tube is placed between the animal's back teeth, and the sheep or calf is allowed to bite upon it. The water or drench is poured into the funnel, which may be held by an assistant or fastened to a post at a convenient height. The man who holds the metal tube between the animal's teeth can control the animal's head with the left hand, and by holding the tube in the right hand, near the point of union of the rubber and metal tubes, he can easily control the flow of the fluid by pinching the rubber hose. Care must be taken not to hold the patient's nostrils closed, otherwise the dose will enter the lungs.

It is usually advisable to fast animals 12 to 16 hours before dosing.

POSITION OF THE ANIMAL DURING DRENCHING. Different persons prefer to hold the animals in different positions during drenching. Thus (1) the animal may be left standing on all four feet; or (2) it may be placed on its haunches, one man holding its back up against his own body; or (3) it may be placed directly on its back on a sloping piece of ground, its head being in a direct line with its back, and higher than its rump; or (4) it may be placed upon its side, the head being brought around so that the horns are squarely on the ground; the operator may then place one foot on one of the horns (especially in the case of semiwild cattle) and thus aid in holding the animal still.

So far as administering the doses is concerned, the position on the back (3) is by far the easiest in the case of sheep, and the side position with head down (4) is the easiest in dosing cattle; furthermore, in these positions there is much less danger of an accident by getting the dose in the lungs. If animals are dosed standing or on their haunches, the nose should never be allowed to go above the eyes; otherwise the drench may pass down the windpipe into the lungs.

By dosing sheep with water colored red and blue with dyeing material, and killing the animals immediately after the liquid was swallowed, the following results were obtained:

If the dose was given with the sheep standing (1), almost the entire quantity went directly into the fourth stomach; if the sheep was placed on its haunches, the fluid passed in part into the fourth stomach and in part into the first (the paunch); if the sheep was placed directly on its back (3), or if a steer was placed on its side (4) with head down, almost the entire dose passed into the first stomach (the paunch). If the animal, even when standing (1), struggled to a considerable degree, a portion of the fluid passed into the paunch.

It will be immediately apparent that these facts are of practical importance in dosing. If, for instance, gasoline, turpentine, or kerosene is used,

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A small cash payment will hold for you 10 or more acres of Bitter Root Valley Irrigated Land. No homesteading. The crops will soon pay the balance and a handsome yearly income besides. This is the shortest, surest route to financial independence that is today open to the man of moderate means.

## The World's Greatest Irrigation Project

We are just completing the great Bitter Root Valley Canal. This canal is 81 miles long and built at a cost of over \$1,500,000. It carries an inexhaustible supply of purest water to 40,000 acres of the richest fruit land in America. Every land buyer will become part owner of the great canal. The land is so marvelously productive that the yearly profits from only 10 acres run from \$2,000 to \$8,000, according to what is planted. Apples and other fruits grow to perfection in astonishing abundance. The yield of fruits, grain and vegetables is almost beyond belief. One must see with his own eyes to fully realize what irrigation means in this Wonderful Valley of Opportunity.

## Big Crops, the First and Every Year, Are Absolutely Sure

Irrigation is the wizard that is transforming this valley into a modern Garden of Eden. Irrigation makes crop failures impossible! The Bitter Root Valley is known far and wide as "The Home of Perfect Fruit"—insect pests are unknown. It is beautifully situated. Entirely surrounded by mountains. Delightful climate. Three hundred days of sunshine every year. Best market right at your door. Good neighbors. Rural Free Delivery. Farmers' Telephones. Good schools and churches. Nowhere else in America will you find an opportunity like this.

## The Bitter Root Valley Book FREE

Write for it today and learn how easy it is to secure an irrigated fruit farm that will soon make you a comfortable fortune. Filled with facts about the enormous yields of fruits, grains and vegetables. Gives the experience of men who are now making fortunes in the Valley. Don't delay writing for Free Book and Map. Send for it today. We want a few Good Agents. Address Dept. N Bitter Root Valley Irrigation Co., 100 Washington Street, CHICAGO.

**ALFALFA \$3298.00**

**ONE SEASON'S EARNINGS**

It will pay every Farmer who reads this "Ad" to write especially if interested in Clover or Alfalfa growing. We can refer you to a man who made \$3298.00 in Alfalfa last year.

**WE WILL TELL YOU HOW IT WAS DONE**

We manufacture the machine shown in the cut; it threshes, separates, hulls, and cleans ALL the seed for market. No other machine will do it. You should write us and get our Alfalfa Booklet FREE. It will give you valuable information. Mention this paper.

**BIRDSALL MFG. CO., South Bend, Ind., U. S. A.**

**Hotel Kupper**  
Kansas City, Mo.

Centrally located in the business district.

Modern in every detail. Cafe of particular excellence.

European plan, \$1.00 per day and up.



better results may be expected if the sheep is dosed standing (1).

### PREVENTIVE MEASURES.

First. Every ranch should have a hospital pasture situated on high, dry ground, well drained, and without any pools or ponds; this should be supplied with raised troughs for watering and feeding, and the water supply should come from a well. This pasture should not drain into any pasture in which healthy stock are feeding.

Second. As soon as any sick animal is noticed in the large pasture it should be immediately separated from the healthy stock and taken to the hospital pasture. To allow sick animals to run at large with healthy stock means to deliberately permit the spread of infection in the pastures and thus endanger the uninfected animals.

Third. Proper watering places should be supplied in the large pastures by digging wells and erecting windmills to pump the water into tanks. These tanks should be raised above the ground so that they can not become contaminated with the animals' droppings being washed into them by rains and floods.

Fourth. Select high, sloping ground for pasture when this is possible. Low pastures should be properly drained.

Fifth. When practicable, burn the pastures regularly, thoroughly, and systematically. The heat from the burning grass will kill many of the eggs and young worms on the grass, ground, and in the droppings.

Sixth. As parasites are more fatal to young animals than to old, a liberal supply of oats or some similar food will aid in giving to young animals strength which will enable them to withstand the infection. A daily allowance of, say half a pound of oats per lamb ought to reduce the mortality. At first they may not be inclined to eat it, but they will soon become accustomed to it. This simple precaution is reported as very effectual in New Zealand.

Seventh. Keep plenty of salt accessible to the animals. Some men add slack lime to the salt; others add one part of sulfate of iron to 100 parts of salt. As a matter of experience, salt kills many young worms.

For the minute worms encysted in the fourth stomach, and also for those forming nodules in the bowels, no treatment is known.

For worms in the lungs, numerous methods of treatment have been suggested, and success has been claimed for certain remedies. None that we have tried, however, has proved satisfactory.

No practical medical treatment is known for the flat worms of the liver, and the treatment for tapeworms in the bowels of ruminants is frequently unsuccessful.

"Daughter," timidly began her father.

"Well, dad?"

"If your ma does the washing, ironing, cooking, and scrubbing, don't you think you might do the sweeping, just for the physical culture benefit to be derived therefrom? What say, now?"



# Common Injurious Insects and Fungi With Methods of Combating

Prepared under the direction of T. J. Headlee, entomologist, by Geo. A. Dean, assistant entomologist, and Geo. F. Freeman, assistant botanist of the Kansas State Agricultural Experiment station, Manhattan, Kas.

NAME OF PLANT.	INSECT OR DISEASE ATTACKING PLANT.	NATURE OF THE INJURY.	METHOD OF COMBATING INSECT OR DISEASE.	WHEN WORK SHOULD BE DONE.	CAUTIONS AND REMARKS.
Apples	Codling moth.	Worms tunnel inside of fruit in and around core.	Spray with Arsenate of Lead.	First application as soon as blossoms fall; second when eggs hatch; third when eggs of second brood hatch.	Spray thoroughly, getting the poison upon every part of the foliage and fruit.
	Canker worm.	Feeds upon the leaves.	Spray with Arsenate of Lead.	On the first appearance of the worms.	If only a few trees, sticky bands around the trunk may be used.
	San Jose scale.	Encrusts the branches, sucking the sap of the tree. Also on leaves and fruit.	Spray with Lime-Sulfur Wash.	When dormant, just after leaves fall, or just before buds swell.	Coat every part of the tree.
	Curculio.	Maggot tunnels inside of fruit, making it gnarled and ill-shaped.	Spray with Arsenate of Lead.	First application with starting of buds; second when blossoms fall; third, 6 to 10 days later.	All fallen infested apples should be gathered and destroyed.
	Flat-headed borer. Round-headed borer.	Larvae bores in base of trunk and lower large branches.	Watch trees and dig out borers.	Whenever castings of the work of the insects appear.	
	Tent caterpillar.	Makes nests on the branches in the spring and eats the leaves.	Remove nests or burn them with a torch. Spray with Arsenate of Lead.	Whenever the nests appear on the trees.	The worms may be found in the nests several times during the day.
	Scab.	Scabby spots on fruit and leaves.	Spray with Bordeaux Mixture.	First application as buds are swelling; second just before blossoms open; third just after blossoms fall.	Sometimes a winter treatment with copper sulfate is given before the buds open.
	Bitter rot.	Forming depressed rotten areas on the fruit and cankers on the branches.	Spray with Bordeaux Mixture. Prune off and cut out infested branches.	First application 30 to 40 days after the fruit is set and spray at intervals of about 2 weeks until 4 or 5 applications have been made.	Wash the cut-out places with copper sulfate.
	Rust.	Orange-colored blotches on leaves, followed by minute fringed clustered cups imbedded on the under side.	All cedar trees near orchard should be destroyed. The rust spreads to the apple from the "cedar apples," which appear in early spring on red cedar.		Destroy in the fall all "cedar apples" on the cedars.
	Cane borer.	Tunnels the canes.	Cut out and burn infested canes.	In the fall and early spring.	
Blackberry and Raspberry	Tree cricket.	Lays eggs in punctures in canes. Canes wither and fall over.	Cut out and burn infested canes.	In the fall and early spring.	
	Crown gall.	Forming gall or knots on roots and lower parts of stems.	Dig out and burn infested plants. Never use infested stock for planting nor plant on infested ground.	As soon as discovered.	
	Orange rust.	Bright orange dusty masses of spores over the under sides of the leaves.	Dig out and burn infested plants.	As soon as the disease is discovered.	
Cabbage and Cauliflower	Cabbage worm.	Devours the leaves and ruins the heads.	Spray with Arsenate of Lead or Pyrethrum.	On the first appearance of the worms on the plants. Use the Pyrethrum after the head is half formed.	Dry Paris green at the rate of 1 oz. to 30 ounces of flour may be dusted on plants.
	Aphis or louse.	Sucks the sap from the leaves.	Spray with Kerosene Emulsion or Soap.	Whenever the lice are observed.	
	Cut worms.	Cut off young plants near surface of ground.	Place poisoned bait at base of plant.	On first indication of the work.	Place bait in the evening and destroy in the morning to prevent poisoning birds or pets.
Celery	Cabbage maggot.	Attacks the stems and roots near the surface of the ground.	Practise crop rotation. Destroy all stumps early in the season. Use tarred paper cards or bran and glue collars.	Cards or bran and glue collars should be put on when plants are set out.	
	Leaf spot.	Producing rusty spots on leaves and petioles.	Spray with Bordeaux Mixture or Ammonia Solution Copper Carbonate.	First application on young seedlings and spray at intervals of 10 to 15 days until celery is banded.	Ammonia solution copper carbonate is used for the latter spraying to avoid sediment.
	Plum curculio.	Grub infests the growing fruit.	Spray with Arsenate of Lead.	First application just before blossoming; second spray just as blossoms fall.	
Cherry	Aphis or louse.	Sucks sap from leaves, causing them to curl.	Spray with Kerosene Emulsion or Soap.	On first appearance of louse.	
	Shot hole borer.	Makes minute tunnels under bark of branches and trunk. Gum oozes out of the exit holes.	Burn infested trees and keep others thrifty.	On first appearance of work.	The small exits of the beetle look like fine shot holes.
	Black knot.	Knot-like growth on twigs.	Prune off and burn all infested places and spray with Copper Sulfate.	On first appearance of the disease. The copper sulfate is a winter spray.	
	Powdery mildew.	Cobweb-like growth over the leaves.	Spray with Bordeaux Mixture.	As soon as the first signs of the disease appear.	
	Brown rot.	On twigs, but worse on fruit, causing it to rot about time of ripening.	Spray with Bordeaux Mixture.	First application as buds are swelling; second after blossoms fall; third 2 weeks later.	
	Striped cucumber beetle.	Attacks young plants, eating the leaves and stems.	Cover young plants with screens to keep beetles off.	On the first appearance of the insect.	
Cucumber	Cutworms.	See Cabbage and Cauliflower.	Spray with Kerosene Emulsion or Soap.	On first appearance of louse.	
Currant	Aphis or louse.	Sucks sap from under side of leaves.	Spray with Arsenate of Lead or Hellebore.	On the first appearance of the insect.	Use the hellebore two or three weeks before the fruit is ready to market.
	Curran worm.	Devours the leaves.			The currant is a favorite plant for the scale.
	San Jose scale.	See the Apple.			
Leaf hopper.	Leaf hopper.	Sucks the sap from the leaves.	Spray with Kerosene Emulsion or Soap, or trap by use of sticky sheets.	Before the young can fly.	
	Leaf folder.	Rolls the leaves and feeds upon them.	Head striking of the rolled leaves or spraying with Arsenate of Lead.	As soon as the rolled leaves appear.	
	Green beetle.	Larvae and adults feed upon leaves.	Spray with Arsenate of Lead.		
	Powdery mildew.	Cobweb-like growth on upper surface of leaves.	Spray with Bordeaux Mixture.	See downy mildew of grape.	Potassium sulfide is also used effectively.

## FORMULAS

### INSECTICIDES

#### ARSENATE OF LEAD.

2 to 6 pounds in 50 gallons water. Spray upon foliage to kill cankerworms, potato beetle, rose slug and all leaf eating insects.

#### PARIS GREEN-VET.

1 pound Paris Green.  
2 pounds fresh lime.  
100 to 150 gallons water.  
Spray upon foliage in the same way and for the same purposes as arsenate of lead. Does not adhere to leaves as well as arsenate of lead.

#### PARIS GREEN-DRY.

1 pound Paris Green.  
20 to 50 pounds flour.  
Mix thoroughly and apply evenly; preferably when dew is on plant. Used to kill leaf-eating insects on low growing plants.

#### HELLEBORE.

1 ounce Hellebore.  
1 to 2 gallons water.  
Mix thoroughly. Used to kill leaf-eating insects on plants within a short time before the edible portions mature. May be used as a dust spray.

#### WHALE OIL SOAP.

1 pound Whale Oil soap.  
5 to 8 gallons water.  
Dissolve in hot water. Apply in the form of a spray to kill plant lice and scale insects.

#### KEROSENE EMULSION.

2 gallons kerosene.  
1/4 pound common soap.  
1 gallon water.  
Dissolve the soap in hot water. While hot but away from the fire, add the kerosene, and churn or agitate until a white creamy emulsion is formed. When ready to use dilute one part of the emulsion with from 9 to 13 gallons of water. Apply in the form of spray to kill insects as plant lice, scales and mites.  
Caution—All oil must be united with the soap, for free oil will kill foliage.

#### LIME AND SULFUR WASH.

30 pounds lime.  
15 pounds sulfur.  
50 gallons water.  
Mix the sulfur into a thin paste. Heat 15 gallons water to the boiling point in a kettle. Next add the lime and while the lime is slaking add the sulfur paste to the boiling mixture and stir often. Continue the boiling from 40 to 60 minutes and stir constantly. When cooled sufficiently the liquid is a deep orange color. Strain into the sprayer. Add enough water to make the 50 gallons. While fresh apply in the form of a spray to dormant trees to kill the San Jose scale.



Emulsion is produced. Emulsion will remain stable for several days. For use dilute one part of the emulsion with 30 parts of water, and apply 4 to 6 ounces about the base of each plant.

**POISON BAIT.**

(A) 1 pound Paris green or white arsenic, 1 pound sugar, 6 to 10 pounds bran. Mix white dry and wet mash. Place a tablespoonful of this at the base of each plant, vine or shrub. Successfully employed to kill cutworms and grasshoppers injuring garden crops and flower beds. Should be placed out in the evening.

(B) Green succulent vegetation, such as a freshly cut clover or alfalfa, dipped in a strong arsenical solution, and distributed in small bunches around the infested plants, is a good remedy for cutworms and wireworms.

(C) Poisoned sliced potatoes is good to kill cutworms, and also grasshoppers. Poisoned cabbage, grown under frames, and pansy beds, is good to kill cutworms, and also grasshoppers.

## FUMIGATION MATERIALS

**CARBON BISULPHIDE.**

To kill insects infesting stored grains, use 1 pound to 700 cubic feet of space, or 1 pound to 100 bushels of grain. Distribute the liquid in shallow dishes at top. Fumigate from 24 to 36 hours, after which air out thoroughly. Caution—Carbon bisulphide is about as explosive as gasoline.

### HYDROCYANIC ACID.

- 1 ounce cyanide of potassium.
- 2 ounces of sulfuric acid.
- 4 ounces water.

Use 1 ounce of potassium cyanide to each cubic foot of space in fumigating residence; 1 1/2 to 2 ounces per cubic foot of space for nursery stock and 1,000 cubic feet of space for green houses. Fumigate a residence from 3 to 4 hours, nursery stock from 30 to 45 minutes and green house from 20 to 30 minutes on cloudy days.

## FUNGICIDES

**BORDEAUX MIXTURE.**

4 pounds copper sulfate.  
4 pounds fresh lime.  
50 gallons water.  
Dissolve the copper sulfate in hot water or  
boiling water, then mix with the lime and  
take on a coarse bag suspended in cold water.  
Dilute with water to 25 gallons and pour together into the  
stock solution, and use as soon as possible, as the  
mixture deteriorates after standing a few  
hours. Stock solutions of copper sulfate or  
lime at the rate of 1 pound to 1 gallon of  
water will keep indefinitely.

COPPER SULFATE.

3 pounds copper sulfate.  
50 gallons water.  
Use only as a winter spray.

POTASSIUM SULPHIDE.

3 ounces potassium sulphide.  
10 gallons water.  
Use chiefly in greenhouses or for powdery mildews.

**FORMALIN.**

A.—1 pint (1 pound) formalin in 50 gallons water for grain smut.  
B.—1 pint formalin in 30 gallons water for potato scab.

AMMONIA SOLUTION OF COPPER CAR-  
BONATE.

1 ounce copper carbonate.  
Just enough ammonia to dissolve the copper carbonate.  
12 gallons water.  
This fungicide is not as good.  
—Daily Drivers Telegram.

	As soon as the rolled leaves appear.	Hand picking of the rolled leaves or spraying with Arsenate of Lead.	See downy mildew of grape.	Potassium sulfide is also used effectively.
<b>Melon</b>	Rolls the leaves and feeds upon them. Larvae and adults feed upon leaves.	Spray with Bordeaux Mixture. Squash bug. Striped beetle. Stem rot.	Same as downy mildew of grape for the first 3 applications, then change to ammonia solution copper carbonate. On the first appearance of the insect. On the first appearance of the lice. First application on the first running vines and repeat in from 10 to 14 days, making 3 to 4 applications.	
<b>Onion</b>	Cobweb-like growth on upper surface of leaves. Reddish-brown spots on leaves, especially the berries, which become hard, shrunken and wrinkled.	Eats the leaves and stems of young plant. Sucks sap on the under side of leaves. See cutworms on cabbage. Dead spots on leaves.	Apply lime just before the plant comes through the ground or just when plant is set out if any part is left exposed and renew coating as frequently as is necessary to prevent cracking of surface until eggs are all laid. Use emulsion on first appearance of the maggots.	Carbolized lime is a mixture of crude carbolic acid and lime water and is made by slaking of this to a thick cream using three parts of this to one gallon of water and adding one tablespoonful of crude carbolic acid.
<b>Pea</b>	Sucks the sap of the leaves and stems. Sucks the sap of the leaves and stems. Tunnels in base of trunk. See shot hole borer on cherry. Incurs the branches and trunk, sucking the sap. Also on the leaves. Sucks the sap from the leaves, making them curl. See curculio of plum. Causing the leaves in the spring to become irregularly curled and swollen. On twigs, but worse on fruits, causing it to rot about time of ripening. Sucks the sap from twigs.	Spray with Kerosene Emulsion or Soap. Squash bug. Striped beetle. Stem rot.	On the first appearance of the insect. On the first appearance of the lice. In early spring and late fall. Just before leaves drop in fall or just before trees start growth in spring. On first appearance of the insects. Just as the buds begin to swell. First application when buds are swelling; second, after calyx drops; third, two weeks later. Squash the dormant trees with lime-sulfur wash, and the kerosene emulsion just after the leaves have expanded.	The peach tree is the favorite host plant of the San Jose scale. Peach leaves are tender. Dilute the 1 gal. of emulsion with 12 gal. water. A second application but weaker may be used when calyx drops.
<b>Pear</b>	For other insects see the apple. Blight. Scab.	Squash bug. Striped beetle. Stem rot.	On first appearance of the disease. First application as leaves are unfolding; second, after blossoms fall; third, two weeks later. First application as buds start; second, after calyx drops; third, five days later. On first appearance of the lice.	Wipe knife with kerosene rag each time after cutting infested wood.
<b>Plum</b>	Grubs infest the growing fruit, causing it to fall. See peach or cherry. See peach or apple. Sucks sap from leaves. See peach. See cherry. Killing the branches. Black scabby places on the branches.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects. On the first appearance of the beetles. As early as practicable. When the insects appear. First application when plants are 5 to 6 inches high and follow at intervals of from 10 to 14 days throughout the season.	
<b>Potato</b>	Adults and larvae devour the leaves. Adults eat the leaves. Tunnels inside of stalk. Adults devour the leaves. Blackening of leaves. Scabby spots on the surface of the potatoes.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects. On the first appearance of the beetles. As early as practicable. When the insects appear. First application when plants are 5 to 6 inches high and follow at intervals of from 10 to 14 days throughout the season.	Barnyard manure increases the amount of scab.
<b>Raspberry</b>	Eats away the green portions of leaves.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects. On the first appearance of the lice. On first appearance of the insect. First spray on the first appearance of the fungus and second spray 2 or 3 weeks later. On the first appearance of the insects.	Use the soap or kerosene emulsion to avoid the sediment on the leaves.
<b>Rose</b>	Sucks the sap from the leaves and stems. Sucks sap from the under side of the leaves. White powdery growth on the leaves, which causes them to drop. Sucks sap from under side of the leaves, causing them to die. See cucumber.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects. On the first appearance of the lice. On first appearance of the insect. First spray on the first appearance of the fungus and second spray 2 or 3 weeks later. On the first appearance of the insects.	Potassium sulfide can be used if the plants are grown indoors. This insect passes the winter in the adult stage in old vines, weeds, and trash.
<b>Squashes and Pumpkins</b>	See cucumber.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects.	
<b>Sweet Potato</b>	Growing plants rotting off at the surface of the ground. Large green worm devouring the leaves.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects.	
<b>Tomato</b>	Large green worm devouring the leaves.	Squash bug. Striped beetle. Stem rot.	On the first appearance of the insects.	



## Home Departments

CONDUCTED BY RUTH COWGILL.

### DUTY.

The sweetest lives are those to duty wed.  
Whose deeds, both great and small,  
Are close-knit strands of an unbroken thread.  
Where love ennobles all.  
The world may sound no trumpet, ring no bells;  
The Book of Life the shining record tells.

Thy love shall chant its own beatitudes  
After its own life-working. A child's kiss  
Set on thy singing lips shall make thee glad;  
A poor man served by thee shall make thee rich;  
A sick man helped by thee shall make thee strong;  
Thou shalt be served thyself by every sense  
Of service which thou renderest.

—Browning.

### Mistaken Kindness.

"May we not forget to be kind," ought to be our daily prayer, but let us supplement it with an earnest petition for wisdom. There are kindnesses that are well meant but are mistaken because the effect is harmful. They emanate from kind hearts but with thoughts only of the present. Sometimes it is easier to be kind than otherwise because it may avoid contact with resolute wills; then it is a sign of weakness and is not true kindness. Sometimes the sympathies overrule the better judgment and we are led to do things that seem like kindness for the present but work harm in the future. Over-indulgence of children on the part of parents is a common mistake and may be the result of any or all of the afore-mentioned reasons. It is mistaken because over-indulgence weakens their powers to overcome evil and robs them of the ability to control themselves, which is the mainstay of character.

Children who are allowed to do as their impulses lead them without restraint are in great danger, constantly, from foes seen and unseen. Parents may call it kindness, but the children will grow up and while they may not know all the reasons for their failures and sufferings, they will not fail to realize that their parent had made a mistake in trying to be kind. There are no children so good, naturally, that they need no disciplining. They need constantly to be straightened and pruned that they grow up into beautiful womanhood and manhood. Is it kind to allow your boy or girl to eat anything at any time just to appease an artificial appetite or because of restlessness? Certainly not. It creates an unnatural appetite, deranges the digestion which makes them ill-natured and unhappy, but the most serious harm it works is the effect upon the will, for if they are not taught that some things are not good for them and therefore must not be indulged in, if they are not taught self-control in minor things they certainly can not use it in greater; hence if they see their friends smoking and feel inclined to try, they readily yield, and it will be the same about any other temptation that confronts them.

"I want my daughter to be happy all the time. The time will come soon enough when she must work and be shut in with cares, so I shall not allow her to share my burdens and work." So said a mother whose daughter spent her life in pleasure and gaiety while her mother sacrificed her strength and health to dress her beautifully and give her a good time. She knew how to paint, to sing, to do all kinds of fancy work, but she could not make a cup of good coffee, cook a beef-steak, or bake a biscuit. She was selfish, self-centered, and self-seeking. She was not happy unless she was having a gay time, and was ill-natured and petulant in the home. She was criticised by the public because she neglected her mother and let her do all the work. Her mother was only being kind, but was it kindness? In giving happiness, in being kind, let us be wise and look beyond the present.

### Ways to Lighten Labor.

FROM EXCHANGES.

Ironing in the kitchen on a hot summer's day, by a coal or wood fire, is almost intolerable, with each individual piece of clothing, as the iron hisses over its moist surface, adding to the already steam-laden air and the temperature up toward a hundred. Nearly everybody has, or might have, a back porch where, by the aid of a gasoline or kerosene stove, the ironing and cooking might be done in hot weather, and where, if shaded by vines or Venetian blinds, meals might be eaten and enjoyed much more than in a close, dark room. If a fire has to be made once or twice a week in the kitchen stove for baking, it can be utilized for cooking soups, meats, etc., to last for several days by reheating on the coal-oil stove, although a chicken, for instance, can be roasted perfectly in an earthen vessel with a cover, over the latter. It should be prepared as for roasting, put in the pot with a little water, covered tightly, and turned and basted often.

Easy Way to Wash Clothes.—Take half a tub of warm water, or as much as you need to soak your clothes—the fine ones first—put into the water two or three tablespoonfuls of gasoline, soap the clothes well, let soak one-half hour, then rub out. Put into a warm suds water, then rinse well; do not boil and use plenty of soap. As you add more clothes to the water put in a little more gasoline. Your clothes will be very white and the dirt comes out without much rubbing. Use about one-half a cupful of gasoline for the washing.

Another: Fill the boiler two-thirds full of soft water. In a basin shave fine three-fourths of a bar of soap; add to this one-half cupful of coal oil and one quart of boiling water. Stir this until dissolved, then pour about half of it into the boiler. After sorting the clothes, put the finer pieces into the boiler first. Never put in so many pieces that they can not be stirred easily and loosely. When they have boiled for about ten minutes, take out and put into a tubful of cold water. Then put more suds and another batch of clothes into the boiler. While these are boiling, look over the things that have been boiled. If there should happen to be any dirt on some of them it will fall out with a very slight rubbing. Rinse, blue, and then starch as usual.

A pinch of borax in cooked starch will tend to make the clothes stiffer and whiter.

Caution: In using gasoline care should be taken not to put it into the water near a fire or into boiling water. Do not use it in a room where there is a fire.

### Why Mrs. Snowden Is a Suffragist.

English women who figured in the recent fight for suffrage have been criticised for their actions, but whatever their behavior may have been, for the most part they had at heart the welfare and betterment of their people—the downtrodden and oppressed, as is shown in this article from an exchange:

Mrs. Snowden, an English suffragette, now in the United States, in stating why she became a leader in the movement said that when a student at college she happened to hear Dr. Aked, one evening when his topic was "Can a man on a pound a week be a Christian?" So clearly did he portray the sad economic conditions prevailing that she then and there resolved, so soon as her college work was completed, to devote herself to helping in needed reforms. Her first public work was in helping the million pledge crusade; during this she visited the worst slum quarters in Liverpool and was once robbed in open daylight; but she is now glad, for she was glad in turn and orna-

ments, and so was insulting those poor, starving persons. At that time she learned that hundreds of thousands have no opportunity to earn a living. She passed by as indescribable the miles upon miles of huts, unsuited even for beasts to live in, yet inhabited each by eight, ten, or a dozen people, who have never known better conditions and are wholly unaware of their own degradation.

To relieve this poverty and distress Mrs. Snowden is devoting her life, in preaching, in public addresses, and by private energy. She described some of her odd experiences in Scotland and Wales. But of most interest was her description of the movement for woman suffrage which she declares is not a mere desire to have the vote because men do, but that they may assist in bringing out many much-needed reforms. The work began forty years ago, and progressed slowly and quietly. Eighteen months ago, however, when the Liberal Ministry came into power, those who hoped for reforms of various sorts became very active and are moving for temperance, old age pension, and woman suffrage. More than a million women have signed petitions for the ballot. The newspapers have been telling how wild and fanatical some of the suffragettes have been, but this is a false representation. The women have appeared at political gatherings and have desired to ask questions, but so soon as a woman appears the men begin to shout "Chuck her out." Students—college, medical, divinity—have raised disturbances, and thrown bottles, cabbage, and dead rats at the women. Meanwhile quietly, persistently, hopefully, the women of England are working for the suffrage. Some of the opposing newspapers have become converted and are now urging the right of the women. Mrs. Snowden is confident that within a few years success will crown their efforts.

### Not Afraid of Man.

One of the most pleasant features of the drive through the Yellowstone National Park, says the Troy Times, is the apparent intimacy between man and the animal and bird life in the park. Thanks to the wise and stringent regulations, no shooting is allowed within its boundaries.

"The result," says an English tourist, "is positively charming. Hundreds of little chipmunks, with their gaudy striped backs, scamper impudently about or peer at the passing coach from the roadside. The squirrel did not bolt for the nearest tree, but nodded a welcome. All bird life treated us likewise. Even the lordly eagle hovered near, and the wild turkey stalked unconcernedly through the rank grass. We perceived a doe and fawn grazing by the road. Not until we were within a few feet did they seek the shelter of the woods, yet not to fly. They simply moved aside. Here at least mankind was regarded as a friend—one who could be trusted. The only animal who ran away was a brown bear. He turned tail at the sight of a coaching party, yet it was quite a common thing for bears to approach close to the hotels at evening to feed on the refuse thrown out. It was an after-dinner relaxation for the guests to watch them feeding. They munched and disputed the choicest morsels, for the most part indifferent to the company. Only when we became inquisitive and approached too near did they retire; and these animals were perfectly free and unfettered in their movements. It may read like a fairy tale, but it is solid fact."—From Our Dumb Animals.

### To Clean Painted Walls.

Put a 5-cent package of baking soda in a pail and pour over it about two quarts of boiling water and stir well. Have another pail full of warm water for rinsing. Get a piece of woolen cloth; dip it into your soda water, rub a little soap on it, and wash part of your wall thoroughly, then rinse well and dry it. Do not use the same cloth you used for washing, but a clean one for the rinsing. Now have

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another dry cloth and wipe over your washed paper. This will clean the dirtiest painted wall with little trouble. Keep changing the rinsing water when it gets dirty, also stir your soda water every time you use it.

#### Green Corn Recipes.

**Boiled Corn.**—Fill an enamel or granite iron pot with plenty of water to cover the amount of corn you intend to cook. Bring it to a boil and have your corn husked, the ears broken in half if they are very long. Salt the water, drop the corn into it at boiling point, and boil briskly from five to eight minutes, if the corn is very young and tender; from eight to twelve if the kernels are large. Remove with a large skimmer, drain, wrap in a napkin or corn doily and serve immediately. Corn cooked in an iron pot is very apt to turn dark, and if allowed to stand in the water at the back of the stove it will become soggy and tasteless.

**Corn Pudding.**—For this and all other made dishes in which corn plays a part, either grate or press it from the cob. It does not mix well with other ingredients if it is cut roughly and coarsely from the cob. If you lack the patience to grate it then with a sharp knife cut through the center of each row of kernels, and with the blunt side of the knife, pressed firmly with a downward motion, squeeze out all the plup through the aperture thus made. One quart of scraped corn, one cup of rich milk,

a lump of butter the size of a walnut, melted and mixed with the corn, two tablespoons of sugar, two well beaten eggs, salt to taste. Bake one hour in a buttered pudding dish, set in a pan of boiling water. Have a moderate oven. This will be the consistency of a custard. If you want it a trifle thicker, beat two tablespoons of flour in with the corn before adding the other ingredients.

**Corn Drops.**—Use half a dozen ears of young, juicy corn, score the grains with a sharp knife, after having trimmed off the least bit of the surface of each grain, then scrape all the corn from the cob with the back of the knife. Add salt and one egg, the white and yolk, beaten separately. Drop in spoonfuls on either a hot bake iron or frying pan; but in either case use no more fat than is just necessary to grease it. Have the pan or iron hot and bake like griddle cakes, turning when a golden brown underneath.

**Corn Fritters.**—One egg well beaten, two cupfuls of sweet milk, two cupfuls of grated corn, two teaspoonfuls of baking powder sifted with flour enough to make a stiff dough. Drop into hot oil, and when done on one side, turn over until both sides are nicely browned. Serve with butter or powdered sugar.

**Mock Oysters.**—One pint of grated green corn, two tablespoonfuls of soft butter, the yolks of four eggs beaten smooth, and flour enough to make a stiff batter. Season with salt and pepper. Drop by tablespoonfuls into boiling oil, and fry until a nice brown.

**Corn Omelet.**—Chop fine one-half cupful of green or canned corn; add the beaten yolk of one egg, two tablespoonfuls of rich sweet cream, salt and pepper; add the white of the egg beaten to a stiff froth, and pour onto a very hot griddle, well buttered, and when well browned turn one half over the other, and serve. This is a nice way to use up a little cold corn left over.

**Corn Pie.**—Line a pudding pan with rich biscuit dough, fill with well-seasoned grated corn, add bits of butter over the top, cover with a crust, and bake.

**Green-Corn Soup.**—Split the grains of a dozen ears of corn, and scrape from the cob. Boil the cobs in one quart of water for ten minutes or longer; strain the water, and add to it one quart of sweet cream, or milk with one large tablespoonful of butter; add the corn, and cook for fifteen minutes; thicken with one tablespoonful of flour wet with a little milk; season to taste.

**Corn-and Tomato Soup.**—Cook until done one quart each of tomatoes and green corn in one quart of water; season to taste, and just before serving add one cupful of cream.

**Tomatoes Stuffed With Corn.**—Set large, smooth tomatoes in a buttered pudding dish; cut a slice from the top of each, scoop out the seeds, leaving a thick cup. Fill with grated corn seasoned with butter, pepper, and salt, cover with the tops, add a little water, cover the dish, and bake in a moderate oven for an hour.

**Household Hints from Here and There**  
In making marmalades and butters of peaches, plums, and like fruits, leave a few seeds in while cooking, and you will find that the fruit is less apt to stick to the kettle and burn.

Raspberries should never be set in a bowl or deep dish, where the berries will be crowded together. Instead, spread them on platters or large plates, and they will keep longer and in better condition.

If any member of the family is very sick at the stomach, beat up the white of an egg and let him swallow it. It acts like a charm.

Clothes-pins make very good markers in the garden. Place one at each end of the row of seeds you have planted. Push the folded envelope into the opening of clothes-pin. Broken pins make good markers, too.

A sandpile is a capital place for

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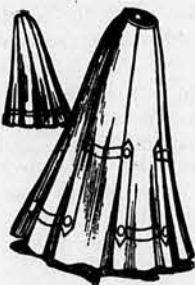
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the youngest children to play, and it will hold their interest longer if some colored marbles, shells, pebbles, even bright bits of broken dishes are mixed through it "on the sly," for them to discover as they dig.

A room with windows exposed to the sun and having no outside shutters, can be made cooler by lowering the upper half of the window and turning the curtain outside. This screens the window and creates a draft. If there is a wind, the blind may be held steady by drawing in the cord and tassel and shutting the lower half of the window down on it.

Where you have only a few beans to shell, put them into a barrel with a good bottom in it, having them not more than a foot deep at a time. Take a heavy piece of plank without slivers in it, shaped to fit your hands, and pound the beans out.

Keep a box or bag in the kitchen for scraps of clean rags and cuttings from sewing or mending. These rags will serve a double purpose. They may be used to wipe off greasy plates from each meal, and all greasy cooking utensils before they are put in the dish water. This saves a lot of greasy dish water, which is ruinous to the hands. Then, after using, the rags may be thrown into the stove. This helps the fire along.

Oilcloth may be made to last much longer by an occasional rub with a mixture of beeswax and turpentine.

Paint which the painters always seem to spatter on window glass can be removed by rubbing it well with hot, sharp vinegar.

Painted furniture and floors can be made to look as bright as new if they

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are occasionally washed with skim-milk or milk and water. If the milk is slightly sour, but not at all thickened, it will add to the brightening process. Care should be taken never to wash painted furniture with soap, as it dulls it and takes away the new shiny look.

## The Young Folks

### THE LITTLE WOMAN.

My little woman, of you I sing  
With a fervor all divine—  
For I know the clasp of the hands that  
cling  
So closely here in mine.

Though the rosy palms I used to press  
Are faded and worn with care,  
And tremulous is the old caress  
That nestles in my hair—

Your heart to me is a changeless page;  
I have read it bit by bit.  
From the dawn of love to the dusk of  
age—  
And the tale is Holy Writ.

Fold your eyes—for the twilight bends  
As a mother o'er her child—  
Even as when, in the long-lost Then,  
You bent o'er ours and smiled.

(Nay, but I spoke all unaware!  
See! I am kneeling, too,  
And with mine, dear, is the rose's  
prayer,  
With a blur of tears and dew.)

But, oh, little woman, I often grieve,  
As I think of the vanished years  
And trace the course of the cares that  
leave  
Your features dim with tears:

I often grieve for the frowns I wore  
When the world seemed all untrue—  
When my hard, proud heart was sick  
and sore  
And would not come to you!

I often grieve, as I hold your hand—  
As I hold your hand to-night—  
That it takes so long to understand  
The lesson of love aright!

My little woman, of you I sing  
With a fervor all divine—  
For I know the clasp of the hands that  
cling  
So closely here in mine.

—James Whitcomb Riley, in the Home Magazine.

### Glass-Making.

NELLIE HAMILL, ELK COUNTY.

"What is that group of dark buildings on the hillside just out of town?" That is what I asked my friend the next morning after my arrival in the little oil town of Peru. "The glass plant," she replied, and my interest was at once aroused. My friends expressed their willingness to visit this plant with me, so we started the next afternoon. It was a short walk, but the afternoon was warm. We soon learned that the bottle factory was closed and that the lamp chimney factory would soon shut down for the summer, so I considered ourselves very fortunate for having chosen this particular afternoon.

We first visited the mixing room. In this were great piles of white sand, a large mortar box, and many other tools for mixing.

This was not so interesting for one could learn very little of the process of mixing the sand for the furnace. I have since learned this process is somewhat of a secret not known to the general public, and there seems to be no way of satisfying one's curiosity, for none of the men employed know anything about it, at least they would not give any light on the subject.

We next visited the building where they were making chimneys. The roar of the gas was almost deafening, and the heat so intense that I thought at first I should have to leave immediately, but in a few moments I became partially accustomed to this and began to look around me. An immense furnace divided into six apartments was situated in the center of the building and men were at work on either side of the furnace. They work by shops, three men compose a "shop," a "gatherer," a "blower," and a "finisher."

The "gatherer" dips his tube in the furnace of liquid glass, takes it to the rolling table and with a few rapid movements gathers the molten glass in a sort of ball at the end of the tube. He then hands it to the glass-blower who blows it up into a sort of sphere, then he takes a pair of pinchers, draws the sphere out rather long, snips the end off and shapes the

bottom of the chimney with these selfsame pinchers. Then with a pair of tongs he places it in an opening to a nearby furnace when the top of the chimney has again become hot, he hands it to the "finisher."

The art of glass blowing was originally brought to America by Bohemians who were famous glass-blowers, and indeed it is an art. They don't seem to expend much breath, but I am told the heat is very hard on their lungs, and that glass-blowers are a short lived people. They let us girls try to blow some chimneys and such misshapen glass bubbles I don't think ever came into existence before. I am told a glass-blower is not permitted to teach his trade to any one but a near relative. They are paid by the number of perfect chimneys a shop turns out, and a good glass-blower will earn \$10 per day.

When the blower hands the chimney to the finisher (and alas these finishers are usually boys ranging in age from 12 to 14 years) who inserts the top of the chimney into a revolving, crinkly mold which gives the top of the chimney its shape.

One shop turns out from one to three chimneys a minute, and there was eight shops employed. In the winter when the heat is not so intense a great many more shops were in operation. The number employed were gradually decreased and the factory will soon shut down entirely until cooler weather.

Having watched the process of making chimneys for some time, we proceeded to the packing room. Here hundreds of boxes of chimneys were packed and ready for shipment. Women are employed in this room, and they sort and pack the chimneys, by sorting I mean they pick out the imperfect chimneys and break them. This is pure waste, for no glass is ever melted over, and the workmen receive no pay for them, so it behooves them to be careful with their work.

A railroad has a switch up to the packing house so that the matter of shipment is very easy. And now having seen the process of chimney manufacturing, from start to finish, we left the noise and heat of the factory behind us.

### What Have I Done?

Jack was a real good boy and a prime favorite with teachers and school fellows—such a willing, good-natured fellow and with such a lot of "go" in him, never shirking his work. One day he had a difficult sum to work out, and was bending his mind to it, when "Whack!" came the cane over his back.

"Sir, sir!" stammered Jack, "what's that for?"

"Nothing in particular, my boy," said the master, with another whack, and then another, while he stood smiling at Jack and began to whistle.

Jack sprang up. "Sir, it's not fair not to tell me what I've done wrong," said he.

"You've done nothing wrong," and down came another whack with the cane.

By this time the whole class were on their feet, and rebellion seemed ready, when the stern command came, "Keep your seats!" and unwillingly the boys sat down. All seemed to think the teacher had gone mad. Jack resumed his seat with burning face and smarting shoulders. Presently the teacher said, pleasantly: "I saw you driving your father's horse and cart yesterday, Jack, and was so sorry you had such a wretched horse to drive!"

Jack blurted out: "Our Bob is the best fellow in the place, sir."

"Ah! then he was lazy, I suppose, yesterday?" said the master.

"Not he," said Jack, angrily. His shoulders were bad enough to bear, but to hear Bob abused was more than he would stand. "He's as splendid and willing a little fellow as there is in the district. He never shirks work."

"So, so," said the master. "Well, I saw you yesterday, Jack, and I really thought your little horse was going

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in fine style, when you stood up and slashed him with your whip. He shook his head, when slash you went again, and I saw Bob fairly turn his head to look at you, much as you did when you asked me why I gave you the cane cut; but you gave him several more cuts with the whip, though he had a fair load and was doing his level best. You own he is a willing fellow, always doing his best, so I thought, Jack, that you might be content for me to treat you, my good, obedient pupil, who always tries to please me, in just the same way. Fair play all around, Jack, eh?"

Jack dropped his face on his hands down to the desk and he fairly shook with restrained sobs—big boy as he was—then he stood up.

"I understand your treatment, sir, and I deserve it. I used the whip without thinking about it, and it's quite fair that I should have a taste of what I gave our fine little Bob. I'll beg his pardon when I go home."

"Well done, Jack. Shake hands. Go on with your lessons, boys," said the teacher.

"And I'll remember my lesson, sir," said Jack, with a comical rub on his shoulders; "but it's fair play all around."—Our Four-Footed Friends.

## The Little Ones

### THE ROAD TO GRUMBLETOWN.

'Tis quite a straight and easy road  
That leads to Grumbletown,  
And those who wish can always find  
A chance to journey down.

'Tis customary for the trip  
To choose a rainy day—  
When weather's fine, one's not so apt  
To care to go that way.

Just keep down Fretful Lane until  
You come to Sulky Stile,  
Where travelers often like to rest  
In silence for a while.

And then cross over Pouting Bridge,  
Where Don't Care Brook flows down,  
And just a little way beyond  
You come to Grumbletown.

From what I learn, this Grumbletown  
Is not a pleasant place;  
One never hears a cheerful word,  
Or sees a smiling face.

The children there are badly spoiled  
And sure to fret and tease,  
And all the grown-up people, too,  
Seem cross and hard to please.

The weather rarely is just right  
In this peculiar spot;  
'Tis either raining all the time,  
Or else too cold or hot.

The books are stupid as can be;  
The games are dull and old;  
There's nothing new and nothing nice  
In Grumbletown, I'm told.

And so I've taken pains, my dears,  
The easiest road to show,  
That you may all be very sure  
You never, never go!

—Exchange.

### Della's Beautiful Visitor.

Della was curled up in the big easy chair by the fireplace. She tried to read fairy stories in the flaming logs, just as she and Cousin Herbert had read them only the other evening. But they didn't seem as interesting to-day.

"I guess it needs two to make up fairy stories," she said to herself.

The fact was, Della was lonesome. Mama had gone down town, Sister Mildred was at the Dorcas Society, and she was staying at home because Aunt Henrietta was expected, and somebody must be there to welcome her.

"Oh, dear, I wish she or somebody'd come!" sighed Della. "I do wish somebody'd come!" and she turned toward the window.

It was a very cold afternoon, and few people were on the streets. A maple tree grew near the house, and its branches swayed back and forth in the wind, rubbing the window casement with a lonely sound.

"I wish somebody'd come!" said Della again. "O-o-h!" softly—somebody had come!

The prettiest little bird that Della had ever seen was on the maple tree quite close to the window. She wanted to go nearer, and she stole across the room, stepping as softly as possible. The bird was going up the trunk of the tree, tapping it with his sharp bill, yet he did not appear to find anything to eat.

"Poor little thing, he is hungry!" Della said. "I wonder if he wouldn't like something to eat."

She went into the dining room and looked about. On the table was a dish of cracked filberts, and taking a handful of these she returned to the sitting room. Yes, the bird was still there. Della went close to the window, but the bird only cocked his head around, and went on with his search for food. Hunger had evidently made him reckless.

Partly shielded by the curtain, Della softly and slowly, very slowly, raised the window a few inches and slipped the nuts out on the broad sill. Then, still hiding behind the curtain, she carefully closed it, and waited breathlessly to see what the bird would do.

At first he kept on with his work, taking no heed of the feast spread for him; then he glanced that way, looked swiftly around to make sure no enemy



was in sight, and—he was right on the window sill pecking away with all his little might at one of the nuts!

Della came near squealing with glee—he was such a pretty bird, and he was so near! She could almost have touched him, if the glass had not been between.

The little guest was apparently very hungry, for he ate and ate and never stopped.

Della forgot all about being alone in the house, forgot that Aunt Henrietta was coming, until the bell went jingle, jingle. "Oh!" she cried, for the bird had flown!

Auntie was at the door, come on a later train than she had expected to take. Soon Della was telling all about her wonderful visitor.

"He was all black and white with red on his head, and so soft and fluffy," she said.

"It must have been a downy wood-pecker," replied Aunt Henrietta.—Emma C. Dowd in the Advance.

## The Poultry Yard

CONDUCTED BY THOMAS OWEN.

### Poultry Notes.

From reports lately received by the State Labor Bureau of Missouri, one county (Pettis) marketed last year 8,696,520 dozens of eggs and nearly 12,000,000 pounds of poultry. It received from this source alone \$2,637,476. Its dairy products only brought in \$266,160. Still some farmers think the poultry industry a small business.

Prof. Gilman A. Drew, who has been conducting experiments in connection with the egg-laying possibilities of hens at the Maine Experiment Station, quotes instances of hens which have laid two eggs within twenty-four hours. The most interesting case is that of a pullet, which apparently laid two eggs in one day in March. During March and April there are records of five days on each of which this pullet laid two eggs. Although she was carefully watched for months, there are no other records of her having laid more than one egg in a day. It should be added that the records of days on which she was known to lay two eggs came during the month of her greatest egg-producing activity. Professor Drew has noted a number of instances of hens laying two eggs in a day, but the records show that in most cases, on either the day before or the day after that on which two eggs were deposited, no egg was laid. Such cases may reasonably be accounted for by supposing premature or delayed delivery, but this can not be true of the pullet whose record has been given, when, for the five days beginning with April 3 and ending with April 7, eight eggs were laid. There are eight other instances recorded where hens laid two eggs in a day, but in all these cases on either the day previous or the one succeeding the day on which two eggs were laid, no egg was laid. More interesting than these abnormal occurrences is the report of hens which at the Maine Experiment Station have laid 255 eggs within twelve months.

Do not forget to send some of your poultry to your county fair and find out how good stock you have. Also remember the great State Fair at Topeka, September 7 to 12, and send some of your birds to it if possible. Some very liberal premiums are offered and no entry fees are required.

### Flavored Eggs.

The editor of Commercial Poultry is having a peculiar experience. Wild onions grow in his poultry yards and his breakfast eggs are strongly flavored therewith. He told his tribulations in the June issue of his paper and asked for reports of similar experiences. This called forth several. An Ohio man states that during June and July they have in that region a great number of "June-flies," so numerous that one can not walk without

stepping on dozens at a time. It is evidently impossible to keep the chickens from eating these flies, and the flesh and eggs of the fowls become so highly flavored as to be uneatable.

From a Wisconsin correspondent came the statement that for a time he lived near a marsh with standing water the year round. It was full of worms and a certain kind of weed grew there abundantly. The fowls made the marsh their daily haunt and the eggs soon had a peculiar flavor which spoiled them for food. That the secret of the flavor lay in the marsh was evident, for when, a few months later the family moved to another farm the trouble disappeared.

A Pennsylvania woman reported that during one hatching season they ran short of eggs for the table and bought some from a neighbor. These eggs tasted so queerly that they could not eat them and investigation showed that the neighbor's hens had free access to the manure pile, which accounted for the flavor. This lady has also found that damaged grain will give eggs an unpleasant taste as will spoiled meat or too much cabbage.

Those living near the ocean know that when fish are spread upon the land for fertilizing purposes it is utterly impossible to use eggs from hens that had free access to the fish.

The writer at one time bought several shocks of soy-beans from a neighbor. We stacked them in a yard where the fowls had free access to them. They seemed very fond of the beans and ate a great many of them. But it was not very long before we could detect a very strong bean taste to the eggs, until it became so disagreeable as to make us quit eating eggs. Beans and eggs might go all right if cooked separately but when mixed up in the egg shell were very offensive. A neighbor who used lots of liquid lice killer in his nest boxes claimed that he could detect the taste of the lice killer in the eggs, which was possibly true, especially if the eggs were allowed to stay in the nest boxes for any length of time after having been laid.

All facts go to show that if eggs of good flavor are desired the hens must be properly fed and shut away from objectionable places. A young woman running an egg-farm in New Jersey turned this fact to good account. In each of her neat egg boxes she put a printed circular stating the effect of various foods and the advantage in quality where fowls had nothing but clean, wholesome food rations. She built up a profitable trade, securing a material advance per dozen over market price.

### Feeding.

A. G. PHILIPS, KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN.

The problem of poultry-raising, next in importance to breeding, is the feeding problem.

The art of feeding is a scientific one, but should also be treated in a practical way. No man should give a hen anything to eat without having a reason for so doing. So many farmers keep fowls simply as farm scavengers and a means to turn some of his wife's labor into ready cash. Thus the real science of feeding is neglected.

Let us look into this matter as a beginner would who was tending his first flock of poultry. What is he going to raise poultry for? In this State it is primarily for eggs, so let us take up that standpoint. What is the egg composed of? The chemical composition of the dry substance of the inside of the egg is:

	Protein.	Fat.
White (albumen, white of the egg) . . . . .	88.92	.53
Yolk . . . . .	20.62	64.43

This composition would naturally lead us to think that in order to make eggs, fatty as well as nitrogenuous food must be given.

A hen requires so much food per day as a maintenance ration. When this is supplied and not until then, will she lay. All over this required amount is put into the egg until its limit is reached, then the surplus goes into fatty tissue. In order to lay, a hen must have some fat, the egg re-

quires it, but not too much. An over supply causes liver troubles, broken down legs, etc. Therefore the problem is, feed enough, but not too much. But what is enough and what is too much?

W. P. Wheeler, of the New York Experiment Station, Geneva, New York, has found that 500 pounds live weight of hens in full laying, each hen weighing from three to five pounds, would require per day:

	Pounds.
Dry matter . . . . .	27.5
Ash . . . . .	1.5
Protein . . . . .	5.0
Carbohydrates . . . . .	18.75
Fat . . . . .	1.75

This has a nutritive ratio of 1:4.6.

The nutritive ratio means the ratio between the carbohydrates, plus  $2\frac{1}{2}$  times the fat, and the protein. The protein makes the fibers and muscular tissues, and the carbohydrates and fat produce the fatty tissue, energy and heat.

Now we know how much feed constituents it takes to keep a hen in laying condition and what the analysis is of the egg after being laid. So what grains, etc., shall we feed?

Fowls are primarily grain-eaters, so we will discuss the principal ones.

### GRAINS.

WHEAT.—This is the best one grain, is palatable, small size, not hard, and is rich in mineral matter as well as protein. It is an easy grain to obtain by the farmer and should be used extensively in the feed mixture. Screenings are good if clean.

CORN.—Corn is the king of grains, because it is cheap and economical, except when fed as a single grain. Alone it is too fattening, does not contain enough protein, but does have too much mineral matter. Hens will pick it out in preference of all grains, partly on account of its color; corn gives a yellow tinge to the yolk of the egg, and also to the plumage.

OATS.—If heavy, oats are desirable. The shucks are about as good as straw. The grain is a growthy feed and the oat-oil is supposed to contain avianin, a nerve tonic.

BARLEY.—Barley is good for fattening, and if handy and reasonable in price is equal to wheat. Hens like it.

BUCKWHEAT.—This is used for fattening, and whitens the yolk of the egg and skin of the fowl. The middlings are richer than wheat middlings.

RYE.—Do not feed. Hens rarely like it.

When forcing hens to lay their work of digestion must be reduced, hence we feed ground food made mostly of by-products. Ground food is used to narrow the ration because no combination of whole grains is narrow enough for a laying hen.

### BY-PRODUCTS.

BRAN.—This is best for bulk and can be fed liberally. There is a big difference in quality and the test is to chew it. If gummy it contains gluten which is the valuable part of bran.

MIDDINGS.—This is sometimes made of ground bran, but flour middlings are best. When mixed with water it should be sticky. A low grade of flour is better than most middlings. But it is a valuable food in a dry mash.

LINSEED-MEAL.—This is a laxative, and should be fed sparingly, never more than one-tenth.

COTTONSEED-MEAL.—Never feed. It is constipating.

### MEAT FOODS.

Give a liberal amount, if the hens are confined, for there is no substitute for it to be found in grains. The best is skim-milk. Curdle the milk and feed the pot cheese.

GREEN CUT BONE.—This ranks next, but is sometimes unhandy to feed. Never feed more than one-half ounce per hen per day.

BEEF SCRAP.—Much illness is caused by feeding this, especially if the quality is poor. Get a guaranteed analysis and test by smelling the aroma given off when hot water is poured on it. It is a valuable feed and can be fed as 10 per cent of the feed.

If confined, feed the hens green food as it aids in digestion. Mangle beets are the best, rape and alfalfa are good. Alfalfa-meal may be fed in the winter.

Now that we have looked at some of

### "THE OLD RELIABLE"

## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD" WHEN YOU BUY A LANTERN INSIST ON A "DIETZ" MADE BY R. E. DIETZ COMPANY NEW YORK Largest Makers of Lanterns in the World ESTABLISHED 1840

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The only fence perpetually taut. The crimp in the wire does it. Can't sag, bulge or loosen from the tie wires. Made of high carbon, crimped, spring steel wire. Never needs repair.

## SHIMER STEEL FARM FENCE

requires only half the usual number of posts. Agents Wanted in every community to take orders for Shimer fence. Permanent employment. Liberal profits. Write for proposition. Address nearest factory. Write for proposition. Box 224, Coffeyville, Kan., or Spring Steel Fence & Wire Co., Box 224, Anderson, Ind.

### PLYMOUTH ROCKS.

Duff's Barred Rock Winners at half price during summer. Fine spring chicks and 1-year-old brooders. Send for circular and prices. A. H. Duff, Larned, Kans.

REMEMBER—That I have a choice lot of young stock coming on. All Smith's laying strain Rocks. Choice brooders. Prices right. Chas. E. Smith, Mayetta, Kans.

## White Plymouth Rocks EXCLUSIVELY.

For 16 years I have bred W. P. Rocks exclusively, and have them as good as can be found anywhere. I sell eggs from first-class, high-scoring stock at live and let-live prices. \$2 per 15, \$5 per 45, and I pay the expressage to any express office in the United States.

Thomas Owen, Sta. B, Topeka, Kans.

### BRAHMAN.

## Light Brahma Chickens

Choice pure-bred cockerels for sale.

Write or call on

Chas. Foster & Son, Eldorado, Ks. Route 4

### WYANDOTTES.

BROWN'S WHITE WYANDOTTES—Ahead of everything; stock for sale; eggs in season. I have the English Fox Terrier dogs. Write me for prices and particulars. J. H. Brown, Boyers, Colo.

### LEGHORNS.

SINGLE COMB BROWN LEGHORNS for sale cheap if taken soon. February hatch. Address Mrs. F. E. Town, Haven, Kans.

S. C. BROWN LEGHORN EGGS from our standard bred flock, sterling quality, rest of season \$1 per 30, \$1.50 per 50 or \$4 per 100. Our motto: Fine birds, moderate prices. L. H. Hastings, Quincy, Kans.

### BUFF ORPINGTONS.

BUFF ORPINGTONS—1500 utility, January, February, March hatched cockerels and pullets to sell. Buy now and get the pick. Price will advance next month. Catalog free. W. H. Maxwell, 1904 McVicar Ave., Topeka, Kans.

CHOICE Buff Orpington and B. P. Rock cockerels. Collie pups and bred bitches. Send for circular. W. B. Williams, Stella, Neb.

### SCOTCH COLLIES.

SCOTCH COLLIE PUPPIES—Natural born cattle drivers. Pedigreed stock. W. Hardman, Frankfort, Kans.



SCOTCH COLLIES of the very best breeding, have the intelligence of a human. For particulars address, DEER LAKE PARK, SEVERY, KAN.

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, Kans. W. H. Richards.

## Scotch Collies.

Fifty-seven Collie puppies just old enough to ship. Place your orders early, so you can get one of the choice ones. Walnut Grove Farm, Emporia, Kans.

## Incubators and Brooders

If you want a good incubator in a hurry write to the undersigned. He keeps the Old Trusty Incubator (hot water) and the Com-pound (hot air), two of the best incubators made. Also the Zero brooder, no better made. It pays to buy a good brooder. No use hatching chicks without a good brooder to raise them. The Zero will raise every chick you put in it.

THOMAS OWEN, Sta. B Topeka, Kans.

## VARICOCELE

A Safe, Painless, Permanent Cure GUARANTEED. 30 years' experience. No money accepted until patient is well. CONSULTATION and valuable BOOK FREE, by mail or at office. DR. C. M. COE, 915 Walnut St., Kansas City, Mo.



the important feeds, how shall we feed them. First let me say, keep as close to nature as possible. A hen eat when she wants to, from daylight until dark, and all she wants; so we must allow this, but possibly control what she shall eat. If allowed free range the feed bill will be greatly lessened and the fowls probably much healthier, but everybody can not allow this.

#### SOME ESSENTIAL POINTS IN A GOOD RATION FOR FOWLS ARE:

1. It should be composed of foods every one of which the fowls like. Do not try to force them to eat undesirable food.
2. It should contain a sufficient quantity of digestible nutrients to supply the needs of rapid growth and large production.
3. It should have enough bulk to enable the digestive secretions to act quickly upon it.
4. It should not contain an excess of indigestible fibre, which must be thrown off by the system, thus causing a waste of energy.
5. A certain portion of the ration should be of whole grain in order to provide muscular activity of the digestive organs. This is made necessary in grinding the grain. Under certain conditions a quantity of the ration should be soft, ground food. This is for the purpose of providing quickly available nutrients to supply the immediate demands of rapid growth or heavy, continuous egg yield.
6. It must provide a good variety of foods, in which are included grain, green food, meat, and mineral matter in proper proportions.
7. The foods in the ration must not have an injurious effect upon the color or flavor of the product.
8. The age of the fowl, the breed, and the kind of product which it is desired to produce must be taken into consideration; as to whether the food is intended to grow muscle and bone or to produce eggs or to fatten.
9. The ration must provide the two classes of food nutrients; the protein and carbohydrates in such proportion that they will supply the daily needs of the fowl's system; it must also provide sufficient digestible protein to repair the waste of tissue with new growth, and to produce eggs; and provide the proper amount of digestible carbohydrate food to furnish heat, energy, and lay by a little surplus full in the form of fat.
10. The ration must consist of foods which furnish the nutrients at the lowest possible cost.
11. It is not how much a fowl eats, but how much it can digest that determines the value of a food. Various classes of animals differ in their power to digest the same kind of food. Foods also vary in their digestibility when used by the same animal. Since the proportion of each poultry food which fowls can ordinarily digest has not yet been determined, we will accept the standards of digestibility which are used in compounding rations for other animals.

It has been our experience that a hen should be made to exercise, if she will not do it naturally. To do this a grain feed should be put in a straw litter. Early in the morning a few handfuls may keep the hens busy all day. At night, especially in the winter, they should go to bed with full crops. If we can keep the ration narrow enough all the feed a hen wants will not over fatten her, if she exercises.

As has been stated before, all grain is too fattening, so ground feed must be given. Wet mash takes too much time for the results obtained, so think the dry mash is best. Make a good hopper that is non-wasteful, and keep before the fowls all day. If you care to, close them at night.

#### NECESSARIES.

Grit should be before them at all times, also oyster shell. Grit is the hens' teeth; oyster shell makes the egg shell; so both are absolutely necessary.

Green food should be given if at hand, and water is indispensable.

The following ration has been found to be a successful one, where eggs are in demand.

The proportion of grain mixed together for the litter is 10-10-5.

	Pounds.
Wheat.....	10
Corn (cracked preferred).....	10
Oats.....	5

The proportion for the dry mash in the hopper is 6-6-3-1-1-5.

	Pounds.
Middlings.....	6
Cornmeal.....	6
Bran.....	3
Oil-meal.....	1
Alfalfa-meal.....	1
Beef scrap.....	5

This nutritive ratio is 1:3.9, a little narrower than Professor Wheeler says is necessary. In feeding, the grain and ground food in the above proportions should all be eaten up at the same time. Hens will naturally eat more grain than meal, so the grain may have to be held back in order to make them eat the meal. Generally the grain will run out just a little ahead of the meal so the ratio runs about right most of the time.

Now do not think we mean that all hens should be fed grain in the proportion of 1:4.6, because in the hen business, too much scientific work is a failure. But the above discussion of feeds is a good guide. Any poultryman should use his own judgment, and suit his own actions to his conditions and environment, etc.

With some fowls the above ration is a grand success. With others, we find all the mentioned feeds can not be obtained, so the next best thing is done.

We have talked to feeders who know nothing of the science of feeding, but who just use common sense. They claim a hen is like man. She wants a variety and she wants a plenty. Some find out by bitter experience how to feed. Many a time we have figured out the nutritive ratio of a successful poultryman's feed and find the ratio to be near the 1:4.6. Sometimes it is found to be different. But the real and main point is to know the hen and give her what will bring the best results. Results are the things we are working for, anyhow.

Remember, however, a hen that is not bred or built to lay can not be made into a good layer simply by feeding. The subject of the laying hen is another topic, altogether.

### The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animal, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this Department should give the inquirer's postoffice, should be signed with full name and should be addressed to the Veterinary Department, The Kansas Farmer, Topeka, Kansas.

**Ailing Pigs.**—Will you please tell me what to do for my pigs? The pigs have what I would call the thumps and they cough. They do not seem to grow any. I have lost a good many of them and upon examination I have found their blood dried up. If there is a remedy I should be pleased to know of it.

J. R.  
Belpre, Kans.

**Ans.**—Turn your pigs out on pasture or at large so as to get plenty of exercise. To relieve spasms give tincture of opium three to fifteen drop doses three times a day. Also give small dose of castor oil to prevent constipation. Regulate the diet and give plenty of green food.

**Mare Has Worms.**—I have a dark bay driving mare, coming 4 years old, 16 hands high. I have been feeding her three quarts to a feed of equal parts of alfalfa-meal, bran, and corn chops for about two months. I am now feeding six parts of oats to one part of corn chops, same quantity as above. In addition to this feed I give her about eight pounds of alfalfa hay and all the prairie hay she will eat.

She has worms about two inches long and they are rather dark in color. She is not doing as well as she should and does not seem to have the life that she ought to.

I would be pleased to know what to

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some of them held the entire crop of grain and hay—all a total loss. Barn, hay, grain, wagons, implements and stock.

You may never have lost a barn, but your neighbor did. It is a terrible blow to see your buildings, the result of years of labor and saving, go up in smoke as the result of a lightning stroke.

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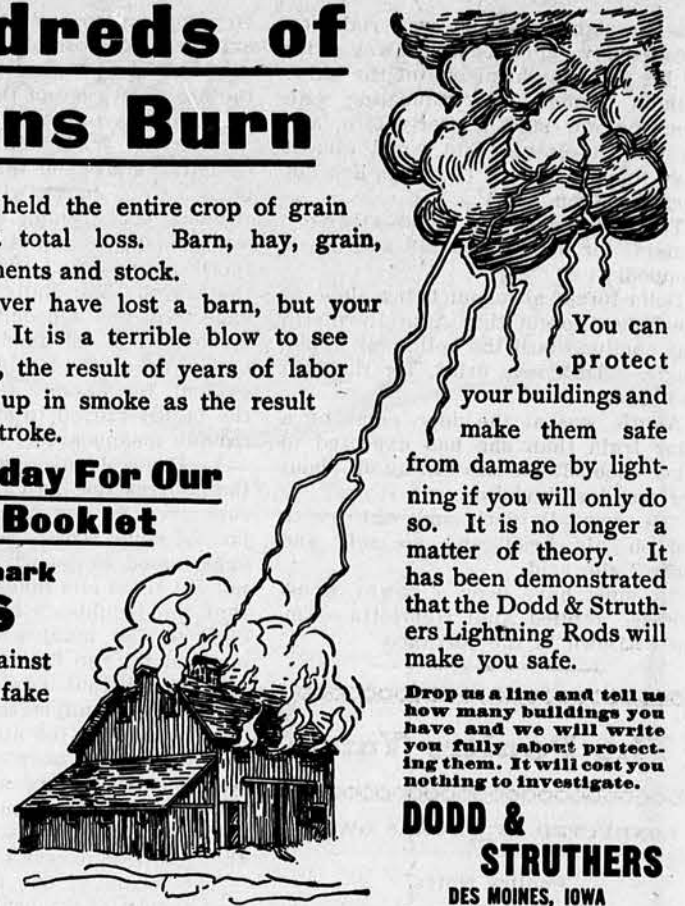
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**DODD & STRUTHERS**  
DES MOINES, IOWA

give her to bring her in good condition.  
F. C. B.

Topeka, Kans.

**Ans.**—Give nux vomica, powdered, 4 ounces; sulfate of iron, powdered, 2 ounces; hyposulfite of soda 5 ounces; fenugreek seed, powdered, 5 ounces; mix and divide into twenty-four powders and give one powder in feed twice a day.

#### A Farm Economy.

The use of a "food tonic" as a preventive of indigestion and consequent check on growth and development is becoming a settled practise among owners and feeders of live stock.

It is a well-established principle that bitter tonics strengthen digestion, that iron builds rich blood in abundance and that nitrates remove from the system the clogging poisons that are not less deadly because their action is slow. It sometimes happens in feeding cattle or hogs that the gain of months is almost completely lost by a mistaken idea of economy which prevented a slight outlay for the "food tonic."

This is a sample of the same old policy which "saves at the spigot to waste at the bung."

Continuous and rapid growth or fattening is impossible without daily doses of this beneficial tonic preparation. Keep that in mind and remember that back of the idea is the indorsement of such men as Professors Winslow, Quimman and Finley Dun, noted the country over as experts in all that relates to veterinary medical practise.

It has been found that all farm animals are equally benefited by the use of the "food tonic." Horses are in better condition for work or driving and where the object is to sell they invariably show to better advantage. To hasten a bunch of hogs when high prices are in prospect, there is nothing better, and the actual profit derived from its use may be well illustrated by a simple computation.

Suppose a bunch of four 120-pound hogs be taken as an experiment and that a maximum dose of two table-spoonfuls be given twice a day. Now, the actual weight of tonic eaten by the four hogs would be 1-6 of a pound and would cost 5-6 of one cent or a fraction over 6 cents per month, per hog. Then if the fact be taken into consideration that a thrifty hog may increase a hundred-weight in a few weeks, we see at once that the "food tonic" would soon pay for itself and a large margin of profit be realized.

This is the theory and practise of the "tonic idea" and there is abundant evidence to sustain it. Men who are using the "food tonic" regularly, find that it pays for itself over and over again and that there is no small investment made that gives so handsome a return.

The larger business of cattle raising and feeding is also equally broadened and extended by this commonly practised principle of giving a digestive tonic. By its use a bunch of steers is carried safely through the months when heavy feeding is the rule, and brought to a satisfactory market condition without a moment's check in the process of development.

Sheep and lambs benefit as much from a consistent use of "food tonic" as other stock, tests by a State experiment station proving in one instance a profit of 235 per cent over the cost, from which it would seem that no farm economy is more practical or profitable than the "food tonic" idea.

#### A Sure Rat-Killer.

Science is every day making life more worth the living. It adds to our comforts and subtracts from our discomforts. One of its latest efforts to do both has brought about remarkable results in a safe and sure way to rid the farm of rats and mice.

Sometime ago the writer read the ad-

## Kendall's Spavin Cure

The old reliable cure for Spavin, Splint, Curb, Ringbone, Sprains, Swellings, all forms of Lameness. Never found wanting as a liniment for both man and beast. \$1 a Bottle; 6 for \$5.

At All Drug Stores

Used 15 Years

"I have used Kendall's Spavin Cure for the last 15 years and find it cures every time. It is the only liniment I depend on. Can't do without it."

W. J. Powell,  
Genoa, Fla.

Keep the tried and proven remedy on hand. Don't take a substitute. Get the great book, "Treatise on the Horse," free, of druggists, or write

Dr. B. J. Kendall Co.  
Enosburg Falls, Vt.



**WANTED**—500 young men to learn Telegraphy and station accounting and earn from \$63 to \$125 per month. We have railroad wires giving actual experience, making it a practical school. Endorsed by A. T. & S. F. Ry. Write for illustrated catalogue, Santa Fe Railway & Telegraph School, 504½ Kansas Ave., Topeka, Kans., and Newton, Kans.

## CORN

HARVESTER cuts and throws in piles on harvester or windrows. Man and horse cuts and shocks equal with a corn binder. Sold in every state. Price \$15. Testimonials and catalog free, showing harvester at work.

NEW PROCESS MFG. CO., SALINA, KANS.

## Stray List

Week Ending August 13.

Dickinson County—H. W. King, Clerk.  
**MARE**—Taken up by Albert Pagenkoff in Liberty tp., August 1, 1908, one gray mare, 8 or 9 years old spavin on right hind leg, wire cut on left hind leg weight about 800 or 900 pounds.

For Week Ending August 27.

Kearny County, F. L. Pierce, Clerk.  
**HORSE**—Taken up, July 25, 1908, by D. L. Eves, in Hibbard tp., one bay horse horseshoe and letter O branded on left shoulder.

Advertisement of Park-Davis and Company, about Azoo and as he was pestered by a great horde of rats about his barn, cribs, and hen-house, he ordered some of it for trial.

These rats had ready access to the grain bins and were so well fed that it was difficult to poison them, and so smart that it was practically impossible to trap them. Learning that Azoo would produce a contagious disease among the rats, he ordered a supply and administered it in a box of rolled oats. This was eaten greedily as the rats seemed to accept it for a change of diet, and now, after waiting about eight or ten days, there appears to be no evidence to show that there are any rats on the premises.

A neighbor across the way reports that he is also free from rats. At the



## Weather Bulletin

Following is the weekly weather bulletin of the Kansas Weather Service for the week ending Aug 25, 1908, prepared by T. B. Jennings, Station Director.

## DATA FOR THE WEEK.

	Temperature.			Precipitation.		Total air ce March 1.	Per cent of sunshine.
	Maximum.	Minimum.	Mean.	Departure from normal.	Total.		
EASTERN DIVISION.							
Baker.	94	50	72	....	1.00	25.78	..
Burlington.	101	57	78	....	0.92	25.78	46
Columbus.	98	61	80	....	0.02	32.28	47
Cottonwood Falls	98	56	74	....	1.19	26.90	71
Emporia.	97	56	75	....	0.72	30.65	71
Esksridge.	93	55	74	....	1.22	27.11	86
Eureka.	100	57	76	....	1.68	25.24	86
Fall River.	98	57	76	....	0.22	27.86	69
Fort Scott.	97	53	72	....	0.57	39.44	79
Frankfort*.	97	52	72	....	2.33	28.50	70
Fredonia.	100	58	79	....	0.05	28.59	54
Horton.	93	52	71	....	0.55	23.33	58
Independence.	101	62	80	....	T	22.35	73
Iola.	96	60	76	+1	1.04	26.12	71
Kansas City.	94	57	74	....	0.56	38.39	62
Lebo.	95	57	74	....	0.88	28.69	62
Madison.	100	56	74	....	0.65	34.80	71
Manhattan.	98	53	74	....	2.23	29.96	64
Olathe.	98	55	74	....	1.32	31.09	84
Oswego City.	98	54	76	....	1.04	27.15	85
Oswego*.	99	61	78	....	0	32.26	65
Ottawa.	97	54	74	....	0.95	24.73	77
Pleasanton.	93	58	74	....	0.32	29.49	43
Sedan.	99	61	80	....	0.08	29.23	43
Topeka.	96	57	74	-2	1.37	33.39	70
Toronto*.	102	57	78	....	0.55	18.45	57
Wamego.	94	56	71	....	1.87	19.82	69
Division.	102	60	76	....	0.76	20.00	57

MIDDLE DIVISION.							
Altont.	100	48	75	0.81	19.82	69	69
Anthony.	103	61	80	0.96	29.49	43	43
Chapman.	96	57	74	2.04	29.23	43	43
Clay Center.	100	61	72	0.97	33.39	70	70
Concordia.	95	53	71	2.00	18.45	57	57
Cunningham.	102	59	74	3.75	23.97	57	57
Eldorado.	98	59	74	2.28	24.21	44	44
Ellinwood.	97	56	72	0.84	18.31	64	64
Ellsworth.	98	51	72	2.13	34.17	64	64
Hanover.	98	51	73	0.80	16.20	67	67
Hays.	99	51	73	1.18	24.01	67	67
Hutchinson.	98	58	76	1.44	18.84	68	68
Jewell.	96	50	72	0.70	15.55	70	70
Kingman.	98	59	72	1.55	22.28	70	70
Lebanon.	90	52	71	1.80	22.07	50	50
Macksville.	96	54	74	2.24	25.04	50	50
McPherson.	101	55	76	2.07	22.05	43	43
Marion.	95	53	72	1.75	26.01	43	43
Minneapolis.	100	62	79	0.69	20.03	61	61
Norwich.	96	49	72	2.13	18.66	61	61
Phillipsburg.	102	59	74	0.23	26.83	61	61
Rome.	100	55	73	1.69	22.89	61	61
Salina.	100	55	73	1.33	23.76	61	61
Wellington.	98	65	78	0.25	21.57	46	46
Wichita.	97	61	76	0.65	35.53	68	68
Winfield.	97	63	78	1.48	35.53	68	68
Division.	103	48	74	1.48	35.53	68	68

WESTERN DIVISION.							
Ashland.	96	59	78	0.25	21.49	91	91
Blakeman.	93	43	70	0.21	10.21	50	50
Colby.	95	50	73	0.59	7.18	79	79
Coalgate.	97	59	75	0.56	13.46	67	67
Dodge City.	97	47	68	1.40	14.51	73	73
Dresden.	98	43	75	0.66	11.45	73	73
Farmersburg.	92	45	72	0.13	14.87	75	75
Hoxie.	96	57	75	0.41	9.10	67	67
Hugoton.	99	57	78	2.39	23.47	89	89
Liberal.	99	57	78	0.97	9.73	89	89
Norton.	100	46	71	0.61	13.87	89	89
Scott.	95	48	72	1.16	10.25	89	89
Wakeeney.	95	45	72	0.87	13.30	68	68
Wallace.	100	43	73	1.07	23.48	64	64
Division.	103	43	75	1.07	23.48	64	64

DATA FOR STATE BY WEEKS.							
April 13.	89	19	55	0.91	54	54	54
April 20.	92	30	60	0.79	60	60	60
April 27.	92	37	65	0.46	62	62	62
May 4.	78	15	49	0.08	47	47	47
May 11.	88	29	52	1.32	47	47	47
May 18.	95	37	67	1.12	67	67	67
May 25.	92	33	68	1.74	64	64	64
May 31.	97	40	69	1.33	49	49	49
June 7.	100	41	71	2.83	53	53	53
June 14.	93	43	70	2.97	59	59	59
June 21.	100	44	70	1.04	83	83	83
June 28.	110	46	76	0.27	58	58	58
July 5.	101	44	70	0.45	83	83	83
July 12.	107	43	74	0.78	75	75	75
July 19.	102	52	78	1.06	64	64	64
July 26.	103	50	76	0.45	79	79	79
August 2.	98	48	79	1.21	85	85	85
August 9.	103	51	79	0.56	75	75	75
August 16.	108	45	77	1.07	64	64	64
August 23.	103	43	75	1.07	64	64	64

\*Received too late to use in means.

†Week ends Friday.

## GENERAL SUMMARY.

The weather was quite warm the first portion of the week, but cool the latter part, Thursday being especially cool. The temperature generally remained below normal after Tuesday.

The week was unusually cloudy for the season of year except in a few western and extreme south-eastern counties.

The rainfall was above normal over the greater portion of the State, but was decidedly below normal in the extreme southern portion of the State. Good showers were quite general in the central and northern counties on Tuesday and Wednesday and fair showers in the northeastern counties Friday night.

## Hon. George B. Ross.

George B. Ross, the well-known breeder of Poland-China swine and Shorthorn cattle, of Alden, Kans., was recently visited by the writer, and in looking over his herds our conclusions were that he had surpassed all former efforts in the quality of young stock produced this year. This is a strong statement, for Ross Polands and Shorthorns are noted for quality and breeding, as well as their constitution and vigor, and seldom fail to make good even under adverse conditions.

Mr. Ross has developed and maintains one of the best herds of Polands in the State, as well as one of the best herds

of Shorthorn cattle. The very best foundation material that money could buy has always been used, and this, together with intelligent mating and judicious feeding, have produced the best results.

Mr. Ross's Shorthorns probably carry a larger per cent of straight Scotch breeding than any other herd in the State, while his Polands are noted for their size, finish, and feeding qualities. Mr. Ross has also found time to devote to public interests; and whatever positions of trust he has accepted the people have found in him a faithful and intelligent representative.

At the present time he is a member of the State Board of Agriculture, president of the State Swine Breeders' Association, a director of the Hutchinson State Fair Association, and superintendent of the swine exhibit. In this capacity he has rendered the public and newspaper representatives a valuable service, for through his suggestion the fair management is erecting a comfortable building adjoining the judging ring for the use of press representatives and containing a large and comfortable rest room for ladies. THE KANSAS FARMER is also glad to know that the Hon. George B. Ross is a candidate for reelection to the office of State Senator from his district comprising the counties of Rice, Barton, and Stafford,

The week somewhat paralleled that of July 27.

## EASTERN DIVISION.

Allen.—The first two days were very warm, but, during the remainder of the week, temperatures averaged 2° below normal. Beneficial rains fell on the 18th and 20th. There was less than the normal amount of sunshine.

Bourbon.—Somewhat cooler weather prevailed, with good showers on the 19th and 20th.

Brown.—Delightful weather prevailed. The rainfall was ample and the temperature moderate.

Chase.—The weather was very favorable. The rainfall amounted to 1.19 inches. Temperature extremes were 98° on the 18th and 56° on the 20th and 21st. All the nights were rather cool and the sky was clear on two days.

Chautauqua.—Rain is much needed, as a good soaking rain has not fallen since the week ending July 4th.

Cherokee.—Only two light sprinkles of rain fell at Columbus and the ground is very dry.

Coffey.—The first two days were hot, with the maximum temperature 100° or above at Burlington. Good rains fell on Tuesday and Wednesday and quite cool weather prevailed at the close of the week.

Franklin.—The week began hot and dry, but ended cool and wet.

Greenwood.—The week was favorable, tho it began with uncomfortably high temperatures. Good rains fell at Eureka and lighter rains at Madison and Fall River.

Johnson.—The week was ideal. The fore part was rather warm, but the latter part was cool and pleasant. The rainfall was ample.

Labette.—There was no rainfall this week and rain is badly needed.

Linn.—The maximum temperature, 93°, occurred on Sunday, the 16th, but temperatures fell as the week progressed. A light shower fell on the 19th.

Lyon.—Very fine weather prevailed, the fore part

Cowley.—This was a very pleasant week, the latter part, especially, being the coolest weather that had been experienced for several weeks. A welcome rain of 0.65 of an inch fell on the 21st.

Dickinson.—Hot weather on the 16th and 17th was succeeded by heavy rains and much lower temperatures till the week closed. The sunshine was very deficient.

Ellis.—The temperatures and the rainfall were about normal.

Ellsworth.—Favorable temperatures, with sufficient rainfall, prevailed.

Harper.—Seasonable and very beneficial rains fell on the 19th and 22nd. A maximum temperature of 103 occurred on the 17th.

Jewell.—This was a pleasant week, the latter part was quite cool, but Sunday, the 16th was hot, with light winds.

Kingman.—On the night of the 21st a rain of 2.00 inches fell. The first of the week was clear and hot, the latter part was pleasant.

McPherson.—The rainfall, 2.24 inches, was ample for present needs. The temperature extremes were 101° on the 16th and 55° on the 20th.

Marion.—Rains fell on six days, aggregating 2.07 inches. Temperatures were below normal after the 16th.

Osborne.—The week began with a temperature of 100°, but by Thursday, the 20th, the temperature had fallen to a minimum of 48°. Seasonable rainfall occurred.

Ottawa.—The rainfall was abundant, but the sunshine and temperatures were deficient after the first three days.

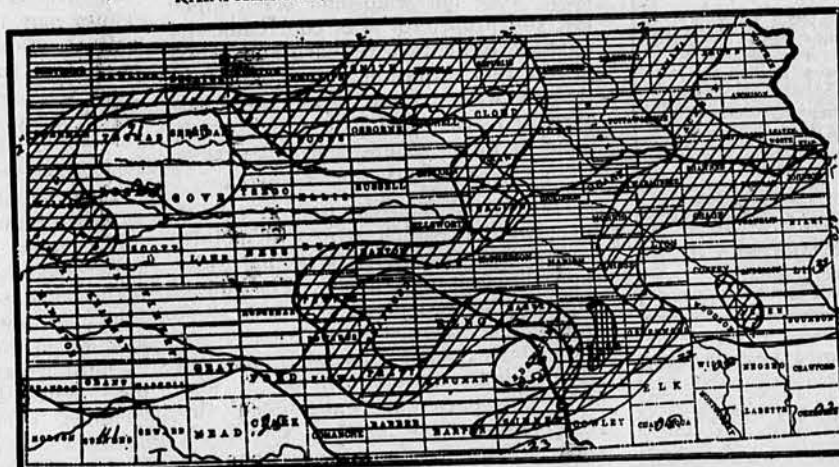
Phillips.—Showers fell on every night of the week, aggregating 2.13 inches.

Reno.—Favorable weather prevailed.

Saline.—The rainfall was ample.

Sedgewick.—The dry weather continued until the close of the week, when a copious rain fell. The week opened hot and closed with temperatures below

## RAINFALL FOR WEEK ENDING AUGUST 22, 1908.



SCALE IN INCHES.

Less than .50. .50 to 1. 1 to 2. 2 to 3. Over 3. T, trace.

being hot and the latter part cool and comfortable. Plenty of rainfall occurred.

Marshall.—A heavy rain, amounting to 2.33 inches at Frankfort, fell on the 19th. A minimum temperature of 53° on the 20th was the lowest recorded for several weeks.

Montgomery.—The week was warm and dry, except the 19th and 20th, which were cool.

Oaage.—Copious showers occurred on the 19th and 20th. Temperatures averaged considerably below those of the previous week.

Pottawatomie.—Good rainfall occurred this week. Riley.—The fore part was hot, the latter part cool. The rainfall amounted to 2.33 inches.

Shawnee.—Conditions were very favorable. There was an abundance of rainfall and sunshine, and the temperature was rather high on Sunday, the 16th, the rest of the week was cool, Saturday, the 22nd, averaging 6° below normal.

Wabawsee.—A rain of 1.22 inches on the 19th furnished all the moisture needed. Temperatures the latter part were considerably lower than any that had been experienced for several weeks.

Wilson.—The weather continues very dry, but the cool nights were favorable.

Woodson.—The fore part was clear and hot, with the maximum temperature above 100° on the 16th and 17th. Lower temperatures and cloudiness prevailed the latter part, a minimum of 57° occurring on the 21st.

Wyandotte.—Sunday, the 16th, was the only warm day, the rest of the week having moderate temperatures. Rain, with thunderstorms, occurred on the 19th and on the early morning of the 22nd.

## MIDDLE DIVISION.

Barton.—Much damage was done by heavy hail on the 21st. On the same day 1.55 inches of rain fell in 45 minutes. The total weekly rainfall at Ellinwood was 2.29 inches.

Butler.—The dry weather was effectually broken by a rain of 2.54 inches on the 19th. Temperatures fell slowly as the week progressed, the maximum being 98° on the 16th and 17th and the minimum 59° on the 21st.

Clay.—On Sunday, the 16th, the maximum temperature reached 100°, but a cool wave the middle of the week produced a minimum temperature of 51° on the 20th. Rains fell on the 17th, 18th, and 19th, the weekly total, 2.04 inches, being much in excess of what was needed.

Cloud.—The only hot day was Sunday, the 16th, when a maximum of 95° occurred. The other days averaged from 2° to 12° below normal. The rainfall was above the normal.

and believes that one so closely connected with and interested in the great live stock and agricultural interests of the State is the right man to be elected to this important office, and we also believe that a few men like him in the State Senate would give to the people of Kansas a State fair.

Persons concerned in the erection of telephone lines will be interested in the August number of the "W. & M. Telephone Wire News," published by the American Steel and Wire Company, Chicago, Ill. This company is so well known that its street number need not be used in addressing it. The information contained in this August number makes it well worth the asking.

The Omaha Commercial College will have this year the largest telegraph school in America. This department has been moved into new quarters, and will accommodate two hundred students. It has been fitted out, at an enormous expense, with wires, stations, instruments, relays, semaphores, miniature railroad, etc. It has a railroad wire, is backed by the Union Pacific Railroad Co., positions guaranteed, and all Union Pacific blanks, books, and forms. Rohrbough Bros. have published a telegraph folder which tells all

about this department, and will send it free, to anyone.

## Business College, Lawrence, Kans.

Prof. E. S. Weatherby is spending his vacation at Estes Park, Colo.

W. H. Hunter has received notice of an appointment to a Government position at Washington, D. C., and left for that place this week.

The college rooms are now in the hands of the painter and paper hanger. The rooms are being entirely renovated in preparation for the opening of the new school year.

Professor Quakenbush spent his vacation visiting friends in Southern Kansas.

A. C. Simmons has accepted a position as stenographer in the Santa Fe offices at Topeka.

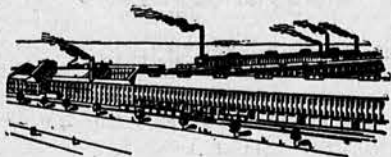
The new school year opens September first. Indications are that the enrollment will be the largest in the history of the school.

The desire to obtain something for nothing has enabled many a man to obtain nothing for something.—Advertising, London.



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### Dairy Interests

#### Official Supervision of Dairies.

Government and State officials have made a beginning in their campaign for improvement in the quality of milk and milk products in Kansas. Their first work was done at and in the vicinity of Topeka last week. Several dairies were inspected by Dr. George M. Whitaker, of Washington, D. C., an inspector for the Dairy Division of the Department of Agriculture and former secretary of the Massachusetts Board of Agriculture; D. M. Wilson, Kansas State Dairy Commissioner; Dr. J. H. Cheney, of Great Bend, a veterinarian, and who has been strongly recommended for the position of city milk inspector for Topeka. Dr. Van Horn, of Topeka, and Secretary F. D. Coburn, of the Kansas Board of Agriculture, accompanied the inspectors.

#### THE FIRST DAIRY SCORED.

The first dairy visited in the afternoon was that which scored at the finish 41 points. The Government score card was used, which considers under two general heads, equipment and methods. Under equipment, the cows were found to be in very good condition so far as outward appearances determined. The arrangement for their comfort, the feed and water were found to be good. But in the matter of stable, there was a considerable shortage. The location was too low. The drainage was not the best and there were manure heaps which made it liable to contaminating surroundings. In the matter of stable construction there was a fair scoring—6.5 out of a possible 10 points. The light, ventilation, and yard conditions were too poor to admit of being credited any standing. The milk room was subject to criticism in that it was so situated that the surroundings might contaminate the milk supply. In construction it fell short, being allowed only 1.5 points out of a possible 4 points. The light, ventilation, and screen features were criticised. The arrangement of the milk room was good, but its equipment was only 2 out of 6 points. The water supply for milking utensils was found to be a little above 50 per cent. Milking time was on while the visitors were present and this process was observed.

In the matter of methods, that in relation to cleanliness of cows scored 7 out of a possible 10 points. The stable conditions did not come up to requirements. One feature that graded

the stable conditions down was that horses were kept in practically the same stable as the cows. This was regarded as an especially bad feature from a sanitary standpoint. The stable air was foul, not only from the ordinary causes—manure and not the best of drainage—but a pile of musty hay lay in one corner which had an unsanitary stench to it. The care of milking utensils was not entirely to the satisfaction of the visitors. The milking feature scored low because men were found to be milking with wet and dirty hands and without first cleansing the udders of the cows. The milk was not removed from the stable just as soon as it was drawn from the udders, and this subjected the establishment to considerable criticism. The storage of the milk was found to be fairly good. It was hauled to the city in a covered wagon and efforts were made to keep it cool.

A wholesome feature of the visit to this dairy was that while the conditions were not what had been hoped for, the proprietor was courteous and apparently anxious to learn and to improve the situation. He explained that he was striving to put up a new barn and otherwise to improve conditions as far as finances would permit.

#### THE SECOND DAIRY WAS BETTER.

The second dairy visited in the afternoon, that which scored 66 points, was one of a higher type naturally than the first mentioned. The difference, in the first place, was in that of equipment. A good barn, constructed upon plans regarded as fairly modern, was an important feature of the second. This barn was ventilated by the King system, and in that way fresh air was supplied the cows without at the same time drafts occurring to affect them unfavorably. The feed-boxes were well arranged, the stable was well drained, the floors kept clean, and especially commended by the visitors was the plan of disposing of the manure. This refuse was dumped into a manure-spreader and hauled away. Brick was used for part of the flooring of the stable. The construction of the stable, while commended in many ways, was said to contain too many ledges, where dirt or disease might be harbored. A simpler construction was recommended. The drainage of the stable yard was fairly good, although after the rain, a little wet.

The milk room was located in the barn, opening off the stable so that the milk might be quickly conveyed into it from the cows after milking. The room was well equipped for the most part. There was an abundance of fresh water, the cooling process was good, and a boiler was kept for the purpose of sterilization by steam. In some of the cans there were traces of dirt or of solid matter, which, it was said, furnished splendid culture places for typhoid germs. The walls and ceiling of the milk room were said to be not as cleanly as they should have been, and there was a lack of light for the barn. The men milked with dry hands, which was praised, but they did not take pains to cleanse the udders of the cows. The man in charge of the place showed a desire to do all that was possible looking to the improvement of the conditions. He asked a number of questions relative to the building of dairy barns and the handling of the milk.

The scorings made were kept in triplicate, and it is probable that as time passes, other visits to these same dairies will be made and that they will be judged from the same critical standpoint at those times.

#### ABOUT THE AVERAGE.

Dairy Commissioner Wilson said at the close of the day's work that he felt pleased with the beginning that had been made. "We are starting out in this educational campaign with a view to doing the greatest good to the greatest number. It is not the desire to work unnecessary hardship upon any one, but we are simply striving as we believe to raise the sanitary standard of the milk that the people of Kansas drink."

"Dr. Whitaker said: 'The showing

made to-day is about the same general average that I find elsewhere. It is a good deal a matter of education with these people. Generally we find that they are anxious to get information which will lead them into better ways. Milk is becoming one of the important foods of the country, and it is necessary that it be sanitary. Even though the people who consume it might have to pay more, there certainly are instances where they could well afford to do so, and be assured that it is pure."

#### KEEP MILK CLEAN.

In a lecture at the Topeka Council Chamber Dr. Whitaker pointed out some of the causes which bring about undesirable conditions in milk. He said in part:

"If you will take a bottle of milk as it comes from the dairyman, let it set for an hour or longer, and then look through the bottom of the bottle, taking care not to disturb the milk, you will see particles of sediment. Those may be anything from ordinary soil to stable manure, but whatever they are, they do not belong there. That milk is impure. That sediment could largely have been kept out of the milk, if the proper preventive measures had been taken.

"The problem is not so much how to make impure milk clean as to keep clean milk from becoming impure. Dirt makes bacteria, and bacteria makes diseases. In cheap stores back East, on hot days, milk offered for sale often contains as high as 20 to 25 million bacteria per cubic centimeter. When infants die of intestinal troubles, examination reveals faecal bacteria. Finding the same bacteria in impure milk leads to the conclusion that impure milk kills babies to which it is fed. Not all babies that are given impure milk die, but that does not make it any less urgent that we should see that the milk given to all the babies is pure. Because in a million persons who pass a grade crossing, only one is killed, the public does not consider the grade crossing safe. Likewise, the fact that there are only a few deaths among the many babies fed impure milk, is not reason why we should tolerate impure milk.

"How does bacteria get into the milk? In a very few cases, it gets in in the cow. She may be tubercular, or sometimes diseased cells from the cow get into the milk and cause a feverish condition. It is important to see that the milk you use comes from healthy cows. But mostly the bacteria in milk gets in from outside sources—the air, the hands, the milking utensils, and flies. These bacteria multiply, if the temperature is right. Milk should be exposed to the air as little as possible. Keep it covered up all you can. If you must expose it to the air, do so only in a clean place. Milking necessarily exposes the milk to the air. Consequently the air in the stable must be clean, and to keep the air clean, the stable and everything in it must be clean. If the barn floor is dirty, the walls dusty, the ceiling covered with cobwebs, dirt is bound to get into the air, and thence into the milk. The real tester of the cleanliness of the dairy barn ought to be the dairyman's wife, and not the dairyman. If she is willing to take her utensils, go to the dairy barn, and there mix a batch of bread, his barn is all right. Clean milk is without flavor. The 'cow-eye' flavor means dirt.

"Another source of contamination is flies. Scarlet fever and other diseases are spread by flies. Magnified, the fly is seen to be covered with hairs and protuberances for catching and holding dirt. Flies track through disease matter and then fall into the milk; diseased milk results.

"People sometimes care for persons sick with typhoid or scarlet fever, and then wash their milking utensils carelessly, and the germs get off on the utensils from their hands. All utensils should be scalded thoroughly with boiling water.

"In spite of all we can do, some bacteria will get in anyway. These multiply rapidly, if the temperature is above 70°. Milk should be cooled as quickly as possible, and kept cool. If

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milk is cooled below 65°, the bacteria won't multiply.

"Modern knowledge is advancing rapidly, and it has been difficult for the dairymen to keep up. The need is for education in cleanliness. For that reason the Dairy Commission at Washington has adopted a plan of scoring dairies by a score-card system. There is a great difference between milks. It is not fair that milk scoring 37 should sell for as much money as milk scoring 67 or 75 points."

In the discussion which followed, Dr. Whitaker explained the score-card used. He said it consisted of 100 points and scored dairies on about sixty different things. Seventy-five to 80 is a good grade—as good as the ordinary dairyman can hope to reach. Only rich men's model dairies, and the certified dairies of hospitals and the like attain to grades of 95 and 96. If a dairyman can score 75, he has a good dairy. He then outlined what constitutes a good dairy. He said the principal thing was to have tight, clean floors, walls, and ceilings.

"In introducing such a new and little understood law," said the doctor, in concluding his address, "it is necessary to go slow and easy, so as not to arouse antagonism which will produce a reaction. I venture to say that, if you put into effect a good milk ordinance, it will mean, next July, August, and September, the saving of the lives of many babies in this city."

#### Kansas Dairy Law.

The city of Parsons have passed ordinances compelling all dairy men and farmers to take out a license and pay fifty cents a head for inspection of their stock. Please tell us through the columns of your paper what the dairy law is in respect to this ordinance.

MRS. S. E. GARDNER.

#### Labette County.

The Kansas dairy law of 1907, chapter 404, section 4, has made it unlawful for any person or persons to sell or offer for sale milk from diseased cows. The State Dairy Commissioner has drafted a uniform ordinance for the cities of Kansas for the purpose of enforcing this section of the State law. In drafting this ordinance I had the interest of both the farmer and the consumer under consideration, and have framed the same so as to have the expense on the producer made as light as will support the enforcement of the ordinance.

The license fee as referred to in the inquiry is simply a permit tax. It is by paying the fee mentioned that the person is permitted to sell milk in the

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city enforcing the law. This permit fee entitles the parties paying it to free inspection of their cows by the tuberculin test. This inspection is made by a veterinarian who is hired on a salary. The employment of a veterinarian at a stated salary reduces the cost, and hence the parties supplying milk to the cities can receive the benefit.

The reason why it is necessary for a veterinarian to test an animal is that it has been found that the physical appearance does not always indicate the condition of the animal's health. It can only be determined by a person competent to make an examination.

When once the ordinance is passed by the city, it becomes the privilege of the person as to whether or not he will take out a permit. If he does not take out a permit, it will be contrary to law for him to sell milk from his cows within the city limits.

This law not only protects the health of the city consumer, but also that of the family or the parties owning and managing the herd, and should be favorably looked upon by the dairyman, as it will enable him to select the offspring from perfectly healthy animals, as well as to secure perfectly pure milk for his family, making his business satisfactory to all concerned and a source of pleasure and profit.

D. M. WILSON.

Kansas State Dairy Commissioner.  
Manhattan, Kans.

Late reports of sales of Holstein-Friesians include the following to Japan: Aagje Ruth 2d, J. Rust to Y. Suminokura, Tokio; Taltje Salo Bertha, J. Rust to Dr. Y. Suminokura, Tokio; Hengerveld Piebe DeKol, William Everson to K. Suzuki, Chibaken; Sir Bryonia Burke, William Everson to K. Suzuki, Chibaken; Sir Ida Lotta Pontrac, J. Rust to Dr. Yoshimichi Suminokura, Tokio.

#### A Missouri Jersey Makes a New World's Record.

Readers of THE KANSAS FARMER will be interested in learning some of the details regarding the record of the cow Pedro's Estella 197245, bred and owned by the Missouri Agricultural College, that has recently made a new record for the breed as a 3-year-old. This record which was completed June 21, was authenticated according to the rules of the Jersey Cattle Club by Dairy and Food Commissioner R. M. Washburn. The owner by these rules keeps daily record of the milk produced. Each month a representative of the official superintending the test weighs the milk and tests each milking separately for two days. The average per cent of fat for these two days is taken as the average for the month. The record by months is as follows:

Date.	Milk.	Per cent fat.	Fat in milk.
June 22-30, '07..	342.6	4.904	16.801
July .....	1,229.3	4.618	56.796
August .....	1,142.9	4.767	53.442
September .....	976.7	4.87	47.565
October .....	952.2	4.89	46.562
November .....	759.4	6.14	46.602
December .....	766.6	6.34	48.621
January .....	760.1	6.13	46.594
February .....	744.4	5.86	43.621
March .....	893.1	5.48	48.942
April .....	876.9	6.04	52.964
May .....	989.4	6.1	60.353
June .....	629.4	5.88	37.008
	11,063.0		605.854

The average per cent of fat for the entire year was 5.476. Computing the yield of butter on basis of 85 per cent, according to the rule of the Jersey Cattle Club, this cow produced 712.12 pounds of butter in the twelve months. Her weight was 880 pounds at the beginning of the test and increased to 960 pounds at the end of the year. The best previous authenticated year's record for an animal of this age is 518 pounds fat, which is exceeded 87.8 pounds by the record of Pedro's Estella.

Pedro's Estella was bred by the Missouri Agricultural College as have been her female ancestors for four generations. Her sire was Minnette's Pedro 50031, bred by T. S. Cooper of Coopersburg, Pa.

#### FEEDING.

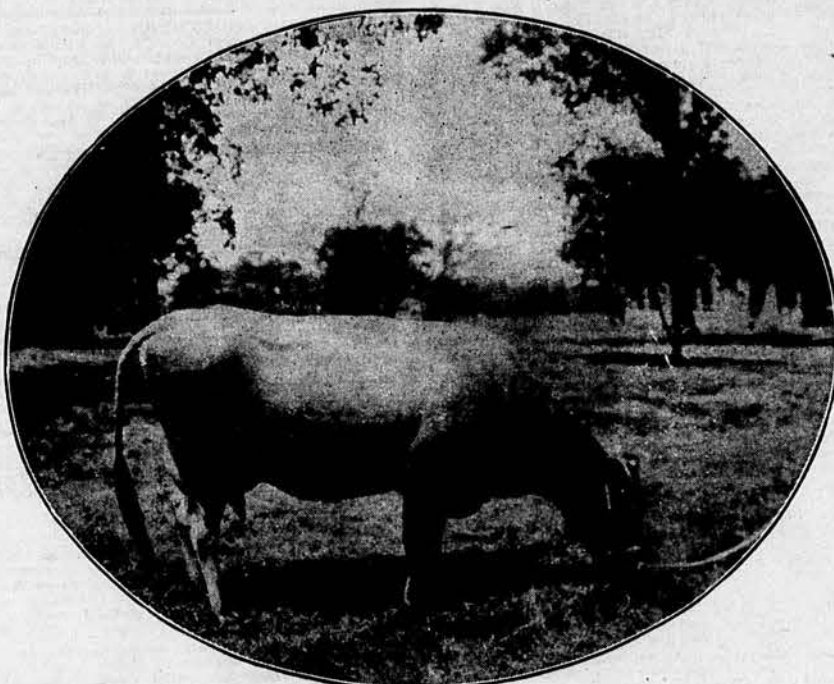
Pedro's Estella was not fed an excessively heavy ration at any time, but was fed with a view of keeping her

in good condition for the year's work. The average amount of grain fed per day was about 14 pounds, or a total of 5,110 pounds during the year, which consisted mostly of corn, oats, bran, and oil-meal. The following is the complete daily ration as fed during the three months of August, September, and October:

	Pounds.
Green clover and green corn.....	30
Silage .....	10
Alfalfa hay .....	10
Corn chop .....	2
Oats .....	1 1/2
Bran .....	3
Oil-meal .....	1 1/2
Gluten feed .....	2 1/2
Middlings .....	2 1/2
Cottonseed meal .....	3 1/2
Salt, ounces .....	3

During the winter months the ration consisted of corn silage and alfalfa hay with a mixture of corn, bran, oil-meal, and oats for grain. The cow was milked during the year by three different agricultural students and for the last two months by the herdsman, Mr. I. T. Vannote.

The total cost of feed was approximately \$80 for the year. A compara-



Pedro's Estella 197245.

tively high cost of feed naturally results from the high level of prices during the year and partly, of course, from the fact that such a cow has to be fed liberally to produce liberally. It is a mistake, however, to assume, as is often done that the large records of production are necessarily made at the expense of economy. While the cost of feed looks high for this cow, the value of the production also shows up well. The milk was used with the milk of the herd for butter-making. The average price received by the dairy department during the year was 33 cents per pound. The 712 pounds produced by this cow gives an income of \$234.96 for butter. In addition we sold approximately 8,850 pounds skim-milk produced by this cow at 25 cents per hundred pounds for hog feeding which brought \$22.10, or a total income for the year of \$257.06. Had we sold it at retail, the 5,530 quarts produced, at the current local price of 7 cents would have brought \$381.10, in either case leaving a large margin above cost of production.

Such a record would naturally appear almost impossible to the farmer who is producing milk with average cows. Missouri farmers milk an aggregate of three-fourths million cows, the average production of which is 140 pounds butter per year. This cow belonging to the Agricultural College produced as much as five average Missouri cows and it cost about as much to keep her as it does to keep two of the average cows.

C. H. ECKLES.

Professor Dairy Husbandry, University of Missouri.

#### Free Deafness Cure.

A remarkable offer made by one of the leading ear specialists in this country. Dr. Branaman offers to all applying at once two full months' medicine free to prove his ability to cure permanently deafness, head

noises, and catarrh in every stage. Address, Dr. C. M. Branaman, 1360 Walnut St., Kansas City, Mo.

#### Handling Milk and Cream in the Dairy During the Hot Months.

PRESS BULLETIN NO. 160, OKLAHOMA EXPERIMENT STATION, STILLWATER, JULY, 1908.

Nothing, not even meats, undergoes more rapid changes during the heat of summer than the products of the dairy, milk, and cream. If ice can not be obtained it is the rule to separate and feed immediately or bottle and deliver at once to customers. Cream is seldom held more than two days and often after twenty-four hours it has acquired an unpleasant odor which can be easily detected even after the cream has been churned and worked into butter. If these changes could be controlled or prevented the dairy business would be much more profitable.

It is a well known fact that where

**FARM** "Hurry to Colorado and buy where 30 acres yield \$1000 clear profit yearly. Irrigation not needed. Railroads and markets near, rich soil, healthful climate make life happy. \$8.50 per acre up. Brand new illustrated booklet, "The New Colorado" tells the secret. Write Dept. 29 NOW. We send it FREE. THE FARMERS LAND AND LOAN CO. 145 La Salle St., Chicago, Ill.

**DOES THE WORK 5 MEN & 20 HORSES**

For the large farmer the Hart-Parr Kerosene Engine is a necessary economy. Depending somewhat upon the class of work, it will save the labor of five men and twenty horses. For the farmer with a large acreage in oats, wheat or corn, it means dollars in pocket. It is also ideal for plowing, threshing, disking, seeding, harrowing, road-grading, feed-grinding, and shelling or shredding corn. Its OIL COOLED features enable it to operate just as well in summer as in winter. Write us today for illustrated catalogue and testimonials from scores of actual users.

**HART-PARR CO.**  
212 LAWLER ST., CHARLES CITY, IA.

## Are You Sick?

Much sickness is due to a weak nervous system. Yours may be. If it is, you cannot get well until you restore nerve strength. Your nervous system is nature's power house; the organs of your body get their power from it. If the power is not there, the action of the organs is weak, and disease (sickness) follows. Dr. Miles' Nervine cures the sick because it soothes the irritated and tired nerves and gives the system a chance to recuperate. Try it, and see if you do not quickly feel its beneficial effect.

"I was given up to die by a leading doctor. Got one of Dr. Miles' books and found that Dr. Miles' Nervine fit my case. From the very first dose I took I got better. I am better now than I have been for years, and do all my own work on the farm. That's what Dr. Miles' Nervine has done for me, and I am glad to recommend it to others."

JOHN JAMES, Riverton, Nebr.  
Your druggist sells Dr. Miles' Nervine, and we authorize him to return price of first bottle (only) if it fails to benefit you.  
Miles Medical Co., Elkhart, Ind

## The Blossom House

Kansas City, Mo.  
Opposite Union Depot. Everything first-class. Cafe in connection. Cars for the Stock Yards, the up-town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.

**THE ROYAL HOTEL, Lincoln, Neb**  
Modern, fire proof, only American Plan Hotel in the city. Centrally located, 19th and O Sts.



for a moist surface does not readily permit bacteria to leave it.

5. Do not regard milking as a dirty task and wear old and filthy clothes, for the handling of food for human beings should be made a cleanly task.

6. Do not wash pails and cans with cold water, but scald with boiling water and steam; and by all means, avoid rinsing with cold water just before milking, for a few drops of water usually contain several thousand bacteria.

7. Do not wait to finish milking before beginning the cooling of the milk, but set the can in a tub of cold water so that each cow's milk will be cooled immediately after milking; for a high temperature causes bacteria to multiply very rapidly.

8. Do not fail to thoroughly clean and scald the parts of the separator each time it is used, for bacteria thrive in the separator slime.

#### TEST THE HERDS.

The heating of milk to destroy bacteria or the use of a preservative to prevent their growth has been resorted to, but neither of these take the place of cleanliness. The first injures the quality of the milk, the second makes it dangerous to health, and is prevented by law. If it is thought that there may be a case of tuberculosis in the herd, or that it is possible for the typhoid germ to get into the milk, heating may be resorted to as a safeguard. To render milk safe from these bacterial diseases, it should be heated to a temperature of 165° F. for a period of fifteen minutes. Milk obtained from tested herds under the proper sanitary conditions will, if kept at as low a temperature as possible, seldom need to be pasteurized. It is as true here as anywhere that, "An ounce of prevention is worth a pound of cure."

It is encouraging to note the increased attention now being given by farmers to the testing of their herds by the use of the scales and the fat-test. Next in importance is the determination of the presence or absence of bacteria which cause various changes in milk, cream, and butter and bring to the producer a high or a low price for his product when placed on the market. Then the present requirement is some simple test which will reveal to the eye and nose the source of an objectionable germ. To prepare for such a test, several small bottles or vials should be boiled in water for ten minutes, then drained and stoppered with clean cotton. If these are filled with the milk to be tested and kept in a warm place for twenty-four hours, the appearance of the sample will indicate the character of the bacteria that are most active. If the milk is unchanged or if it has a firm curd, mostly favorable bacteria are present; if gas bubbles are rising or there is a curd much torn by gas, it is a sign that the milk has been handled in an uncleanly manner or that there is an objectionable germ in the udder of the cow; if there are highly offensive odors being given off, it is a sign that there are bacteria at work digesting the curd of the milk.

#### ROPINESS.

Recently a ropiness, accompanied by gas, was the result of heating some of the college milk to a temperature of 175° F. for a period of ten minutes and allowing it to stand in a warm place for about sixteen hours. A careful examination showed that this was due to the rapid growth of two different kinds of germs which are quite resistant to heat.

In a number of our Eastern cities milk which is being produced under the most cleanly conditions is selling for 10 and 12 cents a quart, while ordinary milk sells for about half that amount. People in Oklahoma are giving some attention, and the interest is growing, to the need of a more sanitary milk, especially in the larger cities, and the dairymen who have their herds tested and earn the name of producing a high grade product are sure to get the higher prices. Butter is being graded more closely every year

and, in the future, must be made from the best quality of cream if it is to bring a fancy price in the market.

#### THE MARKETS.

##### Kansas City Grain and Produce.

Kansas City, Mo., August 24, 1908.  
Wheat.—Receipts past 48 hours, 467 cars; shipments, 226 cars. Receipts same time last year, 208 cars; shipments, 146 cars. Inspections Saturday, 186 cars. With more wheat in than for some days and the receipts more than twice as large as the same day last year, buyers held back and picked around and insisted upon lower price. The result was a very dull day and at the close a good many cars of wheat were still unsold and had to be carried over. Hard wheat was called 1/2¢ lower with the greatest loss on good wheat. Red was said to be unchanged, but dull. The visible supply in the United States and Canada decreased last week 634,000 bushels. Liverpool came in 1/4¢ lower at the close and Berlin was off 1/4¢ and Budapest declined 1/4¢. It was this showing and a marked picking up in the receipts in the Northwest which were reported much heavier than this time last year that caused buyers to squeeze prices. The primary receipts were 1,217,000 bushels, against 998,000 bushels the same day last year; shipments, 494,000 bushels. Export clearances from the four Atlantic ports, 561,000 bushels. In Chicago September closed the same as Saturday and here the same option finished 1/4¢ lower. By sample on track here at Kansas City: No. 2 hard, choice turkey, 7 cars 96¢, 4 cars 95 1/2¢, 3 cars 94¢; fair to good turkey, 20 cars 95¢, 8 cars 94 1/2¢, 11 cars 94¢; dark, 5 cars 95¢, 3 cars 93¢, 3 cars 92 1/2¢, 3 cars 92¢, 5 cars 91 1/2¢, 3 cars 91¢; yellow and ordinary, 2 cars 90¢. No. 3 hard, choice turkey, 1 car 93 1/2¢. No. 3 hard, fair to good turkey, 12 cars 93¢, 5 cars 92 1/2¢, 6 cars 92¢, 13 cars 91¢; dark, 1 car 92¢, 1 car 91 1/2¢, 5 cars 91¢, 1 car 90 1/2¢, 8 cars 90¢; yellow and ordinary, 1 car 89 1/2¢, 8 cars 89¢, 13 cars 88 1/2¢, 1 car 87 1/2¢, 5 cars 87¢, 5 cars 86 1/2¢, 10 cars 86¢; ordinary, 9 cars 85¢, 2 cars 85¢. Rejected hard, 1 car turkey and smutty 90¢, 1 car 88¢, 1 car 85¢, 2 cars smutty, 84¢. No grade hard, 1 car dark 88¢, 1 car 86¢, 1 car 85 1/2¢, 1 car 84 1/2¢, 4 cars 84¢, 5 cars 83 1/2¢, 1 car 80 1/2¢, 1 car 70¢. Live weevil hard, 1 car 84¢. No. 2 red, choice, 1 car 96¢; fair to good, 1 car 94¢. No grade soft, 1 car 85 1/2¢. Live weevil soft, 1 car 91¢. Durum wheat, No. 2, nominally 93¢@95¢. No. 4 durum, 1 car 81¢.  
Corn.—Receipts past 48 hours, 42 cars, shipments, 32 cars. Receipts same time last year, 64 cars; shipments, 15 cars. Inspections Saturday, 25 cars. While the market to-day showed more life than for some days, prices at the same time were lower. The weather was just the thing for maturing the growing crop and there was feeling that the receipts must increase now that the new crop is about assured. This made buyers bearish. The visible supply in the United States and Canada increased last week 43,000 bushels. Liverpool came in 1/4¢ lower at the close. This also favored lower prices. But at a decline of 1/4¢ on mixed and 1/2¢ on white there was very good buying both home and order account. The primary receipts were 635,000 bushels. Export clearances from the four Atlantic ports, none. In Chicago September closed 1/4¢ lower than Saturday and here the same option lost the same. By sample on track here at Kansas City: No. 2 mixed, 1 car 72 1/2¢, 15 cars 72¢. No. 3 mixed, nominally 71 1/2¢@72¢. No. 2 yellow, 2 cars 72 1/2¢, 6 cars 72 1/2¢. No. 3 yellow, 1 car 72 1/2¢. No. 2 white, 1 car 72 1/2¢. No. 3 white, 1 car like sample, dirty, 71 1/2¢. No. 3 white, nominally 72 1/2¢@73 1/2¢. No grade white, 1 car 70¢.  
Oats.—Receipts past 48 hours, 13 cars; shipments, 4 cars. Receipts same time last year, 29 cars; shipments, 10 cars. Inspections Saturday, 12 cars. There was a very fair market for this grain to-day and prices ruled much the same as on Saturday. Home dealers and order men both wanted a few and by the close most of the offering had been disposed of and at prices that were much the same as on Saturday. The fact that corn was sharply lower seemed to have no influence on the market for oats which acted independent both of corn and wheat. Export clearances from the four Atlantic ports, none. The visible supply in the United States and Canada increased last week 623,000 bushels. In Chicago September closed 1/4¢ lower than on Saturday but here there was nothing doing in a speculative way. By sample on track here at Kansas City: No. 2 mixed, nominally 47¢@47 1/2¢; red, 1 car bulk-head like sample 46 1/2¢. No. 3 mixed, fair to good, 2 cars 46 1/2¢. No. 4 mixed, fair to good, 3 cars 46 1/2¢; red, 1 car 46¢. No. 2 white, choice, nominally 46¢@50¢; fair to good, 4 cars 45 1/2¢; color, 2 cars 45¢. No. 3 white, choice, 1 car 48¢; fair to good, 2 cars 47 1/2¢; color, 1 car 47 1/2¢.  
Rye.—Receipts past 48 hours, 2 cars; shipments, 1 car. Receipts same time last year, 1 car; shipments, 3 cars. Inspections Saturday, 1 car. There were several cars in to-day, but no trading. By sample on track here at Kansas City: No. 2, nominal at 78¢@80¢. No. 3, nominal at 75¢.  
Barley.—No. 2, nominal at 58¢@60¢.  
Corn Chop.—Lower with corn. Country, \$1.36 per cwt., sacked.  
Cornmeal.—Dull and weak. Quoted at \$1.50 per cwt., sacked.  
Bran.—More coming in and lower. Quoted: Mixed, 95¢@96¢ per cwt., sacked; straight bran, 93¢@94¢, shorts, \$1.05@1.10.  
Flaxseed.—Unchanged at \$1.15 upon the basis of pure.  
Cottonseed-meal.—All points in Kansas and Missouri, taking Kansas City rates, \$29.50 per ton in car lots.  
Ground Oil Cake.—Car lots, \$20 per ton; 2,000-pound lots, \$31; 1,000-pound lots, \$16; 100-pound lots, \$1.60.  
Seeds.—Timothy, \$3@3.50 per cwt.; red clover, \$10@12.50 per cwt.; Kaff-corn, \$1.60@1.65 per cwt.; cane, \$1.25@1.30 per cwt.; millet, \$1@1.25 per cwt.; alfalfa, \$12@15 per cwt.  
Broomcorn.—Quotations: Choice green self-working, \$70@75¢; good green self-working, \$60@70¢; slightly tipped, self-working, \$50@60¢; red tipped, self-working, \$40@50¢; common, self-working, \$30@40¢; stained and damaged, \$30 down.  
Hay.—Receipts past 48 hours, 25 cars of prairie, 5 cars of timothy, 2 cars of clover mixed, 10 cars of alfalfa, and 1 car of straw; total, 43 cars, against 36 cars the same time last year. There was a very good market to-day for all the upper grades and under light receipts the tone of the market was firm.  
To-day's sales included 1 car good No. 2 timothy \$8.25, 1 car choice clover and timothy mixed \$8.50, 1 car No. 1 pure clover \$7.25, 4 cars choice prairie \$7.50, 1 car choice prairie \$7.25, 7 cars No. 1 prairie, \$7.14, 1 car No. 2 prairie \$6.50, 3 cars No. 2 prairie \$6.30, 3 cars No. 2 prairie \$6.30, 1 car straw \$4.10, 1 car choice alfalfa \$12.50, 2 cars No. 1 alfalfa \$11.50, 1 car No. 1 alfalfa \$11.25, 2 cars No. 2 alfalfa \$11.10, 1 car No. 2 alfalfa \$8.10, 1 car No. 3 alfalfa \$6.10, 1 car no grade alfalfa \$5.25, and 2 cars no grade alfalfa \$5.

##### The Kansas City Live Stock.

Kansas City, Mo., August 24, 1908.  
Cattle receipts last week were a little larger than in recent weeks, but were still short of the normal supply for this season of the year. The market made a small advance on grass cattle, but medium grades of fed steers lost 10¢@15¢. Buyers claim the grass steers are killing out better each week, and cost less money relatively than medium fed steers. Owners have been holding their cattle back

## LAND BARGAINS IN TEXAS AND ELSEWHERE

25,000 acres in Pan Handle country at \$8.00 to \$20.00 per acre. 22,000 acres in South Texas consisting of rice, cotton, sugar-cane, and all kinds of fruit lands at \$15.00 to \$25.00 per acre. Also choice fertile lands in the Artesian Belt of Texas. We also have a splendid list of Kansas ranches and farms for sale, and 10,000 acres in Colorado. For detailed information,

Address, H. P. RICHARDS,

205-6-7, Bank of Topeka Bldg.,

Topeka

## Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisement for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

#### CATTLE.

HOLSTEINS—Registered and A. R. O. at half value. DeKol, Colantha, Johanna, Canary, Mercedes, Hensveld, Hartog, Sarcastic, Pauline, Clothilde, Aagie, Wynette and Josephine breeding predominates. G. G. Burton, Topeka, Kans.

POLLED DURHAMS—A few young bulls; also 80 head of cows and heifers bred, for sale. Prices reasonable. C. M. Albright, Overbrook, Kans.

FOR SALE—Registered Holstein-Friesian bull, 2 years old. Registered O. C. C. brood sow and pedigree male. Good individual. Prices reasonable. R. J. Fitzgerald, R. 5, Columbus, Kans.

ALYSDALE SHORTHORN—Offer 2 bulls, 10 females. The bulls are "Lothair," by Prince Consort, dropped August 21, 1907, and "Sylvester," by Prince Consort, dropped September 2, 1907. Both out of Lord Mayor dams. Cows are nicely bred and in calf to Prince Consort or Master of Alysdale. Will be priced right to any buyer. C. W. Merriam, Columbian building, Topeka, Kans.

#### SWINE.

FOR SALE—A few very choice Poland-China fall and spring boars; in good breeding condition. F. A. Tripp, Meriden, Kans.

#### HORSES AND MULES.

FOR SALE—Three Jacks, age 8 to 10 years, registered: Mammoth, 15 to 16 hands high; black; 12 Jennets; 2 colts; 2 Jacks, age 1 1/2 to 2 years; 1 Percheron stallion, black, 1700 pounds. Write for particulars, Henry D. C. Poos, Blackburn, Okla.

#### SEEDS AND PLANTS.

FARMERS, SOW THE BEST—We have pure Kharkof seed wheat, re-cleaned and graded, price \$1.50 per bushel in lots of 4 bushels or more, f.o.b. at Bellaire, Smith Co., Kans. Seed from Manhattan College, 1907. C. A. & W. S. Houn.

SEED WHEAT—The great yielding famous Kharkof and Turkey Red W1 ter wheat, choice re-cleaned seed, also Mammoth White rye, Timothy, Clover and Alfalfa seed. Farmers' prices. Send to grower for catalogue. Jno D. Ziller, Hiawatha, Kas.

TENNESSE WINTER BARLEY—Averaged 47 bushels per acre for 8 years. \$1 per bushel. 85¢ per bushel in lots of 10 bushels or more. Best of pasture. Walter Jenkinson, Pond Creek, Okla.

THE BEST ALFALFA SEED GROWS "OUT THERE IN KANSAS". We sell it. Ask us for samples and prices. The Barteldes Seed Co., Lawrence, Kans.

WANTED TO BUY—New crop Meadow Fescue or English Blue Grass seed. If you have any to offer, please correspond with us. The Barteldes Seed Co., Lawrence, Kans.

#### SHEEP.

FOR SALE—400 breeding ewes with 400 lambs, in bunches to suit on farm of W. R. Lott, Highland Park. Address, Route 1, Topeka, Kans. Ind Phone 2674.

#### MISCELLANEOUS.

MAN, with rig wanted in each county. \$20 week. C. P. McClean, Topeka, Kans.

WANTED—Local agents to take orders for a complete line of high grade, western grown nursery stock. Permanent position. Experience unnecessary. Outfit free. Cash weekly. National Nurseries, Lawrence, Kans.

25 LOVELY LEATHER POSTALS only 20 cents. Address K. Abel Co., Pittsburg, Kans.

WANTED—A good white woman for cooking in small family. Wages \$4.50 a week. Address, Mrs. L. A. Walds, Stanley, Johnson Co. Kans.

NEW HONEY—Fancy, \$10 per case of two 60-pound cans. A. S. Parson, Rocky Ford, Colo.

JOB PRINTING—Write us for prices on anything in the job printing line. Address B. A. Wagner, Mgr., 625 Jackson Street, Topeka, Kans.

partly because of good pastures, and the impression prevails that we shall have heavy supplies during September and October. Some traders also believe that demand for feeders will not be as heavy this fall as in recent years of good corn crops, account of the prospects of the high price at which corn will sell. These are the pessimistic views of the situation, and do not coincide with the judgment of many owners, who hope for a better market later in the season. Run is 21,000 head to-day, including 2,500 calves, market slow to a shade lower on steers, but strong on other grades. Nothing very high class is here to-day, but top steers have sold at \$6.75@7.25 during the last week, grass Westerns worth \$4.25@5.10, with a few heavy steers above this, grass cows \$2.80@3.60, bulls \$2.25@3.50, calves \$3.50@6.25. About 450 carloads of stockers and feeders went to the country last week, and averaged steady for the week, stockers at \$2.80@4.25, feeders \$3.60@4.75, a few choice stockers at \$5.10 and feeders up to \$5.15. Market on country kinds is strong to-day.  
Hog receipts fell off last week, but buyers managed to keep the market down, except for a bulge first of the week, top \$6.70, bulk \$6.25@6.50, indicating a large proportion of inferior hogs. Provisions have been selling unsatisfactorily, off 50¢@1 last week, a strong bear argument. Pigs are bad sellers, \$3.75@5.25. Present prices are 30¢@50¢ above a year ago at this time.  
Sheep supplies are running ahead of August last year, and the market is just about holding steady, with a good many fluctuations. Run is 8,500 to-day, sheep steady, lambs weak, lambs at \$5.25@5.75, not quite the full test of the market, yearlings worth up to \$4.50, wethers \$4.25, ewes \$4. There is quite a demand for stock grades, at \$3.25@4, with a few choice breeding ewes lately at \$4.50.

J. A. RICKART.

#### REAL ESTATE.

IT IS WORTH MORE MONEY—307 acres well improved, 120 cultivation, 60 bottom, 18 alfalfa, timber, well and windmill, spring, close to school and church, phone and route. Price \$8000, worth \$9000. Garrison & Studebaker, McPherson, Kans.

FOR SALE—A well improved 320-acre farm in southeast corner of Ness County, Kans. Address the owner, C. S. Eno, Wellmanville, Ne's Co., Kans.

I HAVE SOME GOOD BARGAINS in Gove County lands. Write and get my prices. We have lots of good water and a fine climate. M. V. Springer, Quinter, Kans.

LAND FOR SALE—Three upland farms in Jefferson County. One highly improved. Also wheat land in Gove County. J. F. True, Perry, Kans.

FINE alfalfa, wheat and stock farms for sale. Circular free. Warren Davis, Logan, Kans.

FARMS for sale in Catholic community; \$25 per acre and up. Ed George St. Paul, Kans.

TWO HOMES CHEAP—160, good improvements, bottom, timber, orchard, alfalfa, route, phone; price \$6500. 200 acres improved, smooth, 180 cultivated, land and location good. Garrison & Studebaker, McPherson, Kans.

"Do You Want to Own Your Own Home?" If so write for catalogue to Hurley & Jennings, Emporia, Kans.

QUARTER SECTION of fine land in Sherman County, close to Goodland, to trade for part horses, cattle or mules. T. J. Kennedy, Osawie, Kans.

WRITE J. D. S. HANSON, HART, MICH., for best list of fruit, grain and stock farms.

#### A GOOD FARM WELL LOCATED

160 acres 2 miles from limits of City of W1 bita, all good land, 3-room cottage, barn and other outbuildings, good well and windmill, all fenced and cross fenced, 10 acres of fine alfalfa, small young orchard, 70 acres corn, balance pasture and meadow. Price \$8000.

THE NELSON REAL ESTATE & LMG. CO., 137 N. Main St., Wichita, Kans.

#### YOU WANT MONEY! SO-DO WE.

Will you invest \$100 now for \$500 next year? Write for details. NAPA IMPROVEMENT CO., San Francisco, Cal.

#### SELL YOUR REAL ESTATE

quickly for cash; the only system of its kind in the world. You get results, not promises; no retaining fees; booklets free. Address, Real Estate Salesman Co., 488 Brace Block, Lincoln, Neb.

#### MISSOURI FARMS FOR SALE

Everman has a farm for every man. Write for description and price list. John W. Everman, J. C. Gallatin, Mo.

## DUROC-JERSEYS

CROW'S DUROCS—140 large early sired pigs, Ohio Chief, Buoy K., Oom Paul, Mo. Wonder and Kant Be Beat blood lines. Extra quality, reasonable prices. Electric cars run within 2 blocks of yards. W. R. Crow, 200 E. Osborne St., Hutchinson, Kans.

DEEP CREEK DUROCS (Spring pigs, either sex, most families of the breed, from the most up-to-date Durocs at prices to move them. C. O. Anderson, Manhattan, Kans.

#### STROH'S HERD OF DUROC-JERSEYS

70 spring pigs for sale, mostly sired by Hogate's Model, the sweepstakes boar at Nebraska State Fair, 1906 and out of popular breeding dams. Correspondence solicited.

J. STROH, R. 4, DeWitt, Neb.

#### HIGHLAND DUROCS

100 choice spring pigs of the best strains and a few fancy gilts bred for fall farrow, at reasonable prices. Farm adjoins town.

L. A. KEELER, Toronto, Kans.

#### DUROC SPRING PIGS FOR SALE

of both sexes from the Orion, Kant Be Beat and Ohio Chief families. Correspondence solicited. Write for prices.

O. A. Pencoek, Burchard, Neb.

#### 200 SPRING PIGS

HEADQUARTERS FOR DUROCS; any age, either sex, females sold open or bred, 1400 herd in the S. W. Send in your order, we can fill it.

COPPIN & WORLEY, Potwin, Kans.

#### MADURA DUROCS.

BROOD SOWS—Some fine brood sows bred to Major Roosevelt and Miller's Nebraska Wonder, he by Nebraska Wonder.

FRED J. MILLER, Wakefield, Kans.

#### GAYER'S DUROCS: 36 choice fall gilts

and 14 topdy fall boars by Golden Chief, a good son of Ohio Chief. These will be sold cheap to make room for my spring crop. Also 1 good yearling boar, \$25.

J. H. GAYER, R. R. 1, Cottonwood Falls, Kans.

#### PEERLESS STOCK FARM

DUROC-JERSEY HOGS FOR SALE.

R. G. SOLLENBERGER, Woodston, Kans.



**DUROC-JERSEYS****GEO. KERR'S DUROCS.**

Pigs for sale sired by such boars as Lincoln Chief, Leader, Lincoln Top. Out of dams from the Improver 2d, Proud Advance, Top Notcher, Wonder and Ohio Chief families.

R. R. 3, Box 90, Sabetha, Kans.

**Humphrey's**

DUROCS. Choice spring pigs, both kinds, of early farrow; Ohio Chief and Improver 2d blood lines. Also Scotch Collies of the best breeding and quality. Prices reasonable. Call or write.

J. S. Humphrey, R. 1, Pratt, Kans.

**Walnut Creek Durocs**

150 spring pigs by the herd boars, attractive Chief 61097 and Big Crimson 69418, and other good sires. Choice boars for sale now. T. E. Goethe, Leonardville, Riley Co., Kans.

**Fairview Herds—Durocs, Red Polls**

20 high grade Red Polled cows and hifers, 40 Duroc-Jersey swine, mostly males, will be sold at my fall sale on October 7, 1908. Nothing for sale now. Stock doing fine.

J. B. DAVIS, Fairview, Brown Co., Kans.

**WOOD'S DUROCS**

Good hogs are good property now. Don't you want some? A few boars and gilts of 1907 crop. Nice lot of spring pigs just right age and weight to ship.

W. A. WOOD, - - Elmdale, Kans.

**Howe's**

DUROCS. 100 early spring pigs, the best I ever raised. Improver, Top Notcher, Sensation and Gold Finch blood lines. Call or write.

J. U. HOWE, - - Wichita, Kans.

**JACKSON'S DUROCS.**

Special Bargains in fancy, well grown spring pigs, both sexes, and choice fall males richly bred; 2 of these are double cross Ohio Chief. Also 1 good herd boar, a grandson of Desoto 15155. 2 extra good registered Shorthorn bulls for sale.

O. L. JAMESON, New Albany, Kans.

**SPECIAL!**

I have a car of long yearling bulls, a car of bull calves, a car of yearling hifers and a car of heifer calves for sale. These cattle are all in good growing condition and are mostly reds. They were sired mostly by Baron Ury 2d 124970, Bold Knight 179064 and Headlight 2d 243805.

C. W. Taylor, R. 2, Enterprise, Kans.

**POLAND-CHINAS****Spring Boars For Sale.**

Big stretchy fellows, sired by 900-pound O. K. Prince 42071, out of big dams.

G. M. HULL, Burchard, Neb.

**Pickerell Herd—Large Poland-Chinas.**

Choice pigs, both sexes for season's trade. The big bones, large litter kind that make the money for the feeder. Write your wants.

B. E. RIDGELY,

Route 2, Pickerell, Neb.

**Higgins' Big Boned Poland-Chinas**

Blue Valley Exception 41635 at head of herd. Choice pigs, both sexes, for season's trade. Come and see us. Correspondence solicited.

J. R. HIGGINS & SON, DeWitt, Neb.

**Miesner's Poland-Chinas.**

Choice pigs for sale sired by Miesner's Hadley, a son of Big Hadley and grandson of Logan's Chief; out of large well bred sows. Write for prices.

T. J. MIESNER, Sabetha, Kans.

**WELCOME HERD POLANDS**

Choice richly bred spring pigs either sex. Several extra fall boars, fit to head good herds, also a half interest in the \$1000 Tom Lipton. Fall sale Oct. 6.

J. M. BAIER, ELMO, KANS.

**CENTER GROVE POLANDS**

Choice well grown fall yearling gilts, sold bred or open. Also early springs, both sexes. Stock guaranteed and richly bred. Prices reasonable.

J. W. Pelphrey & Son, Humboldt, Kans.

**KEEP ON PRINCE**

by Keep On; dam, Sweet May by Chief Perfection 2d; now owned jointly by R. A. Stockton and J. M. Devlin. An 800-pound boar in show flesh. The gilt of this boar will be the feature of our fall sale at Cameron Mo., October 2. R. A. Stockton, Lathrop, Mo.; J. M. Devlin, Cameron, Mo.

**FAIRVIEW STOCK FARM.**

Special bargains in choice Poland-China gilts, sold bred or open, and a few extra fall boars by prize winning sires. Fall sale September 24.

A. K. Sell, Fredonia, Kans.

**Pitcher's Poland-Chinas**

80 Good ones, consisting of 68 growthy spring pigs and a few choice gilts, out of richly bred prolific dams, and by Great Excitement, a son of Medler 2d. Our fall sale is called off and these will be sold at private treaty at moderate prices. Stock registered and guaranteed.

T. B. PITCHER & SON,

Sta. A, Route 4, Topeka, Kans.

**Wayside Polands**

The Big Kind that Weigh and Win!

125 early springs, both sexes, with size, bone and stretch; 60 fall and winter pigs that are extra good ones, including a number of fancy males, out of prolific big boned sows and by Columbia Chief, by Chief Tecumseh 3d, and other noted sires. My prices are right.

H. O. Sheldon, R. 8, Wichita, Kans.

**POLAND-CHINAS****SUNFLOWER HERD.**

POLAND-CHINAS—Herd boars, Medler's Defender (119147) by Medler (99999), dam Excitement (289598) by Corroctor (63379); Allen's Corroctor (129618) by Corroctor (63379), dam Sweet Brier (261780) by Chief Perfection 2d (42559); Kansas Chief (125983) by Chief Perfection 2d (42559), dam Corroctor's Gem (250730) by Corroctor (63379). G. W. Allen, Route 4, Tongonoxie, Kans.

**JONES' COLLEGE VIEW POLANDS.**

Several first class boars that are herd-headers; from 6 to 12 months old. Prices reasonable.

W. A. JONES & SON, Ottawa, Ks. Formerly of VAN METER, Ia., and breeders of CHIEF TECUMSEH 2d.

**JOHN BOLLIN,**

Route 5, Leavenworth, Kans.

**Breeds and Sells Popular Poland-Chinas**

The State and World's Fair winning boars, Nemo L's Dude and The Piquet, in service. Bred sows and serviceable boars for sale.

**BERKSHIRES****MAPLE HEIGHTS HERD BERKSHIRE**

Kansas Longfellow, champion Nebraska State Fair, 1907, and Berryton Boy in service. Have some choice sows and gilts bred for fall litters, for sale. Nice lot of spring pigs to choose from. Write me.

J. M. Nielson, Marysville, Kans.

**Guthrie Rancho Berkshires**

The Guthrie Ranch Berkshire herd, headed by Berryton Duke, assisted by Revelation, General Premier and Sir Ivanhoe (all three winners). Berkshires with size, bone and quality. Individuals of style and finish. You will find our satisfied customers in nearly every state in the Union.

T. F. GUTHRIE, Strong City, Kans.

**Knollwood Berkshires**

Headed by Pacific Duke 56691, dam Marjorie 37491 by Baron Duke 22d 50000, a son of Baron Lee 4th, the sire of Lord Premier and Dutchesse 120th 28675, grand dam of Premier Longfellow. Stock of all ages for sale. All stock guaranteed as represented.

E. W. MELVILLE, Eudora, Kans.

**Ridgeview Berkshires**

—FOR SALE—

One aged and one yearling boar, and spring pigs of both sexes

MANWARING BROS.,

Route 1, Lawrence, Kansas

**CHESTER-WHITES****CLOVER RIDGE CHESTER WHITES**

Choice pigs from the Garnett and Captain families. The large smooth strong boned, easy feeding kind. Correspondence solicited.

E. S. CANADY, R. R. 2, PERU, NEB.

**O. I. C. SWINE****OHIO IMPROVED CHESTERS**

Ninety pigs of February and March farrow, and sixteen fall boars and gilts. The large deep smooth bodied strong boned easy feeding kind. I pay express, and ship on approval.

N. R. ROGERS, PERU, NEB.

**Closing Out Herd O. I. C.**

Including two champion herd boars. Tried brood sows and choice bunch of spring pigs ready to ship. Write for prices. Correspondence solicited. John Cramer, Beatrice, Neb.

**O. I. C. SWINE**

Fall boars and gilts, also spring pigs. They are bred right and will be priced right. Let me know your wants.

S. W. ARTZ, Larned, Kans.

**O. I. C. BARGAINS**

Bred sows and gilts all sold. Have a fine bunch of spring pigs for which I am booking orders. Write your wants and get prices.

W. S. GODLOVE, Otago, Kans.

Prop. Andrew Carnegie-herd-O. I. C. swine.

**Garth's O. I. C.'s**

125 choice spring pigs, also some extra good fall boars, out of good dams and by the prize winners, Kerr-Dick, Kerr Nat and Big Jim, at right prices. Call on or write

A. T. GARTH, - Larned, Kans.

**TAMWORTHS****Headquarters for Tamworths.**

Registered boars and gilts for sale. Breeding two families. Can furnish pairs unrelated. Choice breeding. Reasonable prices. Write

Geo. W. Freelow, Carbondale, Kans.

**HORSES AND MULES****HORSES AND MULES****ROBISON'S PERCHERONS**

FOR SALE—Two extra good 2-year-old stallions; and some good young mares bred to Casino.

J. C. ROBISON, Towanda, Kans.

**PIKE COUNTY JACK FARM**

Largest importer and breeder of Mammoth Jacks in the United States. Every stall in my barn has a big Mammoth Jack, 15 to 17 hands high, 1000 to 1200 lbs.; that I will sell on one and two years time to responsible parties. If my Jacks are not just as I represent them I will pay all railroad expenses.

LUKE M. EMERSON, Bowling Green, Mo.

**Atchison County Jack Farm**

Potter, Kans., - F. W. POOS, Prop.

Am offering for sale 9 high class Jacks from 2 to 4 years old, all black, and of my own breeding and raising. Also 4 Percheron horses from 2 to 4 years old. This stuff is strictly guaranteed as represented, and will be priced reasonable. For information address

F. W. POOS, - - Potter, Kans.

**HOLSTEIN-FRIESIANS****HOLSTEIN-FRIESIANS****HOLSTEINS—Sir Hengerveld Sadie Julip**

I have a young bull calf sired by Pontiac Sadie Julip, whose two nearest A. R. O. tested dams averaged over 94 lbs. milk in one day and 30 lbs. butter in seven days; and his three nearest A. R. O. tested dams averaged over 96 lbs. milk in one day and 29.25 lbs. butter in seven days. Dam of calf is Hengerveld DeKol Colanthis, a granddaughter of the great Hengerveld DeKol, who has 83 Advanced Register Officially tested daughters. The calf is bred in the purple and the price is very low. Address

R. W. MAGUIRE, Wainwright Bldg., St. Louis, Mo.

**SHORTHORNS****TENNEHOLM SHORTHORNS.**

Herd headed by the Dutchesse of Gloster bull, Glad-lator 261085 and Baine 275873, a Cruickshank But-terfly. Cows of Scotch and Scotch topped Bates breeding. 1 yearling Bampton bull (a good one) for sale. Will make tempting prices on a few females.

E. S. Myers, Chanute, Kans.

**New York Valley Shorthorns and Berkshires**

A large number of my Shorthorns must be sold before winter to make room; including my calves sired by Baron Rupert 248267, ranging in age from 6 to 20 months old. And have for sale sows bred to Field Marshall and Lee's Masterpiece, and boars of serviceable age; also 110 May and June pigs to pick from. Come and select your show stock, or write J. T. Bayer, Yates Center, Kans.

**PONY CREEK HERD OF SHORTHORNS.**

Herd headed by the Scotch bulls, Syllis Viscount 258396 and Bashful Conqueror 2d 251505. The cows in this herd are mostly Scotch or Scotch topped from the popular and well known families such as the Victorias, Phyllis, Cowslip and Young Marys. Young bulls and hifers from this mating for sale. Correspondence solicited. Visitors always welcome, for it is a pleasure to show stock.

E. D. LUDWIG, Sabetha, Kans.

**Greendale Stock Farm**

25 YOUNG BULLS by Imp. Ardathan Mystery and Best of All for sale at bed rock prices. Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited.

COL. ED GREEN, Prop.,

Florence, Kan.

**Prospect Farm Shorthorns**

The oldest Shorthorn breeders in Kansas. The largest herd of Cruickshanks in Kansas. Herd headed by Violet Prince 145647 and Orange Commander 220590. Young stock of both sexes and some cows for sale. Quality and prices right.

H. W. McAFEE,

Bell Phone 59-2, Topeka, Kansas

**Big Shorthorns**

Strong in the blood of the 2800-pound bull Imported Conqueror 149048.

Herd founded with choice individuals of American and Scotch families, from the leading western herds, and headed by the show bull, Victoria's Clipper 252123. Inspection invited. Young stock of extra scale and depth of flesh for sale.

J. J. MASON, - Overbrook, Kans.

**ABERDEEN-ANGUS****10 FANCY ANGUS BULLS 10**

Blackbirds, Heatherblooms, Drumlin Lucys Minas and other popular families. 15 long yearling bulls, suitable for farm or ranchmen at bargain prices. A few choice hifers and cows with calves at foot, some bred to Champion 1to.

SHROPSHIRE SHEEP. Early spring Shropshire ram lambs, sired by Imp. English rams and from choice Canadian ewes. Dandies.

SUTTON FARM, Lawrence, Kans. Vis-it-rs always welcome. Phone us to meet you.

**HEREFORDS****Maplewood Herefords**

5 bulls, all tops, from 13 to 16 months old; and a few choice females, by the 2400-pound Dale Duplicate 2d, son of the great Columbus. Stock guaranteed. Prices reasonable. A. Johnson, Clearwater, Kans.

**Holsteins and Jerseys**

Choice young stock, heavy milking strains. Some extra good bull calves, either breed.

HUGHES & JONES, - - Topeka, Kans.

**Rock Brook Holsteins**

Special offer on three bulls ready for service. Grandsons of world's champion, Farcastic Lad. Also a few younger bulls at very low prices. Correspondence solicited. 100 head in herd.

ROCK BROOK FARM,

Henry C. Glissman, Prop., Sta. B. OMAHA, NEBRASKA.

**East Side Dairy Farm Holsteins**

Now offers three or four choice registered cows: an opportunity for someone wanting foundation stock to start a herd. Also a few choice bull calves 4 to 5 months. Prices reasonable. Address F. J. Searle, Oskaloosa, Kans.

**BRAEBURN HOLSTEINS AND BERKSHIRES.**

A few bargains in bull calves. Some choice bred spring pigs and boars ready for service. H. R. Cowles, Topeka, Kans. Ind. Telephone, 1036.

**Holstein-Friesian Cattle**

Herd headed by Sir Johanna Aaggle Lad 34994. His four nearest dams averaged 55.9 lbs. milk one day, 23.6 lbs. butter seven days, 17.524 lbs. milk one year, 727 lbs. butter one year. He is assisted by Calantha Karndike 47877, dam Colantha 4th's Farcastic, A. R. O., 21.13 lbs. butter in seven days as senior 2-year-old, by Farcastic Lad, out of Colantha 4th, dam of the world's record cow—27,452.5 lbs. milk one year, 1,247.82 lbs. butter one year. Correspondence solicited. B. L. Bean, Cameron, Mo.

**JERSEYS****LINSCOTT'S JERSEYS**

Established 1878. Registered in A. J. C. C. Largest, eldest and best herd of A. J. C. C. Jerseys in the State. For sale at all times, choice animals of both sexes and different ages at most reasonable prices.

R. J. LINSCOTT,

HOLTON - - - - KANS.

**RED POLLS****Foster's Red Polls.**

15 choice young bulls, a few good females and our 15 2400 lb. herd bull Dandy 39147 for sale at bottom prices.

CHAS. FOSTER & SON, Eldorado, Kans.

**COBURN HERD OF RED POLLED CATTLE**

Herd now numbers 115 head. Young bulls for sale.

GEO. GROENMILLER & SON,

Route 1, Pomona, Kans.

**Red Polled Cattle, Poland-China Swine.**

Best of breeding. Write or come and see. Chas. Morrison & Son, R. 2, Phillipsburg, Ks.

**POLLED DURHAMS****Polled Durhams FOR SALE.**

A choice lot of young Double Standard Polled Durham bulls by Kansas Boy X2555, S-H19799, Senator X5940, 253065 and the grand bull, Belvedere X2712, 190563. Inspection invited.

D. C. VanNise, -:- Richland, Kans.



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The great livestock breeders' associations recognize this as an event of National importance and make appropriations therefor. All that is good in Agriculture, Horticulture, Apiary, and Dairy will be on exhibit. The Ladies Departments showing the useful and artistic handiwork of the home will be seen in profusion.

Seven thousand entries in the various departments last year. Stalls for 400 cattle, pens for 800 hogs, barns for 350 horses, 285 horses entered now in 9 stakes. Grounds right in town, plenty of shade trees, and 32 good wells of water.

**GREAT RACING--SIX GREAT RACES EVERY DAY.**

The choicest horses from the stables of 20 States will be on the track during the week. No event in Kansas ever approached this year's program. Six races for \$1,000 each. Riders and Drivers Dressed in gaudy colors. The Kansas Derby will be run for \$500 in gold Tuesday. Amusements of all descriptions for all people--children, women and men--entirely chaste and entertaining.

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will leave its mooring twice each day for an aerial trip. It is the most up-to-date machine built and is the study of governments as well as scientists. Silver Cornet Band Music to enliven the occasion.

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Special Excursion Trains and Rates over all Roads. Everybody is invited to invite their friends. 36 regular Passenger trains. Ask your railroad agent about Excursion Trains and Rates. Also about the one-half rate on shipments of exhibits. For Catalogue or Information Address

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Am now booking dates for the coming season. Write or wire me for same. Also a breeder of Du roc Jersey hogs and Hereford cattle.

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