

KANSAS FARMER

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\$1.00 A YEAR.

Breeders' Directory

SWINE.

D. TROTT ABILENE, KANS., famous Duroc-Jerseys and Poland-Chinas

M. H. ALBERTY, - - Cherokee, Kansas.

Duroc-Jerseys.

100 head for this year's trade; all eligible to record.

MAPLE AVENUE HERD J. U. HOWE, WICHITA, KANSAS. Farm 2 miles west of city on Maple Ave.

V. B. Howey, Box 103, Topeka, Kans. Breeder and shipper of Poland-China hogs, Jersey cattle, S. L. Wyandotte chickens. Eggs in season.

CEGAR SUMMIT POLAND-CHINA STOCK FARM. Only choicest individuals reserved for breeding purposes. J. M. GILBERT, Busby, Elk County, Kans.

FAIRVIEW HERD DUROC-JERSEYS Contains breeders of the leading strains. We have some fine summer and fall pigs to sell at moderate prices. J. B. DAVIS, Fairview, Kans.

PARKDALE STOCK AND FRUIT FARMS THOROUGHbred HEREFORD CATTLE. CHAS. A. SCHOLZ, Proprietor, - FRANKFORT, KANS.

POLAND-CHINAS. Extra Good Fall Fancy Strains. DIETRICH & SPAULDING, Richmond, Kans.

Riverside Herd of Poland-China Swine. Commodore Dewey No. 46187 head of herd, assisted by a grandson of Missouri's Black Chief. Young stock for sale reasonable. All stock recorded free. M. O'BRIEN, Liberty, Kans.

DUROC-JERSEY SWINE—REGISTERED. Three extra fine males left; one September, and two October farrow. Prices away down to close out. NEWTON BROS., Whiting, Kans.

CHERRY GROVE FARM DUROCS, From best prize-winners. One spring duo, also fall and winter pigs for sale.

WARE & POCOKE, Station B, St. Joseph, Mo.

D. L. BUTON, North Topeka, Kans., Breeder of Improved Chester Whites. Stock For Sale. Farm is two miles northwest of Reform School.

T. A. HUBBARD, ROME, KANS., Breeder of POLAND-CHINAS and LARGE ENGLISH BERKSHIRES. Two hundred head. All ages. 25 boars and 45 sows ready for buyers.

Ridgeview Farm Herd of Large English Berkshires Sold out of everything but fall pigs. Place your orders for them now. Silver Laced and White Wyandotte eggs for sale, \$1.50 per 15.

MANWARING BROS., Lawrence, Kans.

Verdigris Valley Herd POLAND-CHINAS. Large-boned, Prize-winning. We have for sale 80 head of fall pigs—the best grown out we ever raised. We can furnish herds not akin, of any of the fashionable strains. We have several that are good enough to fit for next fall's shows. Prices reasonable. Nothing but good ones shipped on orders. WAIT & EAST, Altoona, Kans.

High-Class Poland-China Hogs Jno. D. Marshall, Walton, Harvey Co., Kans.,

Breeds large-sized and growthy hogs with good bone and fine finish and style. FOR SALE—Thirty October and November gilts and 15 boars, also 100 spring pigs, sired by Miles Look Me Over 18879. Prices right. Inspection and correspondence invited.

R. S. Cook, Wichita, Kansas, BREEDER OF POLAND-CHINA SWINE.

The prize-winning herd of the Great West. Seven prizes at the World's Fair. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 28441, Black Joe 28608, World Beater and King Hadley. FOR SALE—An extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra-large, richly-bred sows. Inspection or correspondence invited.

SWINE.

KANSAS HERD OF POLAND-CHINAS has some extra fine spring gilts, some January gilts, and sows 18 months, bred to Sen. I Know, he by Perfect I Know; and some nice fall boars by Sen. I Know and U. S. Tec. Address F. P. MAQUIRE, Haven, Reno Co., Kans.

A FEW POLAND-CHINA PIGS FOR SALE.

Five individuals. "Chief I Know" and "Look Me Over" strains. R. J. CONNORWAY, Edna, Kans.

Mound Valley Herd of POLAND-CHINAS Has some show gilts bred to I. B. Perfection (25172 S.). Others bred to Black U. S. Best (21767). Also a fine lot fall pigs for sale. Prices reasonable.

W. P. WIMMER & SON, Mound Valley, Kans.

Poland-China Hogs.

Herd headed by I Know Perfect 42263 O., sired by Chief I Know 37167 O. A few gilts for sale, also two 2-year-old sows that will be bred for August or September farrow and one 3-year-old sow by King Breckenridge. W. E. NICHOLS, Sedgwick, Kans.

STANDARD HERD OF Registered Duroc-Jerseys PETER BLOCHER, Richland, Shawnee Co., Kans.

Herd headed by Big Joe 7363, and others. Choice pigs of both sexes for sale; pairs and trios not related. S. C. B. Leghorn eggs.

SUNNYSIDE HERD OF PEDIGREED POLAND-CHINA HOGS.

We now have for sale 10 good young boars 8 months old, and 8 bred gilts—fine well-developed sows, and a choice lot of September, October and November, 1900, pigs for sale cheap. Write me for prices on what you want.

M. L. SOMPERS, Altoona, Kans.

MAPLE GROVE HERD OF Registered Poland-Chinas.

HIRAM SMITH, Colwich, Sedgwick Co., Kans. Headed by the grand boar Black Chief 42367, Ideal U. S. 48259, and assisted by Perfect I Am Vol. XXIII, grandson of Perfect I Know 19172, grandam the great sow Anderson's Model 43611, mated to a lot of choice selected sows of the most noted prize-winning families. A fine lot of fall pigs ready to ship. Inspection or correspondence invited.

Prospect Park Herd of Thoroughbred Poland-China Hogs

Perfect We Know, a son of Chief I Know, the sweepstakes boar at the Omaha Exposition, at head of herd.

J. H. TAYLOR, Telephone address Pearl, Kans. RHINEHART, KANSAS.

Pure Bred Poland-Chinas

I have 25 choice October pigs that I will sell for \$10 and \$12.50 for the next 30 days, sired by Corwin I Know 18448, and Hadley U. S. 20188; dams equally as well bred, all good colors. I am also booking orders for choice spring pigs sired by Logan Chief 24427, and Proud Tecumseh 24655. My hogs have good heads, small fancy ears. Come and see them or write.

JOHN BOLLIN, Kickapoo, Leavenworth Co., Kans. Express Office, Leavenworth.

CATTLE.

ENGLISH RED POLLED CATTLE—Pure-bred young stock for sale. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo. Mention this paper when writing.

MEADOW BROOK SHORTHORNS—Some fine young stock, 20th Earl of Valley Grove at head of herd, for sale. Breeding of the best, in color unexcelled. Address F. C. KINGSLEY, Dover, Shawnee Co., Kans.

ROSEDALE HERD OF HOLSTEINS. C. F. STONE, PROPRIETOR, PEABODY, KANS.

Home of Empress Josephine 3d, champion cow of the world. Gerben's Mechtchilde Prince at head of herd. Young bulls and heifers for sale.

RED POLLED CATTLE

LARGEST HERD IN AMERICA. S. A. CONVERSE, PROPRIETOR, IMPORTER and BREEDER, CRESCO, HOWARD CO., IOWA.

SYCAMORE SPRINGS STOCK FARM. SHORTHORNS.

H. M. Hill, Prop., La Fontaine, Kans.

No Shorthorns for sale at present, but will have a few young things in the spring. Personal inspection of our herd invited.

CORRESPONDENCE SOLICITED.

CATTLE.

POLLED DURHAMS 10 bulls from 6 to 30 months. A few females. All stock recorded free in two records. Correspond at once before too late. A. E. BURLEIGH, Knox City, Knox Co., Mo.

POLLED DURHAMS! THIS LITTLE AD. will direct you to the largest as well as the best Scotch bred Polled Durham herd of cattle in the United States. 150 Fine Duroc-Jersey Pigs. F. F. FAILOR, Newton, Iowa.

SHORTHORN BULLS FOR SALE

A few choicely bred young bulls, spring yearlings, for sale at very reasonable prices. Also 2 Shropshire and 1 cross-bred Shropshire-Cotswold buck. Address JAMES C. STONE, Leavenworth, Kans.

ALFALFA MEADOW STOCK FARM

1,800 acres. Pure-bred stock only. Herefords, Poland-Chinas, Light Brahmas and Belgian hares. Stock of all kinds for sale. Pedigreed hares, \$2. O. B. WHITAKER, Proprietor, Shady Bend, Kansas.

Norwood Shorthorns. V. R. ELLIS Gardner, Kans.

Sir Charming 4th at head of herd. Crutchshank top crosses on best American families. Young stock for sale.

Maple Leaf Herd of Thoroughbred SHORTHORN CATTLE

And POLAND CHINA SWINE. Farm is 2 miles south of Rock Island depot. JAMES A. WATKINS, Whiting, Kans.

ROCKY HILL SHORTHORNS.

We have for sale 7 Scotch-topped bulls, about 1 year old. Quality and prices right. J. F. TRUE & SON, Newman, Kans. Newman is on U. P. R. 12 miles east of Topeka.

Shorthorns and Poland-Chinas.

Two good bulls, Scotch-topped, 7 and 11 months old. A good lot of fall boars and young sows bred for September farrow. Prompt response to inquiries. O. E. MORSE & SONS, Mound City, Kans.

Breed the Horns off by using a RED POLLED BULL.

CHAS. FOSTER & SON, Butler Co. Ka. Breeders of Red Polled Cattle, Herd Headed by Powerful 4582. Pure-bred and grades for sale. Also prize-winning Light Brahmas.

REGISTERED HEREFORDS.

THOS. EVANS, BREEDER, Hartford, Lyon County, - Kansas. -SPECIAL OFFERINGS- FOR SALE—Four yearling bulls, one imported 4-year-old bull, a few young cows and heifers.

Recorded Hereford Bulls FOR SALE.

The get of Marmion 66646 and Anxiety Wilton A-45611, 10 to 24 months old. These bulls are large, and good individuals, and of the best of breeding. Inspection invited. Fred. Cowman, Lost Springs, Kans. Breeder (not dealer) of Hereford Cattle.

125 RAVENSWOOD SHORTHORNS,

C. E. LEONARD, BELLAIR, MO. Males and females for sale. Inspection especially invited. Lavender Viscount 124755, the champion bull of the National Show at Kansas City, heads the herd. ED. PATTERSON, Manager. Railroad and Telephone station, Bunceton, Mo.

H. N. Holdeman, Girard, Crawford Co., Kans.

BREEDER OF PERCHERON HORSES And HOLSTEIN FRIESIAN CATTLE.

Representing Josephine, Mechtchilde and Parthena families. Poland-China hogs. Son of Missouri's Black Chief at head of herd. B. P. R. and B. L. H. chickens. Eggs in season, always guaranteed as represented.

CATTLE.

A. D. SEARS & BROS., - - Leon, Iowa. SHORTHORNS.

2d Grand Duke of Hazelhurst 150091 heads the herd.

HEREFORD BULLS FOR SALE.

Five registered bulls, choicely bred, their sires being Lincoln 47095 by the great Beau Real and Klondike 72001 by the Beau Brummel bull, Senator. Their dams are daughters of Stonemason, Star Grove 1st, and Lincoln. I will price them very low to an early inquirer. Address ALBERT DILLON, Hope, Kans.

D. P. NORTON'S SHORTHORNS,

Dunlap, Morris Co., Kansas.

Breeder of PURE-BRED SHORT-HORN CATTLE.

Herd Bull, imported British Lion, 133692.

YOUNG - STOCK - FOR - SALE.

ALLENDALE HERD OF Aberdeen-Angus Cattle

The Oldest and Largest in the United States.

Splendid recently imported bulls at head of herd. Registered animals on hand for sale at reasonable prices at all times. Inspect herd at Allendale, near Jola and La Harpe, Allen Co., Kans., and address Thos S. Anderson, Manager, there; or

ANDERSON & FINDLAY, Prop's, Lake Forest, Ill.

Silver Creek Herd SHORTHORN CATTLE.

GWENDOLINE'S PRINCE 130913 in service, a son of the \$1,100 cow Gwendoline 5th. Best Scotch, Bates and American families represented. Also bred

High Class Duroc-Jersey Swine.

Can ship on Santa Fe, Frisco and Missouri Pacific railroads. J. F. STODDER, Burden, Cowley Co., Kans.

BLACK DIAMOND STOCK FARM

Has for Sale a Few CHOICE GALLOWAY BULLS,

Sired by a World's Fair winner. Also a few English Fox Terrier pups of finest quality.

FOR SALE OR TRADE—A 15-acre suburban property in Des Moines, Iowa. Information promptly furnished by the owner.

J. R. HIGGINS, Keswick, Keokuk Co., Iowa.

MT. PLEASANT HERD OF SHORTHORNS.

Herd headed by Acomb Duke 18th 142177. Herd composed of Young Marys, Galateas and Sanspareils. Young bulls for sale.

A. M. ASHCRAFT, Atchison, Kans. Inquire at R. F. D. No. 3. Ashcraft & Sage Livery Barn, Main Street.

CLOVER CLIFF FARM. REGISTERED GALLOWAY CATTLE.

Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion Habbe, and the Saddle stallion Rosewood, a 16-hand 1,100-pound son of Montrose in service. Visitors always welcome. Address BLACKSHERE BROTHERS, Elmdale, Chase Co., Kans.

SUNFLOWER HERD

SCOTCH AND SCOTCH-TOPPED SHORTHORN CATTLE, POLAND-CHINA SWINE.

Herd Bull, Sir Knight 124403. Herd Boars, Black U. S. 2d 25582 S, and Sunflower Black Chief 23603. Representative stock for sale. ADDRESS ANDREW PRINGLE, Rural Route 2, Eskridge, Kans.

TO SHEEP BREEDERS.

First edition Stewart's "DOMESTIC SHEEP" sold out. Second edition, revised and enlarged, now ready. 384 pages balled down sheep and wool knowledge, covering every department of sheep life. Acknowledged everywhere as the best book ever published on the subject. Used as a text-book in Agricultural Colleges. Publisher's price, \$1.50. In club with Kansas Farmer for one year, \$2. Address KANSAS FARMER CO., Topeka, Kans.

Agricultural Matters.

The Round Silo.

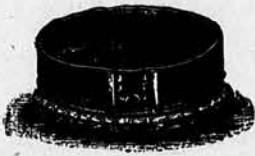
The most satisfactory silo is the one made of one thickness of 2-inch staves, planed on both sides and heavily tongued and grooved. The bevel on the edges of the staves conforms to the circle and the staves should also be matched according to the bevel. I have in mind a certain make of silo I have seen in which the staves are beveled but the groove is not put in at right angles to the bevel, so that when the tongue or fin is inserted, it is almost certain to split, leaving the lumber practically unmatched. The object of having the staves matched is two-fold: To secure a tighter joint and to prevent the building from blowing down when empty. I know of at least 6 unmatched round silos that have blown down in the last two years.

The objection to the use of 2 or 3 thicknesses of lumber with paper between is that there is always a layer of damp air between the thicknesses. The wet ensilage being on one side of the wood and the damp air on the other, the wood decays in a very short time, often in one season. The best silo that I ever saw built on this plan was in Whit Plains, N. Y. The owner told me he had to reline it twice in eight years, using the best wood he could get. He finally gave it up and bought a round stave silo.

My experience with the stone or cement silos has been that the stone is damp and cold, and contrary to the nature of the ensilage, which is chilled through and soon moulds or decays. Moreover, such silos are very expensive. The lateral pressure of the ensilage is very great so that for a vessel



Silo and Roof Complete.



Base of Silo.

30 feet high a 4-foot wall would be none too heavy. This is also the reason why it is inadvisable to have an excavation in the ground stoned up and cemented.

Cypress lumber is undoubtedly the best lumber that grows for silo uses. It shrinks very little and wraps scarcely at all. The Scientific American of December, 1891, says of it: "Cypress lumber is especially adapted to building tanks, tubs, and vats, and when used for such purpose it will never decay. No lumber in the world equals it for tanks, vats, siding, or weather boards, exposed floors or shingles." It can be secured from any large lumber yard.

The best silo manufacturers have a method of inserting steel splines in the end of the staves, thus rendering them like one single piece.

The "patent silo," if it be a first-class one, is both cheaper and better than any home made one, no matter how well built. The large manufacturers buy their lumber by the hundred thousand feet and get very low prices on it. They have special machinery for planing, matching and beveling the staves so they can turn out from 2 to 4 large silos a day, thereby saving labor and expense. This leaves a margin for profit and still allows them to be sold for considerable less than a home made vessel of equal merit would cost.



Continuous Open Silo without Roof.

Not only are they cheaper, but if bought from a first-class firm, a patent round stave silo is the best in the world. Ensilage being such a heavy

product the easy economical handling of it should be considered. With a door silo the plan usually followed is to have about one-half of the front open, the rest closed. This plan, of course, requires much lifting, as the ensilage is being taken out. The most desirable way is to have the silo of the continuous-open-front construction, whereby the entire front can be opened up one board at a time, as the feeding from the silo is being done. This makes the door on a level with the feeding surface all the time, and to me this method seems to possess the greatest merit.

A 15x30 silo has a capacity of 105 tons and the best method of hooping is as follows: Six 3/4-inch hoops at the bottom, five 1/2-inch hoops in the middle, and four 1/2-inch hoops at the top. The hoops should be in two or three pieces (not cast iron) lugs which allow for the necessary contraction and expansion. Such a hooping arrangement is abundantly strong. Already too many silos have burst from insufficient hooping and thus prejudiced people against them.

As to the durability of a round stave silo I believe that if properly taken care of they will last twenty years and even longer. By proper care I mean that they must have a coat of oil and good wood preservative on the inside once every two or three years and paint on the exterior as often as necessary. I have seen round silos five or six years old that have been treated in this manner and they show no signs of decay, being apparently as sound as the day they were erected.

People are fast learning that good ensilage can only be secured in a first-class silo and that a silo made of poor material or from lumber that warps or twists will always prove disappointing to its owner. This is illustrated by the method of canning fruit. If the can is sealed air-tight the fruit can be preserved all through the winter. But if the rubber packing is poor or the top is not screwed on tight, admitting the air, the contents "work" and are spoiled. The same thing holds true in a silo. Unless the walls are impervious to both air and moisture one must not expect to keep his ensilage sweet. The cheap structures made of old fence boards should not be called silos. Vessels of this kind have also led many men to reject silage and probably account for the unjust and sweeping condemnation of it by milk condensaries. There has never been a food upon which all kinds of stock thrive so well and which gives such large returns as Indian corn, cut and preserved in a silo in the form of ensilage. As Prof. Henry says, "Cheap silos are a delusion and a snare, while good ones enable Indian corn to yield its greatest benefactions to man."

FRANK H. RYDER.

Schoharie County, N. Y.

Kansas Wheat the Best in the World.

EDITOR KANSAS FARMER:—In Farmers' Bulletin No. 112 on "Bread and Principles of Bread Making," by Helen W. Atwater, published by the Department of Agriculture at Washington, is found many important statements in regard to wheat raising that should interest every wheat grower in Kansas. They furnish good evidence that Kansas wheat is undoubtedly the richest in nutritive elements of any wheat in the world. When these facts are fully understood by bakers and wheat consumers, Kansas wheat will bring the very highest prices in all the markets of the world. Notice the following, found in this bulletin:

"Grain being hygroscopic—that is, having the power of absorbing water from the atmosphere—varies with the weather in the amount of moisture which it contains; similarly, wheat grown in wet seasons or a humid climate holds a larger percentage of moisture than the same kinds grown under drier conditions. Thus, English wheat contains 3 or 4 per cent more water than American. From comparison of many analyses, the average weight of the water in the grain is found to be from 11 to 13 per cent of the total weight.

"Different kinds of wheat also vary in the amount and quality of the gluten which they contain. As gluten is one of the most important constituents of wheat, the baker should know the character of the gluten in the flour he uses. The so-called hard wheats are rich in gluten of a strong tenacious character, while soft wheat contains less gluten and proportionately more starch. The gluten of hard wheat can be mixed with large amounts of water and produces a large loaf from a comparatively small quantity of flour."

Prof. W. O. Atwater, the agricultural

chemist at Washington, in Farmers' Bulletin No. 43, says:

"A quart of milk, three-quarters of a pound of moderately fat beef, sirloin steak for instance, and 5 ounces of wheat flour all contain about the same amount of nutritive material; but we pay different prices for them, and they have different values for nutriment. The milk comes nearest to being a perfect food. It contains all of the different kinds of nutritive materials that the body needs. Bread made from wheat flour will support life. It contains all of the necessary ingredients, but not in the proportion best adapted for ordinary use. A man might live on meat alone, but it would be a very one-sided and imperfect diet."

Chemists now divide the nutritive portion of foods into 4 classes, as follows: Protein, fats, carbohydrates, and ash. All foods contain more or less water, but that water is of no more value as food than equally pure water taken from any other source. Protein is the term now used to represent all food material that contains nitrogen, albumen, gluten, caseine, or other proteid compounds. It is this class of nutritive substance that is required for the growth and maintenance of the muscles, tendons, cartilage, and other tissues of the body. Lean meat, fish, eggs, milk and cheese, wheat, peas, beans, oats, corn, potatoes, fruits, nuts, and nearly all vegetables contain more or less proteid products that are classed under the head of protein.

Under the heading Fat are included the fat of all kinds of meats, butter, lard, the oils of various kinds of vegetables, such as olive, cotton-seed, peanuts, oils of wheat, corn, etc. There is some fat found in most all kinds of food. The fat is consumed in the human system for the purpose of generating heat to keep the body warm and to generate some power for the use of the muscles.

The carbohydrates include all elements of food that contain starch and sugar. Rice, corn, wheat, rye, oats, potatoes, and nearly all vegetables used as food, contain more or less starch and sugar; they also contain some fat or oils used as fuel, and arable quantities of protein in the form of gelatin and gluten. The pure carbohydrates do not furnish the nutriment necessary for the growth of muscular or other tissues of the body, but they do furnish them with heat and force or power to perform their various functions for the muscles, and probably for the nerves.

The material called ash contains that portion of foods, animal or vegetable, that would be left after such material is burned. It consists of a variety of chemical compounds commonly called salts, and includes phosphates, sulphates, and chlorides of the metals called calcium, magnesium, potassium, and sodium. Calcium phosphate, or phosphate of lime, is the chief mineral constituent of bone. Common salt is chloride of sodium, but is not considered by some as a nutriment for animal tissue.

In milk we get protein in the form of casein, for the growth and maintenance of the muscles; fat in the form of butter, for animal heat; carbohydrates in the form of sugar, for heat and force or energy; and ash in the form of mineral salts, for the bones of the body. In wheat we get protein in the form of gluten for the muscles; fat in the form of oils for animal heat; and carbohydrates in starch and sugar for force or energy, and ash or mineral salt for the bones.

What I aim to show is, that wheat, next to milk, is the most perfect of all foods, and for grown people, is the best of all foods, and that the wheat raised in Kansas contains the largest amount of nutritive material of any wheat raised anywhere in the world. In the first place, the soil of Kansas is strongly impregnated with lime and gypsum, a sulphate of calcium, which furnish essential elements for both the straw and kernel of wheat. It also contains a good deal of nitrogen for the gluten, which supplies the protein in the wheat flour. In the second place, the climate and soil of Kansas contain less moisture than is found in other localities where wheat is raised, and hence the wheat grown there contains from 3 to 4 per cent less water than other wheat. In place of the water, we get an increase of protein, fat, and carbohydrates. While the berry does not look so plump and full as that of wheat grown in moister soils and climates, yet it contains more of the nutritive elements than wheat that has more water in the berry. If English wheat contains from 3 to 4 per cent more water than American, on account of a moist soil and climate, is it not evident that Kansas wheat would contain 3 or 4 per cent less water than wheat grown in the

STUDEBAKER QUALITY

Ask Your Neighbor,
who owns one, if his

Studebaker Wagon

has not given him the most perfect satisfaction through all the years in which he has used it. That is the experience of multiplied thousands of their users and it will be your experience if you buy one. Ours is the only large wagon works in America that is still managed by the founders as it has been since 1854. Nobody else has had so many years of experience in wagon making and consequently no other wagon is so good. Ask your dealer for the Studebaker Wagon. If not there, write us direct and we will tell you where you can get them.

Studebaker Bros. Mfg. Co., South Bend, Ind., U.S.A.

moister soil and climate of the other States?

The chemist of the Kansas Agricultural College ought to make a thorough analysis of Kansas wheat, and thus get at the actual facts in regard to its nutritive and commercial value, as compared with the wheat of the other States.

According to government reports, Kansas, in 1900, raised over 82,000,000 bushels of wheat, 54,000,000 of which grew in 26 contiguous counties in the center of the State, extending north and south. If it can be shown that Kansas wheat contains from 3 to 4 per cent less water, and 3 or 4 per cent more nutritive properties, it ought, at least, to put the price of such wheat 3 or 4 per cent higher than that raised in other States. Let us have the actual facts about this.

Referring again to the statement of Professor Atwater as to the nutritive value of milk, sirloin steak, and wheat flour, let us notice the difference in cost to the consumer of these products. On seeing the Professor's statement, I inquired of Mr. W. M. Haight, the proprietor of Miller's Hotel, what he paid for his milk, his sirloin steak, and his flour. He buys his milk by the can, his steak by the loin, and his flour by the barrel. A quart of milk costs him about 4 cents, 3/4 pound of sirloin steak, free from bone, costs 18 cents, 5 ounces of flour about 1/4 of 1 cent. The milk can be used as it comes from the cow, the steak has to be cooked, and the flour made into bread. Allowing 2 cents for making the flour into bread, and nothing for cooking the steak, and we get for 2 cents invested in Kansas flour as much nutriment heat and force to sustain life and do work as would cost 4 cents if spent for milk, and 18 cents invested in sirloin steak.

The bulletin on "Bread and Principles of Bread Making" before referred to, says: "The endosperm is by far the most important contributor to the flour. In its starch lies the chief nutritive ingredient of bread. The gluten, as the principal nitrogenous constituent of wheat is called, is equally necessary; mixed with water, it forms a tenacious elastic body, which expands under the pressure of gas from the yeast until the dough is full of gas-filled holes, whose walls of tough gluten do not allow the gas to escape, and thus make the dough light and porous. The more gluten a flour holds, the more water it can be made to take up in dough, and the greater will be the yield in bread from a given amount of flour. Hence flours are classified as "strong" or "weak," according to the proportion of gluten which they contain, and their consequent ability to yield bread. Gluten has also a high nutritive value as an easily digested proteid."

Kansas wheat must possess all of these valuable properties in a pre-eminent degree. DR. E. P. MILLER.
Miller's Hotel, New York City.

RUMELY ENGINES

—either traction, portable or semi-portable represent the greatest value that can be crowded into a machine of this kind. Simple or compound 8 to 200 h.p. Unequalled for threshing, well drilling, saw mills, feed grinders, etc. Make also superior threshers, horse powers, saw mills, etc. Illustrated catalog mailed free.

M. Rumely Co., LaPorte, Ind.

WANTED EVERY FARMER AND TEAMSTER WHO INTENDS TO BUY A WAGON

this year, to send us his address on a postal card. Don't put it off for we can do you much good. We will send you something that will interest you at least. One cent will bring you the information.

THE TIFFIN WAGON CO.,
1203 Union Ave., Kansas City, Mo.
or Tiffin, Ohio.

The Stock Interest.

THOROUGHBRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

October 7, 1901—Newton Bros., Duroc-Jersey swine, Whiting, Kans.
 October 8-10, 1901—American Berkshire Association Sale at Kansas City.
 November 21, 1901—Ernst Bros., Shorthorns, Tecumseh, Neb.
 December 10, 11 and 12, 1901—Armour-Funkhouser, Herefords, Kansas City.
 December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.
 January 28 to 31, 1902, For Sotham's Annual Criterion Sale, at Kansas City.

Cross-bred vs. Pure-bred.—IV.

EDITOR KANSAS FARMER:—I presume this discussion has been carried far enough, but there is one point I wish particularly to emphasize, and that is to contradict the assumption that the animal resulting from the cross of two strains of Shorthorns is unfit for breeding purposes, and that in breeding such animals there will be a continual failure in the produce. A theory of this kind is worthless, unless fairly substantiated by facts. If examples to the contrary are given the theory is overturned. As one illustration, I will take the cow Imp. Lady Isabel by Crown Prince 85327. This bull was a pure Bates and was a brother of the renowned English show cow Queen Mary. Lady Isabel's dam was Lady Conyer by the Royal prize bull, Lord Godolphin 87668. Lady Conyer was a pure Booth. Hence the result of such a cross, from the greatest of two great strains of Shorthorns, must have a powerful influence upon the question under discussion. Lady Isabel was imported from England by John Hope, manager of the great Bow Park herd, for show purpose. She was a Royal winner and had never suffered defeat. Her stable companion, Havering Nonpareil 2d, and another imported cow made up the female contingent of Hope's renowned show herd of 1887. Sanders' History says the two cows mentioned created a profound sensation while "starring" the western circuit. Lady Isabel weighing 2,100, while her Canadian owner claimed her weight in show condition was 2,250 pounds. The herd made a clean sweep wherever shown, Lady Isabel winning everything except at Des Moines, Ia., where Havering Nonpareil was placed over her, the only defeat she ever experienced in her long show career, and Hope's expressed opinion was that she was the grandest cow seen since Lady Faragut, the latter being considered the finest cow ever seen in England, and a Booth cow was she.

Lady Isabel's owner always claimed her defeat at Des Moines was an unjust decision. Lady Isabel being the producer of a cross of Bates upon Booth the main question now is as to her progeny. Her second calf was the heifer Isabella 3d Vol. 40, page 723, got by Ingram's Chief 81433, a son of the great Sir Arthur Ingram 61417. Isabella 3d was a member of Hope's great show herd of 1889. He showed at Detroit and Buffalo, winning everything in sight, Isabella 3d winning 1st in her class at both places, and the championship in female class, also being a member of the champion herd while only 2 years old.

The following is quoted from Sanders' report in the Gazette of 1889 in speaking of Isabella 3d: "With oblique, well-laid feminine fore-quarters, full neck veins, thick chin, ribs nobly arched, and loaded with a profusion of mellow flesh; loin like a banquet board and covered deeply at every point; moving withal with an elastic, graceful step that indicated the perfection of her bloom; she was clearly the one bright particular star of the entire cattle show."

From the above it would seem we must look beyond the sons and daughters of Lady Isabel for the "continual failure." Lady Isabel had a bull calf named Lord Outhwaite. Mr. James Smith was the herdsman at Bow Park at the time Lady Isabel was there. I have a letter from him in which he says, "Lord Outhwaite was only shown one season in Canada, and was sweepstakes bull wherever shown that year. I have not seen a better bull out from that time."

This man James Smith is now manager for W. D. Flatt of Hamilton, Ont. I quote again from his letter, "Isabella 3d was, I think, the best yearling I ever saw. She was never beaten when a yearling, nor do I believe she was ever beaten when shown from Bow Park. This cow had a white heifer which in her 2-year-old form Mr. Hope claimed could have beaten any heifer of her age in England that year. She was one of the most perfect heifers I ever saw." Isabella 3d dropped a bull calf which weighed 2,800 pounds at 4 years

old, named Isabella's Heir 130673, that headed a Shorthorn herd in Ontario. He was the sire of our herd bull, British Lion 133692. I would like to show him to anyone who believes in the theory that the produce of a cow bred as Lady Isabel was will be a continual failure. Dunlap, Kans. D. P. NORTON.

Red Polled Cattle Lore.

Some interesting information concerning Red Polled cattle has been compiled by that prominent breeder, V. T. Hills, of Ohio. In a recent booklet he has the following:

Red Polled cattle are natives of Norfolk and Suffolk counties in England. For many years they were two distinct breeds, or different types of the same breed in these counties. Various theories have been put forward to account for these hornless cattle. The probability is that in the several varieties of Red Polled cattle found in England many years ago, we have the descendants of a very ancient breed, highly valued for their large yield of milk. The herd book says:

"There is even yet a sort of superstitious regard for red cattle prevalent among some of the peasantry, the roots of which superstition archaeologists profess to find in the religious belief of the Aryan race that red typified the heavenly fire. At any rate, it is an undisputed fact that in the middle ages and down to a comparatively recent period, the dun or dark red cow (for the term seems to have been convertible with regard to cattle) was often invested with remarkable powers—her milk was deemed superior and was supposed to possess health restoring qualities.

"Herodotus carries back the record of polled cattle to a remote period.

"Hippocrates, speaking of the Scythian chariots, says they were drawn by oxen which have no horns and the cold prevents their having any.

"The probability is that Britain derived both its polled cattle and its trotting horse from the same source—The folk who settled in eastern England after the Romans had gone."

Of the Suffolk Polled, John Kirby, who published the Suffolk Traveller in 1734, speaks of the butter produced in the dairy districts as being "the best and pleasanter in England." Arthur Young, in his "Survey of Suffolk," published in 1794, mentions the breed, and of milk yield says:

"There is hardly a dairy of any consideration in our district that does not contain cows which give, in the height of the season, 8 gallons of milk in a day, and 6 are common among many for a large part of the season. For two or three months a whole dairy will give 5 gallons a day on the average."

With regard to beef qualities he says: "Many of these beasts fatten remarkably well—the flesh of a fine quality."

Of the Norfolk Polled, the files of the Norwich Mercury show that as early as 1778, 1780, 1795, and 1797 public sales of polled cattle were advertised. Mr. Money Griggs of Gately, who died in 1872, in his hundredth year, and who had been for upwards of eighty years a tenant of the Elmham estate, informed Mr. Fulcher, when making inquiries as to the breed, that "from his earliest recollections Red Polled cattle had been kept in the neighborhood of Elmham." The Elmham Polled cattle of this period are represented in a painting now in the possession of Lord Sondes. The inscription reads: "These bullocks exhibited at the Fakenham agricultural show, obtained two prizes, and allowed to be the best home breeds ever shown under 4 years old. Killed by G. Nicholson, weight 187 stone and 8 pounds, A. D. 1836."

At the Holkham sheep shearing of 1810 the report says:

"Mr. Reeve showed his Norfolk bull and 2-year-old heifers, which convinced every person who saw them to what a height of perfection breeding may be carried on, by care in selection. Mr. Reeve's bull was greatly admired as an animal of very superior frame and points and his two heifers are such as few men can exhibit."

In the years 1813 to 1824 blood-red polled cattle were selected and successfully bred by three ladies named Diana, Catherine and Mary Bullock, until 1868, when the last of the Misses Bullock died at a great age. The Norfolk Polled are spoken of in 1818 as being "almost unequalled," and from the accounts we have were probably of larger size than the Suffolk, and possibly not as good milkers."

While crossing of the two varieties had to some extent prevailed, the year 1846 may be taken as the date from which the Norfolks and Suffolks were merged into each other so as to be spoken of as the one breed.

Improvement of this breed was rap-

Feeding Compound For Live Stock



It is essential for the well-being of all animals that they receive a suitable addition to the ration, not only to restore them if out of condition, but to keep them in the most profitable state of health. This is obtained by **Lincoln Feeding Compound** which is a great improvement upon and desirable substitute for so-called "Stock Foods." Write for literature regarding this cheap and economical preparation.

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Branch Office: 622 Whitney Building, Kansas City, Mo

idly progressing when, in 1868, the cattle plague greatly reduced their numbers, and explains why they are not now more numerous.

In 1873 a herd book of "The Norfolk and Suffolk Red Polled Cattle" was established. In 1883 the words "Norfolk and Suffolk" were dropped, and the breed has since been known as "The Red Polled."

The first importation of Red Polls into the United States was of 4 animals by Mr. Geo. F. Taber of New York State in 1873, followed by 4 more in 1875, and 25 in 1882, importations by others following soon after.

The First One Hundred Pounds of a Pig. MEISSNER BROS., REINBECK, IOWA, IN SWINE ADVOCATE.

The first 100 pounds of a pig may be the cheapest as far as feed is concerned, but they are much the dearest if we take into account pains and labor of looking after their early existence.

If the young porker thrives well in making the first 100 pounds, nine chances out of ten he will make a thrifty, large and vigorous hog. The troubles that may overtake the little pigs are numerous. A few of the most common are scours, thumps, constipation, mange or skin diseases, and last, but not least, worms.

If a dam is not in good condition at farrowing time, pigs will not come easily, or they may be the squealy kind which scarcely ever live more than a couple of days. To avoid this we feed (in winter when there is no grass) swill made of wheat shorts and oil-meal, twice daily, before grain, dry oats in the morning, and dry corn at night. This rich swilling may not be necessary all winter, but is absolutely necessary from two to three weeks before farrowing. Oil-meal must be fed very lightly in the beginning, but can be increased up to a handful at a feed. Brood sows fed in this way will bring forth strong, active pigs, and forceps will not be necessary.

Pigs should be picked up as fast as they come and placed in a box, provided with a warm stone and dry straw in the bottom and a blanket over the top. Do not cover too tight or you might smother them.

If the sow is quiet, you may place them with her as soon as they all get dry; if not, it is safer to keep them in

a box a day or two, letting them suck every three hours. Provide with fresh dry bedding daily, to avoid losing tails or contracting skin diseases. After ten or twelve hours the dam will require a very thin swill, slightly warmed. The second day a little grain may be fed with the swill; start with a handful and increase with each feed. By the end of a week you can have her back to a liberal ration.

Watch the little fellows closely. If they look hungry, give them a little more feed; if fat and contented, they are getting enough. No two sows can be fed alike; use a little common sense and you will get along all O. K. Always provide for plenty of pasture; it is the best and cheapest feed. If they are doing very well, and look as round and plump as dollars, look out; they are likely to get thumpy. Here plenty of exercise is all the medicine they require. Get after them with the buggy

ZENOLEUM Kills Lice, Ticks, Mites, Fleas, Etc., on all kinds of animals and poultry. Given internally it drives out worms. Cures all cuts, wounds, sores, etc. Non-poisonous. Endorsed by leading veterinarians. "Veterinary Advisor" Free. Zenger Disinfectant Co., 61 Bates St., Detroit, Mich.

PROTECTED PIGS PAY The verdict of thousands of stockmen who use VESEY'S STAR ANTI-CHOLERA. It not only protects—it cures cholera hogs. It makes them grow and fatten; it causes early maturity. **SOLD UNDER AN ABSOLUTE GUARANTY.** Pay no money until satisfied with results. Call on or address **ANTI-CHOLERA CO.** 263 F Exchange Bldg., Kansas City Stock Yards.



LUMP JAW Easily and thoroughly cured. New, common-sense method, not expensive. No cure no pay. **FREE.** A practical, illustrated treatise on the absolute cure of Lump Jaw, free to readers of this paper. Fleming Bros., chemists, Union Stock Yards, Chicago, Ill.

Save Your Pigs! I WILL INSURE HOGS WHEN FED MY REMEDY. Write for terms. Runt are Unprofitable; Dead Hogs a Total Loss. **DR. JOS. HAAS' HOG REMEDY** Is Guaranteed to prevent and arrest disease, stop cough, expel worms. Increase appetite and growth. Send \$1.25 for trial package, postage paid. Cans \$12.50 and \$6.50; packages \$2.50. State number, age, condition, food of hogs. **Special advice free.** 25 years experience. "Hogology" pamphlet and testimonials free. **JOS. HAAS, V. S., Indianapolis, Ind.**

Trade-Marks



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SAVES CATTLE FROM

BLACK LEG

Nearly 2,000,000 successfully treated in U. S. and Canada during the last 5 years. Cheap, safe and easy to use. Pamphlet with full particulars, official endorsements and testimonials sent FREE on application.

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Is Parke, Davis & Company's Blackleg Vaccine Improved. Ready for Immediate Use. No Expensive Outfit Needed.

All you have to do is to put the Vaccine in your syringe, add boiled water according to directions, and inject into your cattle. It will positively PROTECT your cattle from the dread disease, Blackleg, the same as vaccination prevents Smallpox in the human family. Specify Parke, Davis & Co.'s Blackleg Vaccine Improved, and get the kind that is sure to be reliable. EVERY LOT IS TESTED ON CATTLE BEFORE IT LEAVES OUR LABORATORIES. Write for Literature and Full Information, Free on Request.

FOR SALE BY ALL DRUGGISTS.

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whip, and run them until they are all tired out. Do this twice daily until a little of the fat is worked off.

Scours must be checked at once or they may get beyond control. Give dam a teaspoonful of copperas dissolved in water in her swill. Shut off a little on feed and swill. If first dose does not check, repeat after twenty-four hours, and it will check them 24 out of 25 times. If constipation is the trouble, increase the swill and oil-meal until the bowels move loosely.

Mange and skin diseases are always caused by dirty, filthy quarters. Dip pig in a weak solution of nitrate of lead, ½ pound to ½ barrel of water. Two or 3 dippings will suffice. Or, wash pig and grease with carbolized lard.

Worms do not bother the pig the first six or eight weeks after this. A treatment for worms seems to be necessary every two months until they are 6 or 8 months old. We generally give 2 or 3 feeds of copperas, about what they will take in their swill, followed by a good physic of salts. At three weeks of age provide a little pen where dry shelled corn and oats can be placed to which the little fellows have free access. Here he may also be taught to drink his swill of sweet milk and water, half and half, with a pinch of shorts and oil-meal (cooked potatoes with oil-meal are also excellent). At eight weeks of age, if they have learned to eat and drink good, they are ready to wean. Here is another critical period in pig's life. We feed a swill of oil-meal and wheat shorts in the morning, then dry oats, the same kind of a swill and dry corn at night, never feeding more than they will clean up.

Avoid whey or creamery milk until six months of age; it will scour them to death. Nor have we had success with soaked grain—first, because on warm days it is very likely to sour on account of stale barrels; secondly, pigs are more apt to swallow down the feed, overloading their stomachs and suffering from indigestion, while the dry grain is well masticated and mixed with the saliva, thus going to the stomach in the proper shape.

A pig thus cared for and watched, provided with comfortable sleeping quarters, good pasture, pure water, with a box of salt and wood ashes to lick from, will make the owner a handsome profit.

Pure-bred vs. Cross-bred.—Answer to D. P. Norton.

EDITOR KANSAS FARMER:—Your correspondent, Mr. Norton, is writing a series of articles for the FARMER, the purpose or trend of which do not seem visible, unless it is intentionally to misrepresent me. I do not see, nor can I understand, the reason why a man writes articles pretending he is writing to enlighten the readers of the FARMER, when the real reason is to mislead and to bolster up pedigrees that won't stand the test; if they are to be judged by the animals that bear them.

In Mr. Norton's articles 1 and 2, he says Mr. Glick said this thing and that thing that was wrong in his estimation; but does not have the manliness to quote what was said or written, and give enough of my statement to make the quotation understood. If he wants to criticize me, I do not object, but the fair way and the honest way, if he is writing to enlighten your readers, is to make a fair and honest quotation of what was really said and criticize that. That is the fair way, Mr. Norton, if you are writing in the interests of the Shorthorn, and not to conceal some hidden purpose.

I am ready and willing to stand by anything I have written in the interest of Shorthorn cattle, and to confess my error if I have committed any; but I am not willing to have Mr. Norton put words and expressions in my mouth that I did not use, and then to assume to hold me responsible for them, to bolster up a painful defect that is readily apparent to his visitors. In Mr. Norton's first and second articles he goes out of his way to misrepresent me, does it in a very unfair manner. In Mr. Norton's third article he assumes to give a quotation in full of what I am supposed to have said about the cow "Mazurka." The quotation is a bungled attempt to report some remarks I made at the last stock breeders' meeting. If Mr. Norton was present and heard what I did say, he knows the words he quotes were not used by me. The reporter for the FARMER got my remarks badly mixed, so the quotation does not make good sense, and Mr. Norton's criticism practically admits its inaccuracy. As soon as I saw the FARMER having this quotation, in the report of the meeting, I wrote Mr. Heath for leave to correct the statement or have the

supposed remarks eliminated from the report, but I was too late to have the correction made.

Mr. Norton was undoubtedly ready to attempt to reply to a statement I never made, and one that his own judgment told him was not a correct statement of anything I said. His comments on it show that he knew it was not a correct report of anything I said.

I am not in the Shorthorn business now, and when I sold my farm and herd, all my Shorthorn literature (the accumulation of thirty-three years) went to the party who got my herd.

Were the facts not as stated, I might take some interest in trying to correct and make plain some of the misleading statements of Mr. Norton. It is a full answer to all he has written to say that he has added nothing of note or value to Shorthorn literature.

I did not deem it worth while to say anything about Mr. Norton's first two articles, and take your space now only to correct his last quotation, since he assumes to attack it in his "third article" when he knew it was a bungled report.

But that Mr. Norton may understand what I did say, I will say now, as I did then, in speaking of the cross-breeding of families of Shorthorns, that Mazurka was a Booth bred cow; that after Mr. Robert Alexander bought her she was bred only to pure Bates bulls, and she left a valuable progeny. All her produce for generations were bred to Bates bulls. I know of no case where this line of breeding was not followed with her produce. And I can say also to Mr. Norton that Mazurka was not purchased by Mr. Robert Alexander to get an out-cross in his herd. Mr. Alexander never used a bull in his herd that was not a Bates bred bull. He was a man of too much sense to think he could get a Booth cross in his herd by the use of one Booth cow. If Mazurka ever had a bull calf, that bull calf was never used in Mr. Alexander's herd. He was not hunting out-crosses, and besides that, he did not have to write articles trying to popularize a miscellaneous bred herd.

I am unconscious of ever harming Mr. Norton, and can not think of any reason why he should go out of his way to misrepresent me by suppressing what I have said about Shorthorns or to make me say things I never said.

Be fair in the future, Mr. Norton, and if you want to answer a statement or an argument, be fair enough to state fairly and honestly what your opponent did say, and then, if you answer successfully, your vindication is worth something.

G. W. GLICK.

May 30, 1901.

Gossip About Stock.

If you want any Angola goats of any description, write W. T. McIntire, agent, Kansas City stock yards, Kansas City, Mo. He always advertises and can supply all wants.

R. S. Cook of Wichita, Kansas, reports a bumper business in Poland-Chinas this spring, the liveliest trade for many years. He has a few gilts of 1900 farrow yet for sale. Mr. Cook is fitting up a show for the leading fairs and the National Swine Show to be held at Kansas City this fall.

Irwin & Duncan of Elm Beach Farm, Wichita, Kans., report a very brisk trade in Poland-China swine this season. They have sold down more closely than ever before, having nothing left for sale except a herd boar and spring pigs. Last week they shipped 2 pigs, a boar and gilt to a breeder in Wisconsin.

In view of the fact that hogs bring such lucrative prices in the markets, the grower should be unusually diligent in fortifying himself against possible loss. How to do it is tersely told in the Hog Booklet issued free to readers of the Kansas Farmer by the Moore Chem. Mfg. Co., Dept. J., 1501 Genesee St., Kansas City, Mo.

Hutchinson, Kansas, proposes to have the leading fair in Kansas this year. The management proposes to have a great live stock show. Mr. Thos. H. Foley of Hutchinson has been appointed superintendent of the swine department, and would like to hear from all swine breeders who intend making a show this season.

A very satisfactory sale of Shorthorns was held at South Omaha on May 29, consisting of 60 head owned by F. R. Healey, Bedford, Iowa, and W. R. Wilson, of Arispe, Iowa. The offering brought \$10,470, and average of \$174.50. The bulls, 20 head, averaged \$155, and 40 females averaged \$184.25. Mr. Healey's average was \$195, and Mr. Wilson's average was \$158.83.

A Kansas Farmer editor enjoyed a hasty view of the herd of Poland-Chinas owned by John D. Marshall of Walton, Kans., who now has, in addition to his farm near Walton, 20 acres adjoining the town, a recent purchase, and on these 2 places Mr. Marshall has 150 splendid specimens of the breed, which keeps him quite busy. Mr. Marshall has a long distance telephone, which gives quick communication with his farm, as well as neighbors and many distant customers. His herd is headed by Miles Look Me Over 18879, a sire which has made a specially desirable cross with his brood sows, making the produce much sought after by discriminating buyers and last year in the show ring at leading fairs the herd secured a large list of prizes so that this year Mr. Marshall will be out

with a strong show at the Kansas fairs, and will close the season at the National Swine Show at Kansas City in October. He will show his aged herd boar and the All Wilkes sow, Fingeds Off (54298), and 3 gilts and 2 boars, her 1900 produce, which will be exceptionally strong in the breeders' rings. Mr. Marshall has a very desirable lot of last fall pigs for present sale as shown by his new advertisement.

An immense Poland-China swine breeding establishment is now located at Mastin, Johnson County, Kans., within a few miles of Kansas City, on the famous breeding farms of H. Mastin. Mr. Mastin joins W. N. Winn & Son of Kansas City in the enterprise. It is intended to have 200 brood sows of the most desirable class. Further particulars will appear later in the Kansas Farmer.

New breeders of pure-bred Poland-Chinas in Sedgwick County are Chas. F. Wright & Son, of Valley Center, who will soon offer for sale about 100 pigs for fall delivery. The establishment will be known as Riverside Farm, one of the best located and equipped farms in the great Arkansas Valley. The herd boars now in use are Lawrence Perfection 2d, and Chief I Know 2d. The foundation stock is mainly from the herds of R. S. Cook and Elm Beach Farm.

J. R. Killough & Sons, Ottawa, Kans., who have been faithful and representative breeders of Poland-Chinas for many years, report as follows: "Our trade has been very good and we are well sold out. We have only a few boars left except two extra fine herd boars good enough for the show ring. We have 60 spring pigs sired by our sweepstakes boars: Tecumseh H 23668, Sweepstakes 23754, Young Chief 25481, and Chief Eclipse 22499, a lot of pigs hard to equal in breeding. Our herd boar Tecumseh, has developed into a fine individual, and if nothing happens to him, may be seen at the fairs this season as well as at the National Show at Kansas City in October."

No breeder in southwestern Kansas has enjoyed a better trade in Poland-Chinas this season than W. E. Nichols, of Sedgwick. Most of his fall pigs are sold except a few choice boars, which are now priced at reasonable figures. He has recently sold herd headers to M. M. Weaver of Newton, and A. C. Sells of Randall, Kans. Mr. Nichols, as announced heretofore in this paper, made some notable additions to his herd this year, selected from leading herds in Illinois. He has sent 2 sows to Burgess Bros., Ement, Ill., to be bred to their boar. Mr. Nichols has a splendid place adapted to the business, and will be heard from in the near future, as he has a desirable lot of brood sows that are extra producers.

Walton, Harvey County, Kans., bids fair to become quite a headquarters for improved stock, having several breeding establishments of a representative character and includes the well known herd of Poland-Chinas of John D. Marshall, a splendid herd of Shorthorns owned by G. D. Stratton & Sons, also a new herd recently brought here from Illinois by Cecil McArthur. Both of these herds give promise of becoming notable in Kansas, and more will be heard from them in the near future. Then there is a small herd of Hereford cattle owned by C. F. Walden. Mr. H. H. Hague & Son, an old time breeder of Poland-Chinas, sheep, and poultry at Walton, who after a few years' absence has once more returned and will be heard from later on.

M. O'Brien of Liberty, Montgomery County, is one of the many fortunate farmers of Kansas, possessing fine Poland-China swine, and alfalfa fields for their feeding. "He writes Kansas Farmer as follows: "My herd of Poland-Chinas are doing well on alfalfa pasture. I harvested my hay crop from the 11th to 20th of May. Some of it measuring 40 inches in height, making over 2 tons per acre. I have a fine lot of pigs of March and April farrow, sired by Jewell Black Chief, a grandson of the famous Missouri Black Chief; they are truly black jewels, and will be good sellers in September. The balance of my pigs are sired by Commodore Dewey 46187 A; this is the sweepstakes boar that received the \$100 premium at the Coffeyville fair in 1900. He will be seen again at the 1901 fairs."

Chicago horse market as reported by F. J. Berry & Co., Union Stock Yards, for the week ending May 28. The market is about steady, with a good firm demand,

Sleep

is Nature's time for rest; and the man who does not take sufficient time to sleep or who cannot sleep when he makes the effort, is wearing out his nervous strength and consuming his vital power. Dr. Miles' Nervine brings sweet, soothing, refreshing sleep. Don't let another night pass. Get it to-day.

"I am a druggist, so when I was troubled with insomnia a few years ago I took Dr. Miles' Nervine and found immediate relief. I have not been troubled with that disease since."
H. L. HOWARD, Madison, Wis.

Dr. Miles' Nervine

soothes the nerves, nourishes the brain, and refreshes the entire organism.

Sold by druggists on guarantee.

Dr. Miles Medical Co., Elkhart, Ind.

but prices on the plainer grades have declined a trifle from the high point reached a few weeks ago. The ruling prices on the better and choice offerings are fully up to that at which they were selling in April and the first part of May. The receipts continue about the same in number as the past two weeks, but the quality is hardly up to the average. There are the usual number of eastern buyers here and the exporters are buying freely. The city trade is brisk and there is a good demand from the city buyers, who purchase horses for immediate use. The demand for good first-class heavy draft horses is strong, and there does not seem to be enough of this class on the market or in the country to meet the requirements of the trade. Medium drafters and workers sell well and quickly at good prices, but may show a little weakness. Expressers are firm and bring good prices. Bussers are eagerly sought by the export trade, and the best ones command high prices, while the plainer ones sell readily at firm prices. First-class coach and carriage pairs and single horses of good style, size, and quality sell the best of any class, but they seemed to become scarcer and harder to find as the season advances. The call for medium drivers and road horses is active, and the prices are fairly well maintained. There is quite an inquiry now for horses with speed, and the demand is not very well supplied. Range horses are starting, and there promises to be a good demand this summer for good sized unbroken western horses. Receipts for the week, 2,326; shipments, 2,084.

ANGORA GOATS FOR SALE.

I have for sale five or six double-deck cars of goats, consisting of Recorded, High-class, Medium-class, old fashioned goats, about one hundred head of choice young bucks, and also two double-deck cars of fine Angora wethers, that are located thirty miles south of Kansas City. I can sell you any class of goats you may want at a reasonable price.

W. T. McINTIRE, Agent,

Kansas City Stock Yards.

Kansas City, Mo.

MOORE'S HOG REMEDY



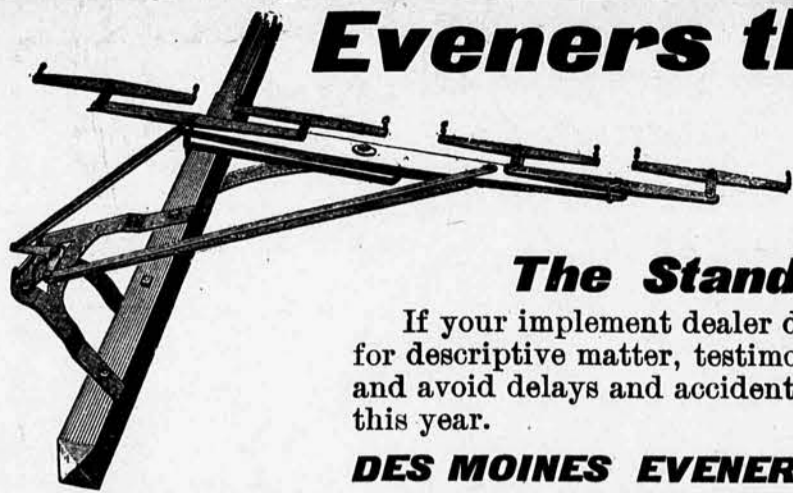
Used externally with dipping tank or sprinkler quickly cures Mange and Scoury and kills all Fever Germs, Lice, and other vermin. Given internally in small doses weekly, removes all

WORMS, CURES COUGH, IMPROVES APPETITE, AIDS DIGESTION, AND PRODUCES FLESH

Every stockman knows when hogs are properly fed and kept free from lice, mange, and worms, they grow and fatten, and as a result bring a better price.

FREE TRIAL—Call at Our Office and get enough Moore's Remedy to rid FOUR HOGS of all LICE, MANGE, and WORMS, or send us 10 cents (stamps) and we will forward it prepaid. A trial gallon at dealers, or direct from factory, freight prepaid, on receipt of price, \$3.00. Book, "Care of Hogs," free. Call or address

Moore Chemical and Mfg. Co., Dept. J, 1501 Genesee St., Kansas City, Mo.



Eveners that Give Satisfaction.

Cut shows No. 3 for left hand binders. No. 4 works on right hand binders

With extra irons either can be used on plows, right or left hand.

The Standard for Ten Years and More.

If your implement dealer doesn't carry them in stock we will sell you direct. Write us anyway for descriptive matter, testimonials, etc. Special price where none have been sold. Order early and avoid delays and accidents that always occur in the rush of the harvest season. Prices reduced this year.

DES MOINES EVENER COMPANY,

Des Moines, Iowa.

The Stray List.

Week Ending May 23.

Thomas County—Henry M. Thiel, Clerk.
 MARE—Taken up by M. J. Guy, in Lacey tp., (P. O. Gem), May 2, 1901, one roan pony mare, weight 800 pounds, branded I E C on left hip; valued at \$25.
 Russell County—Ira S. Fleck, Clerk.
 MARE—Taken up by Robert Foster, in Center tp., (P. O. Bunker Hill), April 4, 1901, one bay mare, about 10 years old, weight 900 pounds, white spot in face, hind feet and one front foot white, shoes on front feet; valued at \$10.

For Week Ending May 30.

Lyon County—H. E. Peach, Clerk.
 MARE—Taken up by G. E. Gorman, in Agnes Tp., (P. O. Allen), one black mare, 4 years old, weight 800 pounds, scars on both shoulders. Right hind foot white.
 Marshall County—James Montgomery, Clerk.
 MARE—Taken up by Ed Phillip, in Balderson Tp., on May 11, 1901, one sorrel mare pony, with four white feet, weight about 900 pounds, branded with the figures 21, small white spot on right flank, white strip in forehead, sweetened in both shoulders, value \$10. Brand on left hip.

For Week Ending June 6.

Cherokee County—C. W. Swinney, Clerk.
 HORSE—Taken up by D. McKenzie, in Springvalley Tp., on May 13, 1901, one brown horse, 10 years old, sheared mane, tall hobbled, shod all round, right hind foot white.
 MARE—Taken up by James Murphy, in Lyon Tp., on May 15, 1901, one sorrel mare, Mexican or Texas, shod; valued at \$20.00.
 HORSE—Taken up by H. T. Walker, in Lyon Tp., on May 10, 1901, one gray horse, collar marks, shod; valued at \$20.00.
 HORSE—Taken up by M. B. Pruett, in Mineral Tp., on April 25, 1901, one bay horse, 10 years old, 14 hands high, branded "J" on left hip and shoulder; valued at \$20.00.
 Cowley County—Geo. W. Sloan, Clerk.
 STEER—Taken up by S. I. Peering, in Silverdale Tp., (P. O. Townsend), on March 25, 1901, and 2-year-old, red and roan steer; valued at \$20.00.
 Reno County—Wm. Newlin, Clerk.
 HORSES—Taken up by Alex Shultz, in Reno Tp., (P. O. Hutchinson), May 24, 1901, one bay gelding, 4 years old, (brand) 4 bars crossed, valued at \$30; one sorrel gelding, 4 years old, (brand) bar L, valued at \$20.
 Osborne County—W. H. Mize, Clerk.
 MARE—Taken up by M. Lochar, in Hancock Tp., (P. O. Osborne), one bay mare, about 9 years old, weight about 1200 pounds, with a stripe in face, valued at \$75.
 Nemaha County—A. G. Sanborn, Clerk.
 MARE—Taken up by Georgia Clelland, in Harrison Tp., (P. O. Goffs), May 14, 1901, one red roan pony mare, 9 years old, on left hip, valued at \$10.
 Marshall County—James Montgomery, Clerk.
 HEIFER—Taken up by L. W. Chesley, in Vermillion Tp., (P. O. Frankfort), May 9, 1901, one three year old heifer, hole in right ear, left ear cropped, white on top of shoulders and belly, switch end of tail white also hind legs, body red, dehorned, but horn on left side shows stub, valued at \$15.

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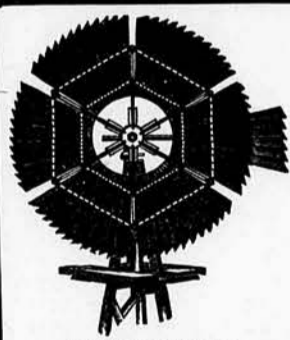
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BIENNIAL MEETING, General Synod Evangelical Lutheran Church, Des Moines, Ia., May 29-June 10, 1901. For the above meeting THE UNION PACIFIC has made the Very low Rate of One Fare and One-third on certificate plan, from Denver, Cheyenne, and points east thereof.

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The Home Circle.

THE FAULT'S IN KANSAS.

Jim Bill's long an' lank an' lean,
A farmer true, but farmer green,
As ever any one has seen,
In Kansas.

He plants his taters in the sod,
His melon seeds beneath a clod,
An' trusts the rest, he says, to God,
In Kansas.

The weeds is smotherin' out his corn,
His oats looks yellor, sick an' lorn,
His tater vines haint yet been born,
In Kansas.

He spends his Saturdays in town
A cussin' things an' lookin' roun'
An' findin' fault with all he's foun'
In Kansas.

He's got a mortgage on the cow,
The horses, farm an' cart an' plow,
An' even on the half-starved sow,
In Kansas.

The fault, he says, is not in him,
For all these circumstances grim,
The fault is every bit, says Jim,
In Kansas.

—O. B. Whitaker, Shady Bend, Kan.

THE MAN OF THE WEEK.

Brigham Young.

(Born June 1, 1801; died August 29, 1877.)

Few men have received more and harsher criticism than Brigham Young. That he was a religious fanatic few but those of his own faith will deny. That he had great influence in hastening the development of the West none will dispute but those who do not know the history of the growth of the farther West.

With all his bigotry and all his zeal for his church, Brigham Young was a clear-headed, calculating man of affairs, a born captain of industry. He was a leader of men and an organizer of forces. To win was a cardinal doctrine of his creed, perhaps the chief of his practical yet unwritten articles of faith. Not all the winners in the hurly-burly of business are careful of the method; with them the one important thing is to win. Methods must suit the circumstance and the stern necessity of succeeding. There are reasons for believing that the leader of the Mormons was not over-scrupulous in choosing his methods. In the expressive language of the day, he "got there," and that is supposed to make many crooked ways straight.

But the purpose in writing this sketch is not to measure Brigham Young by any moral standard, or even to question or affirm his own loyalty to the faith he professed. Whatever his merits and failings as a man and a religious leader, there is no doubt concerning his ability and force. He impressed himself upon his people, and made for himself a noteworthy place among the industrial leaders of the West.

Prof. Elwood Mead, one of the highest authorities on irrigation in the United States, says: "For the beginnings of Anglo-Saxon irrigation in this country, we must go to the Salt Lake Valley of Utah"—where Brigham Young planted his colony and superintended the putting in of the first crop of potatoes. Professor Mead says further, as if to emphasize the importance of the Mormon contribution to irrigation development: "Utah is interesting, not merely because it is the cradle of our modern irrigation industry, but even more so as showing how important are organizations and public control in the diversion and use of rivers."

While the farmers throughout the United States were learning all the disadvantages of individualism and competition, those in the desert by the Great Salt Lake were learning the advantages of coöperation. True enough, the Mormon farmers were practicing coöperation because their imperious leader required them to help each other; nevertheless, they learned the lesson—all the more credit to their domineering president! To this day, the most successful irrigation enterprises in Utah, as well as in Colorado, are coöperative in spirit and method.

It was said years ago by an unsentimental railroad man that the building of the Pacific railways was hastened twenty years by Brigham Young. What a tribute to the influence of the leader of a despised and almost outlawed religious sect!

Let it be remembered that Brigham Young led a band of religious enthusiasts 2,000 miles through an almost trackless wilderness; that the settlers of Salt Lake Valley, in twenty-two years, reclaimed and had in cultivation under irrigation nearly a hundred thousand acres of land; that they developed their agriculture and built their

cities under new and strange conditions and in spite of what would seem to have been the most unfavorable circumstances—remembering these facts, and the additional fact that every man's hand seemed to be against them, is it remarkable that thousands of western people, who despise Mormonism, have great respect for the industry and thrift of the Utah Mormons and unqualified admiration for the genius of their great leader?

So long ago as 1869 the United States Department of Agriculture was able to report the acreage of crops in Utah as follows: "In cereals, 80,518 acres: sorghum, 1,817 acres; root crops, 6,839 acres; cotton, 166 acres; meadows, 29,876 acres; apple orchards, 906 acres; peach orchards, 1,011 acres; grapes, 75 acres; currants, 195 acres." And yet the first settlement was made at Salt Lake in July, 1847, by people who carried their goods across the desert in ox-wagons and hand carts!

The Capital of Mormonism, now a city of more than 50,000 souls, is a monument to the sagacity, perseverance, and downright force of character of Brigham Young. By his organizing power he made a harmonious and prosperous community out of the most various and naturally inharmonious elements—the poor, the downtrodden, and the ignorant from a hundred European cities, together with a nucleus of native Americans. Their faith was the one thing they had in common. They were brought from the crowded cities to the desert and were given lands and tools and shown how to work. Work, with the ownership of a spot of ground and the assurance of sympathy and help, was what most of these poor people needed. With these, there was hope for them. With these, they became respectable citizens of a community whose only discreditable characteristic is adherence to polygamy.
Denver, Colo. D. W. WORKING.

A Hindoo Legend.

There are many curious legends believed in by the Hindoos, and among them is the one concerning the origin of woman.

Twashtri, the god Vulcan of the Hindoo mythology, created the world. But on his beginning to create woman he discovered that with man he had exhausted all his creative materials, and that not one solid element had been left. This of course greatly perplexed Twashtri, and caused him to fall into a profound meditation. When he arose from it he proceeded as follows: He took the roundness of the moon, the undulating curves of the serpent, the graceful twist of the creeping plant, the light shivering of the grass blade, the tenderness of the willow, the velvety softness of the flowers, the lightness of the feather, the gentle gaze of the doe, the frolicsomeness of the dancing sunbeam, the tears of the clouds, the inconstancy of the wind, the timidity of the hare, the vanity of the peacock, the hardness of the diamond, the

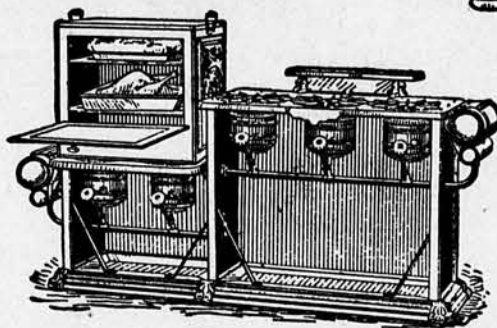
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Brahmin View of East and West.

The subject of social intercourse between Europeans and Indians has frequently been a grand theme with some writers and speakers. There are men who are too ready to throw the whole blame for the existing state of things on the Europeans, who are charged with refusing to accept Indians on terms of perfect equality, while, as a matter of fact, it seems to us that, except in purely official relations as between superior and subordinate, it is the Indian that considers himself to be of a purer caste and incapable of adjusting his scruples and his habits to the requirements of European society. The pride of caste is still very strong in the Indian, and however submissive and respectful he may be in the presence of the European official, in his heart of hearts he believes himself to be of a superior order.—Madras Hindu.

Safety of Ocean Travel.

The comparative, one might almost say absolute, security of ocean travel could not be better illustrated than in the latest trips of the Atlantic liners. A storm raged, the fierceness of which passes all memory, and yet every ship came in. They were late, of course, all of them. Every one of them had been battered with countless tons of water, hurled with immeasurable force, and time and again the mighty liners were tossed like corks upon the waves. But they conquered triumphantly. Fastenings were torn from the decks and even propeller blades were lost, but they plowed steadily forward. There was a diminution of speed, but they went on. That wonderful machine, the essence of power, known as the Atlantic liner, is superior to the tempest. The mind of man subdues, if not directs, the elements.—Marine Review.

Roads of England.

After the abandonment of Britain by the Romans the roads fell into disuse, and the bridle paths formed the only means of communication. Not until the sixteenth year of Charles II.—that is, 1676—was any systematic effort made to improve the roads of England.—Chicago Inter Ocean.

Excursions to Buffalo Exposition.

Via Nickel Plate Road, on May 7th, 14th, 21st, and 28th, respectively, at rate of \$13 for the round trip from Chicago; good returning five days from date of sale. Three through trains daily, with vestibuled sleeping cars and first-class dining car service. For particulars and Pan-American folder, write John Y. Casaman, General Agent, 11 Adams St., Chicago. Depot, Van Buren Street and Pacific Avenue, Chicago, on Elliptical Loop. (8)

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(Carrie Nation's paper.)

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A Warning.

Postman—Well, that's great!
Citizen—What's great?
"That woman over there says if I don't come along earlier she'll get her letters of some other postman."—N. Y. World.

The Young Folks.

ON BROWN'S ABANDONED FARM.

You'd orter lived in Gungawamy when Miggles came to town; He wuz that city chap who bought the farm of Cephus Brown An' settled out on Willer road, to farm it, while he read From books on how to run a farm with nuthin' but his head. He said he liked the country best, the city made him tired, An' jest a little country place wuz all that he desired; An' so he swaped his city home for Brown's abandoned farm. An' settled down to what he thought a life of joy and charm.

An' life went smooth an' well till spring-time come around, Till it wuz time to plow an' plant an' fertillize the ground. He tried to turn some bran'-new soil, an' what you think he done? He used a cultivator. An' mebbe there warn't some fun On Willer road! The ground looked like they'd be'n a hurricane, With here an' there a ragged spot in which he dropped some grain; An' when he planted beans he put the bush beans 'round a pole, An' sowed the Limas in a drill—he did, upon my soul.

He put pertaters in the ground, three hull ones in a hill, An' when they once began to sprout they spread an' spread until His patch looked like a buckwheat piece, with blossoms full as thick; But Biggles he wuz proud of it, it looked so mighty slick. An' when he told us 'bout his corn I thought we'd hev a fall— He dropped an ear in every hill an' planted cobs an' all; An' we could see that by-an'-by things wouldn't be so calm Ez what he professed they'd be on Brown's abandoned farm.

Be bought a half-a-hundred hens, the finest he could buy, An' watched them growin' fat an' slick with ever anxious eye; Put nary egg lit up his gaze; so, one dark gloomy day, He sold 'em back at half their cost, becuz they didn't lay! He bought some steers of Hiram Jones, which Hiram 'lowed wuz broke, But sarcumstances shortly proved they'd never be'n in yoke; They were not broke at all, it seemed, but Miggles wuz, it's true, Ez well ez every farmin' tool he tried to hitch 'em to.

Then Miggles tried to hay it some; an' by the winds that blow He let it cure upon the stalk before he tried to mow. An' when he'd gathered in his crop Hank Wuz 'bleeged to leave some hay outside, his crop panned out so big. Waal, things they went from bad to worse; an' when his stock took flight Poor Miggles he threw down the hoe, an' then threw up the fight. He's gone back to the town again, that 'bode of sin an' harm; An' now a sign reads, "Place for Sale," on Brown's abandoned farm. —Jone Cone, in Puck.

Wild Animals in Winter.

BY CHARLES FREDERICK HOLDER, IN SCIENTIFIC AMERICAN.

The devices of animal life to bridge over the winter season, and their ways and habits during this time, present an interesting, indeed fascinating, page of nature. Why certain forms should defy the elements and roam abroad, seeking a precarious livelihood, while others, much stronger and apparently better equipped by nature to survive the struggle, enter the strange and remarkable winter sleep with all their functions in abeyance, and sleep away the winter, is one of the problems that is of more or less interest. The fox well illustrates the former with its winter habit of prowling over the snow.

IN THE NORTH.

At the approach of winter, animals are affected in various ways. In the North all the reptiles—snakes, lizards, frogs and toads, a vast concourse—disappear in a most miraculous manner. The snakes enter holes and crevices, projecting themselves as far into the earth as possible, and, coiled tightly, assume a condition, a state of coma, in which they remain until the heat of the sun comes to waken them the following spring, when they appear voracious, and eager for prey to rehabilitate them physically after months of fasting. The frogs plunge down into the mud of the ponds where they have made music during the long summer; and the same is true of turtles. Lizards affect the same places as snakes, and when taken out at this time are apparently lifeless. In some marvelous manner the functions of life are arrested. There appears to be a minimum consumption of tissue; nature apparently making an exact calculation, the functions of life being so almost completely arrested that they are enabled to lie in this quiescent state without food or water, or until the food supply

comes again and the conditions are favorable to outdoor life.

IN WARM CLIMATES—WHERE NIGHTS ARE COLD.

This is the case with the reptiles of the Eastern and Middle States, or wherever there is a cold winter, ice and snow; but on the Pacific slope, in Southern California, in the same latitude as the above, a different condition holds. Here—and the San Gabriel Valley may be taken as an example—the lizards are subjected to a winter and summer every twenty-four hours. There is no snow, the days are bright and beautiful, resembling a cool eastern summer, and insect life does not disappear. All winter I have found lizards basking in the sun on these bright days, but as the winter day wears on and four o'clock approaches, there is a very material change—a strange chill that affects reptilian life at once. It is their winter, and just as the eastern lizard creeps down into the earth for shelter and enters its winter sleep, so this California lizard crawls out of sight beneath rocks, into crevices or under the bark of trees, and enters what is the equivalent of a state of coma. It seems to shrivel, becomes seemingly intensely cold, often stretches out its entire length and lies, to all intents and purposes, dead and lifeless, in this way passing the night until nine or ten o'clock in the morning, when the rays of the sun slowly bring it back to life.

This curious night coma is, so far as appearances go, identical with the winter sleep of eastern lizards. The functions are in abeyance for the time and life is at its lowest ebb. In observing these sleepers I have found them by turning over the piles of stones early in the morning, and have often found a row of them, limp, cold and apparently dead, lying in the sun, to watch the gradual return to life. It came very gradually; those lizards placed on their backs first showing signs of life by a quivering of the limbs, which were then drawn up; then the long tail would move, and finally the little sleeper would clumsily roll over into an upright position; and as the direct rays of the sun struck and warmed it into life its eyes would grow brighter, and suddenly, as though touched by some magic wand, its head would be lifted high, the blue breast-plate gleaming in the light, and with an air of astonishment and alarm this sleeper awakened would dash over the ground and escape, once more a living creature, a type of activity, a menace to insect life. Every night in the California winter this occurs, and the condition can easily be superinduced by subjecting the animals to artificial cold. The bears in Southern California are found abroad at all times, while in the northern part of the State and in the East they enter into a complete state of hibernation, going into their winter sleep well conditioned and fat, evidently living on the latter until spring, when they emerge lean and ugly.

CHANGE OF COLOR.

The change in color of animals at the approach of the winter season is one of the remarkable features of life. The ermine as an example and several others assume a white coat, the change being a protective feature. The ptarmigan has a similar habit, a change which renders it inconspicuous to its various enemies.

BIRDS.

At the approach of winter the birds perhaps present the most remarkable spectacle. With some few exceptions they move away from the conditions which threatened them; and in what is popularly called the departure and return of the birds we contemplate a wonderful migration, in which the highest instinct of self-preservation appears to have been developed. The birds of the coast have a definite line of migration; the shore line at this time constitutes a bird highway, over which tens of thousands are passing—in the autumn to the South, where there is a food supply; in the spring to the North, to the fields they know so well, and the nesting places where the young are to be raised. Much of this migration is carried on at night high in the air, and during storms myriads of birds are often confused and killed by dashing blindly into the lighthouses that mark the highway. At Helligoland Light the ground in the morning is frequently strewn with birds, from ducks and geese to the smallest songsters. In the interior the birds follow valleys and the mountain ranges. On the Pacific coast the Coast Range and Sierra Nevada Mountains constitute a well defined line of travel. In

SALLOW WOMEN

A disordered digestion makes itself manifest in a muddy or blotchy complexion, nervous weakness and irritable temper. The right remedy is

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Southern California the flight of cranes and geese along this pathway is a remarkable sight. The birds, especially the cranes, cover long distances by soaring, gradually reaching within rifle shot from the ground; then they stop and begin a spiral movement, turning in graceful curves, flashing like silver dollars in the sunlight as they turn and disappear, rising ever higher until they are a mile or more above the valley, or above the summit of the Sierra Madre; then, as though at the command of the leader, they turn, and in long lines soar away with remarkable velocity, literally sliding down hill, covering six or seven miles or more before the maneuver is repeated.

The winter finds the trees, groves and gardens deserted except by the few forms which defy the cold. The birds are in the South—Florida, Cuba and even South America; the reptiles are housed underground; insect life has been destroyed or is hibernating, and will spring into life in the spring. The only animals abroad are the mammals; the deer, elk, caribou, fox, cougar, wild rat, lynx and other forms, which wander over the barren wastes and in the deep snows of the woodlands, finding a precarious living until the spring comes, the wanderers return and all life takes on a new meaning.

Future of Balmoral.

In Scotland there will be keen and anxious desire to know whether the country is to have the good fortune to continue in intimate relation with the home life of the court. The queen's intentions respecting Balmoral were not known outside of her most intimate circle, but it is certain that these intentions must have been to maintain the connection of the royal family with a residence so closely associated by its relics, its cains, its every feature with her life. It is therefore natural to conjecture that it will pass to the king. No other member of the royal family could easily undertake its maintenance.—The Scotsman.

Gates of the Land of Promise.

No one can watch a load of immigrants land without being struck by the astonishing signs of hope and confidence about them all. There has never been any exaggeration of this. Incredible as it may seem to one who knows how grim is the struggle for life among the masses in America, it is evident that this is still the land of promise to the poor of Europe.—Scribner's Magazine.

A Gold-Lined Goose.

A sensation was caused in New Westminster, near Vancouver, the other day, by the discovery of \$12 worth of fine and coarse grain gold in the crop of a wild goose. The goose was shot at Pitt Lake, which is fed by numerous mountain streams. The sand bars along the shore were known to contain gold, but had never been prospected.—Chicago Record.

Accounts Rendered Monthly.

Bilton—There is no accounting for tastes.

Wilton—There isn't, eh? Well, you just marry a woman with expensive tastes, and see.—Brooklyn Life.

Thieves Rob Humbert's Tomb.

The invasion of the Pantheon by thieves and the desecration of the last resting place of King Victor Emmanuel II. and King Humbert has sent a thrill of horror and indignation all over Rome. What the thieves supposed to be the iron crown of Lombardy and the collar of the Order of the Annunziata was stolen, the thieves disturbing the body of King Humbert in order to secure the historic relics. As usual the originals, which are fabulously valuable, were removed after the funeral ceremonies and papiermache replicas substituted.—Little Chronicle.

Animal Invaders of Europe.

Mr. L. Stegner showed before the Biological Society in Washington at its December meeting how there have been three migrations of Siberian animals into Europe. The first two occurred in connection with the age of ice, but the third is still in progress, and both birds and mammals are now passing from Siberia into Scandinavia, the most travelled route of the invaders lying along the shores of the Arctic ocean.—Youth's Companion.

An Earlier Bird.

City Boarder—I suppose you're up with the lark?

Farmer—Before that, I have to get the hired man up with the lark.—Puck.

Sudden and Severe

attacks of

Neuralgia

come to many of us, but however bad the case



St. Jacob's Oil

penetrates promptly and deeply, soothes and strengthens the nerves and brings a sure cure.

PARLOR ORGANS At a Big Reduction

The world's largest music house, Lyon & Healy of Chicago, to sharply reduce stock is offering unprecedented values. Fine Lyon & Healy Organs formerly bringing \$65, now \$35; Organs formerly \$75, now \$42.50. Used organs from \$10 up. The freight on an organ is a very small matter. We ship organs everywhere. Our organs contain many new improvements and are by far the best. Write today for catalog.

15 Adams St., LYON & HEALY, CHICAGO, ILL.

The Topeka Business College

Large School, Reasonable Rates, Good Positions. Catalogue Free. Address L. H. Strickler, Topeka, Kans.

KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - - TOPEKA, KANSAS.

E. B. Cowgill.....President
J. B. McAfee.....Vice-President
D. C. Nellis.....Secretary and Treasurer

SUBSCRIPTION PRICE: - \$1.00 A YEAR

E. B. Cowgill.....Editor
H. A. Heath.....Advertising Manager



ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch).

Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.

Annual cards in the Breeders' Directory, consisting of four lines or less, for \$16.00 per year, including a copy of the Kansas Farmer free.

Electros must have metal base.
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

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

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

Address all orders:
KANSAS FARMER CO.,
116 West Sixth Ave., Topeka, Kans.

NOTICE EXTRAORDINARY. BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, and no single subscription will be entered for less than this price, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

With dressed beef steers selling up to \$5.50, and hogs up to \$5.95 at Kansas City, with No. 2 wheat selling up to \$0.76½ and corn at \$0.44½ at Chicago, the man who produces these staples from the rich soil of Kansas is readily conceded the right to considerable influence in the business, the financial, the economic, and the political world. This is as it should be.

Again it becomes necessary to remind contributors that it is necessary that the full name of the writer accompany every article to which the attention of the editor is desired. The waste basket stands yawning beside the editor's desk. While signed articles, especially those giving experiences on the farm, are gladly welcomed, anonymous papers are not wanted. If for any reason a contributor prefers that his name be not printed his wishes can generally be respected.

Whatever may be said of the hog crop—and some have reported a deficiency—the marketing for May indicates a liberal supply. The five chief western markets show larger receipts for the month just closed than for any other May of the record. The total is reported to have been 1,707,000 or 125,000 more than for May last year. Of this increase 100,000 occurred at Kansas City. The gain in hogs was just about offset by the decrease in cattle, amounting to 22,000 head.

The Kansas crop situation took a decided turn last Monday night. Tuesday morning's daily papers came out with jubilant head lines probably as much above as Sunday's were below the mark. That the northern portion of the Kansas wheat belt had a good soaking is evident from the reports. The Santa Fe offices report that the rains extended along the main line as far as Kinsley. Undoubtedly the rain is worth millions of dollars to the growing crops of Kansas. It is too early to say the wheat crop is made, but should favorable conditions prevail from this date to harvest there will be little to regret.

FOR A FAIR.

At the called meeting of the Shawnee Breeders' Association State Exposition Company and the entertainment committee of the Topeka Commercial Club, the project of a State fair this fall was discussed. A committee was appointed, of which O. P. Updegraff was chairman, to wait upon the County Commissioners to see what could be done in relation to the grounds and the fair for this fall. The County Commissioners for some time have been unable to do anything with the grounds to make them remunerative to the county, while on the other hand they have been a continual expense. The committee asked of them a sum not less than \$4,000 to assist in replacing the grand-stand and cattle barns. This sum would have been readily granted by the Commissioners had they the money in general funds, but as it was not there the request could not be granted. They, however, were more than willing to do anything in their power to assist the stockmen in arranging a State fair. With that object in view, they consented to give to the State Exposition Company, first—a lease of the fair grounds for 10 years with the privilege of 10 more; second—to keep all buildings placed on the grounds insured at the expense of the county; third—to repair the fence around the grounds and all buildings now on the premises. In addition to that they have agreed, if a sufficient number shall petition, to call for a vote at the next general election on the proposition, shall the County Commissioners levy a tax of ½ mill for two years for the purpose of raising funds to erect permanent buildings on the grounds? It is believed that, in order to protect the grounds and to encourage the show of live stock at a State fair, men will readily vote this tax. In view of this fact the Commercial Club have called a meeting for the purpose of completing the organization of the Kansas State Exposition Company, at their rooms on Wednesday evening, June 5th.

GERMICIDES.

The discovery that most diseases of people, of animals, and of plants, result from living germs which prey upon the tissues, is a step in advance which is proving valuable to mankind. These living germs are classed as plants and many of them are very susceptible to adverse influences. Not all germs are harmful. Many are useful. A typical useful germ is common yeast. It is by some held that germs are essential to the digestion and other processes of the animal body. Doubtless the near future will disclose more than is now known of the relations of these classes of plants to higher forms of life. By the aid of the microscope the observable characteristics of most germs, or bacteria, may be determined. One by one the harmful, the indifferent, and the beneficent are being described.

It is fortunate that many of the malvolent are susceptible to be killed by some reagent. In some cases this reagent is entirely and in others nearly harmless to the host in which the particular form of bacteria may be working destruction. A notable illustration is found in the case of that frightful children's disease, diphtheria. Up to a few years ago a very large percentage of those who contracted this disease died. It was found that this disease is the result of living germs which prey upon the blood. A medicine called antitoxin was discovered. Injected into the circulation, antitoxin kills the diphtheria germs and the patient speedily recovers. Since the introduction of this remedy in Topeka, every case of diphtheria in which it has been used has recovered. In scarlet fever there is a great tendency to the formation of pus, especially in the glands of the neck. Pus is caused by a particular kind of bacteria. An antitoxin for these bacteria has been discovered and physicians who use it are able to kill the pus germs and save the patient. The dread disease consumption kills more human beings than any other one ailment. An antitoxin for tuberculosis is reported. Should this be produced cheaply enough to admit of its use for both people and animals it may be possible to exterminate consumption.

The use of vaccine as a preventive of smallpox proceeds on another theory. Vaccination gives to the patient a mild form of the disease. It is valuable in all diseases which a subject can have but once, or which having had, the subject is immune for a considerable time. This is notably the case in blackleg of cattle.

A curious case of an effect of inoculation with bacteria is reported from the Kansas State University. The al-

bino has long been a mystery to science. A University professor has found that the white skin and pink eyes of the Albino African result from the action of bacteria. He has been able, according to the newspaper reports, to cultivate these bacteria and has introduced them into the blood of both white and colored. In the case of the white man he became an albino with deathly white skin and pink eyes. But his "culture" was of such potency that its effect on negro subjects was to change the skin to brunette, while the eyes and hair were unaffected. Report has it that the professor's laboratory is thronged with applicants to be made white. No doubt the practitioner who will prepare to administer this kind of medicine can do a thriving business.

Bacteriologists are busy trying to find a specific cerum with which to kill each kind of germ which produces disease in either man or beast. Notable progress has rewarded their efforts. It is even now predicted that the time is coming when the three score years and ten, now considered the maximum span of life, will be lengthened to five score years, while hale and hearty maturity will characterize the octogenarian. Animals should then live as long as desired by their owners, the sweeping losses by swine plague and blackleg being known only as curiosities of history.

The opportunities for progress during the twentieth century are such that those who see its close may easily look with commiseration upon those who are battling with the bacteria and other enemies with which life is infested at its opening.

THE OTHER MAN'S GAME.

The folly of trying to play Wall Street's game with the experts at that kind of gambling is well illustrated by some of the sequences of the excitement of a few weeks ago. People throughout the country had been allured into investing in "margins," with the expectation that prices of stocks would continue to advance. By this plan of investment the purchaser pays a percentage of the value of the particular shares he or his broker selects, and the broker, or the broker's banker, carries the balance as a loan, holding the shares as security. While prices are advancing the going is easy for the investor. But during the recent panic prices fell rapidly and brokers and bankers sold out such stocks indiscriminately. It turns out that many holdings, on which the margins were ample, were sold. Stocks rapidly recovered their normal values and the panic purchasers were enriched, while the money invested by the greenhorn, in the country towns, has been forfeited. He may sue for it, but a lawsuit against a member of the Wall Street combination of speculators, to recover the swag they have obtained in the course of the game, is poor recompense for hard-earned dollars.

It is better to keep out of the game as a matter of prudence, even for such as have no conscientious scruples about that kind of gambling.

The daily papers are amusing themselves greatly by varieties of reports as to the condition of the wheat crop. Last week's variety was conspicuous. On May 31 the following was printed: "Kansas is the kingdom of wheat. No other State approaches it. This year it will probably lead out with nearly 100,000,000 bushels of spring and winter wheat, the climax even in Kansas." Two days later the scare heads announced "Kansas Wheat in Danger!" Sober-minded people will read the official reports of the government crop and weather service in the KANSAS FARMER and will have the uncolored facts of the case.

The Mark Lane Express is an English authority on crop statistics and prices. Its weekly review of the crop situation last Monday was summarized in the following cablegram:

"It is already clear that British crops will be very irregular; but we do not despair that wheat will be up to the average yield. Grub and other pests are much in evidence.

"The crops promise well in Russia, Italy, Spain and Algeria, but there is only mediocre outlook for France, Austria-Hungary, Roumania and Turkey.

"There is distinctly less than the average promise for Germany and parts of Poland.

"The regions where there is over an average wheat promise may be expected to produce 150,000,000 quarters; the regions with an average promise, 75,000,000 quarters, and the regions with a deficiency 25,000,000 quarters. Undeniably, these figures are quite sufficient to account for the very quiet markets."

MORE PURE-BREDS AT THE COLLEGE.

Charles Morrison, Phillipsburg, has presented to the Kansas State Agricultural College a pure-bred Red Polled heifer. This heifer is the first of this breed to be owned by the college. She comes from a large strain of the breed, her sire weighing 2,040 pounds in light flesh.

The college has just received two pure-bred Shorthorn heifers, one from T. K. Tomson & Son, and the other from T. P. Babst, both of Dover, Kans. Mary of Elder Lawn, the Shorthorn from the Tomson herd, was sired by Gallant Knight, who won with his get 14 prizes at the National Shorthorn Show, Kansas City. She is a splendid animal and comes from an unusually productive family; her grandam, now 14 years old, is suckling her thirteenth calf. Easter Lily, the Shorthorn from Babst, is a Cruickshank topped heifer, belonging to the famous Phyllis family and brings to the college some of the most noted show ring blood in America. These heifers are valued at \$500 each and will be used to show the students the form a beef animal should have to make money.

The binder twine made at the Kansas penitentiary is interfering with prices sought to be established by the "regular trade." Dealers who have loaded up with the high-priced article are trying to make it appear that the State twine is of inferior quality. Inspection shows this change to be without foundation. When a shrewd dealer like E. R. Moses of the E. R. Moses Merchantile Co. of Great Bend, buys penitentiary twine by the car-load it is safe to presume that it is all right. If your dealer do not handle State twine write to Warden of the penitentiary, Lansing, Kans., for samples and prices. No one need pay fancy prices for twine this year.

When Prof. F. H. Snow allowed the position of chancellor of the Kansas State University to be thrust upon him he made a sacrifice that was scarcely compensated by the increased salary. As an investigator in the field of natural history, Professor Snow had attained an enviable eminence. The duties of the chancellor are chiefly executive and they are so great and so exacting as to require the full strength of a strong man. The work of the chancellorship is more wearing than that of the professorship and the prominence resulting from it is less enduring. While Snow is entitled to be enrolled as the university's greatest chancellor to this date, the next century will know more of him as an investigator than as an executive.

A POLLED-HEREFORD ASSOCIATION.

In the KANSAS FARMER of May 23d it was stated that there is no recognized breed or herd book of cattle named Polled-Herefords. At least no State or national show has ever made such a classification so far as known, or ever given recognition to such breed of cattle. However, it seems there is an organization formed as shown by the following from Mr. S. A. Converse, of Cresco, Iowa, a breeder of Red Polled cattle, who, in a recent letter to the KANSAS FARMER, says: "About one year ago there was organized an association named The American Polled-Hereford Association, and I received from the secretary, Warren Gammon, of Des Moines, Iowa, a copy of the constitution and by-laws and rules of registry. Any animal of standard Hereford color and markings and being without horns is eligible for registry. There are parties crossing Red Polled bulls and Hereford cows for the purpose of getting animals eligible for this registry."

Electricity at Buffalo.

At no previous exposition has electricity played such important parts as at the Pan-American. It is the very life of the big show, not only by night but also by day. At night the presence of the transmitted energy of Niagara is made manifest in the beautiful illumination which has won for the Pan-American the name of the City of Light.

This name is well-deserved, for it is not only reflective of the hope of humanity, but it also defines the nature of the brilliancy that is winning such unstinted praise from every person who sees it.

But in the day time, when there is no need of the electric current for the illumination of the grounds and buildings during the period when Old Sol reigns supreme, electricity is everywhere present about the buildings and grounds, and it is doing its part to

make the exposition a truly grand success.

The fish in the fisheries exhibit are supplied with water by a motor that is electrically operated. Part way up the electric Tower there is a restaurant, and an electric pump furnishes the water for use there. In the Machinery Building there is a 10-horse power motor operatively connected to a Deane steam pump known as a four-inch by eight-inch triplex single acting pump, delivering 49 gallons per minute against 189 pounds pressure.

There are other motors at work about the grounds and the current that operates them comes from Niagara Falls. There is work by day as well as by night for the energy of Niagara, and thus it is demonstrated that the power supply of Niagara is ever constant. There is no eight, ten, or twelve hour shift with the force of this wonderful river, but hour after hour, day after day, week after week, month after month, and year after year, as unceasing as has been the flow of the current of the river, this modern power of Niagara is always on top. Centuries will roll on, and generation after generation will find the same response from the throwing of the switch that controls Niagara's force as is found and enjoyed to-day in the grounds and buildings of the Pan-American Exposition.

Farmers Organize.

A meeting of the farmers was held at Rozel, Pawnee County, Kansas, on May 29, and a company was organized to build an elevator and handle the grain of its members and buy and sell on commission or otherwise. The following officers were elected to serve for one year: M. K. Krider, president; E. W. Fromong, vice-president; A. H. Smith, secretary; O. B. Tieknor, treasurer. Board of directors: S. W. Tuttle, D. E. Haldeman, M. K. Krider, A. H. Smith, O. B. Tieknor, C. Werner, A. Fromong.

Good for Producers of Horses.

The following press dispatch of May 30 from New York is calculated to produce a cheerful feeling among breeders of horses:

The notable revival of the horse trade here and in other large cities is becoming a matter of much comment. The public sales stables are having an unusually large attendance, with prompt demand for fair priced and more expensive animals.

Scarcity of horses helps to account for the strong conditions of the trade. The South African war drew away from this country fully 25,000 head, but a strong reason for the diminished supply is the apathy of many farm breeders who fancied, with a host of other people, that the coming of electric or other power for vehicles would put an end to the demand for horses. This has materially reduced rearing, and consequently stocks have run down in a wide area of farm districts, while town supplies have become perceptibly worn out with use.

All prime, sound horses of proper age, are fully 50 per cent higher than they were three years ago.

A Duroc-Jersey Tale.

The London Meat Trades Journal is authority for the following tale:

One of the largest hogs ever raised was, on Friday, the 26th inst., slaughtered at Plough Wood farm, Essex. This huge swine, which was the property of William Harris, of West Smithfield, and was a Jersey Red boar, 2½ years old, weighing alive, 1,610 pounds, and dressing 1,327 pounds. It was 2½ feet across the loin, 2½ feet across the hams, and 9 feet in girth, and measured over 9 feet from the tip of its nose to the end of its tail. This makes the hog 3 feet through. It is split at the shoulders and to look into the carcass is like looking into the crevice of a cavern. The carcass spreads across the perspective of the store like a Titanic statue of pork personified. It also looks like the great hog god embalmed and reposing in its gigantic majesty. From hip bone to toe it measured 5½ feet, and about the same from the crest of the shoulder blade to the bottom of the foot. The great fat jowls extend nearly two feet across. From the ears to the tail is over seven feet. The tail itself is the smallest thing in the big proportions. It is a mere point in the air. The face of the hog is also small for the size of the animal, being only 16½ inches long. The hams are monsters in size, and the vast stretch of pork in the long waist is borne just above the ground by four comparatively small feet. The usual porker is a mere pigmy by its side. The biggest hog heretofore grown weighed 1,221 pounds dead weight.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color, and sex of animal, stating symptoms accurately, of 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 post-office, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kansas.

Poisoning.—I had a sow that died about two months ago with some peculiar disease. She stood up, but was stiff and kept jerking and clapping her jaws; watered at the mouth; eyes were large and jerked. She was not caustic.

Strangled.—I had a pig die this morning that was sick about a day. It laid around about half a day, and I gave it a dose of Moore's medicine, and it seemed to strangle, but got all right again, although could not get up, and commenced to breath harder and harder and finally died. I opened it and found its stomach very red and its lungs spotted.

Onaga, Kans. ELI LEFEVORE.
Answer.—1st. Your sow was probably poisoned.

2nd. You killed the pig in drenching him by a part of the medicine going down on the lungs.

Azoturia.—Recently I started to town with a couple of my best horses hitched to a wagon containing about two-thirds of a load of lumber. When about 2 miles from home both the horses broke down at once, and in the same way; that is, both lost the use of their hind parts. I unhitched and drove them to a house and after that they could not get their hind parts up. I have been feeding them on prairie hay with some alfalfa and corn in the winter and this spring I fed them oats. They have been kept in the stable most of the time, and the only work they have done was listing about 30 acres for corn and plowing 10 acres for oats. I should like to have you tell me what is the cause of this, as I wish to be on my guard in the future.

Elyria, Kans. B. REICHERT.
Answer.—Azoturia is caused by an over supply of proteid material in the system and is especially apt to follow periods of idleness preceded by active work. Horses when not used should be limited in grain rations and have exercise daily. To prevent this disease you should have unhitched your team when the first symptoms of the disease was observed and tied them up to the wagon so that they could not lay down, blanketed them as soon as possible, and applied hot fomentations to hip and loins. They would have walked home in a few hours and have fully recovered in a few days.

Beware of Wet Food.

It is a mistake to suppose, because the chicken is small, that it needs to be fed mainly soft food. No other one thing causes so many deaths among your chickens as wet corn meal, left where they can run into it, trampling the food with their dirty feet, and then leaving a large part of it to ferment, which it is sure to do in the warm sunshine. The food for the chicks should be as nearly dry as it can be, to feed conveniently, and corn meal should never be given to small chicks except as it is mixed into a dry, crumbly state. A very good feed for little chicks is corn meal, bran and ground oats, equal parts. For this purpose the oat meal should be sifted, so as to remove all coarse matter, then mix and bake hard like a johnnycake. To get this bread in good shape to feed, it should be run through a mill and ground fine.

But I believe in giving some dry grains from the start—pin-head oatmeal, millet, finely cracked corn and wheat. The digestion of the chicken is naturally strong if not weakened by feeding exclusively on soft food. Some fine grit and charcoal should be placed where they can get at it handy; they will eat only what they require of this. Whole corn should not be given to chickens until they are quite large; the kernels are too large for them to digest well, and its heating nature makes it likely to ferment in their gizzards, the same as corn meal will do, if eaten freely when digestion is impaired. I have found wheat to be an excellent feed for chickens after they are eight or ten weeks old. Some poultry raisers prefer the small, shrunken grains that go out with the screenings in cleaning, to the large, plump grains, owing to their being harder and having less starch and a

A Tobacco Man hung up a sign "NO TRUST" He sells - Wetmore's Best

—A Chewer's Philosophy.




You can trust the quality of Wetmore's Best tobacco. Always the best and always the same. Its high quality will be maintained as long as a host of chewers appreciate a genuine chew at an honest price. No premiums are necessary with Wetmore's Best. It sells on its merit. Ask the dealer.

M. C. WETMORE TOBACCO CO.,
St. Louis, Mo.
The largest independent factory in America.

greater proportion of the nitrogenous nutrition that is required to promote growth and make feathers.—Poultry Monthly.

Hay makers should read the advertisement of the Topeka Tent & Awning Co., in this issue, as they are offering an article needed on every farm. They will gladly quote prices if you mention the KANSAS FARMER.

Hopeless.

"Is there any hope?" asked the prospective heir.

"None," replied the physician. "Your poor uncle will recover."—N. Y. World.

Neighborly.

Husband—Isn't it about time Mrs. Borrere was returning our call?

Wife—Yes, but if she does return it it will be more than she does with the other things she gets from us.—Detroit Free Press.

Pullman Ordinary Sleeping Cars for Tourists

are the most comfortable, commodious means of travel for large parties, intending settlers, homeseekers, and hunting parties.

These cars are run on the Union Pacific daily from Nebraska and Kansas points, and are fitted up complete with mattresses, curtains, blankets, pillows, etc., requiring nothing to be furnished by the passengers. Uniformed porters in charge of the cars, are required to keep them in good order, and look after the wants and comforts of all passengers. The cars are new, of modern pattern, and are almost as convenient and comfortable as first-class Palace Sleepers.

For full information call on or address, F. A. Lewis, City Ticket Agent, 525 Kansas Avenue, J. C. Fulton, Depot Agent.

CREAM SEPARATOR FREE

This is a genuine offer made to introduce the Peoples Cream Separator in every neighborhood. It is the best and simplest in the world. We ask that you show it to your neighbors who have cows. Send your name and the name of the nearest freight office. Address: PEOPLES SUPPLY CO., DEPT. X, KANSAS CITY, MO.



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20,000,000 ACRES of the BEST GRAIN GROWING and GRAZING LANDS on the continent are being offered FREE in that settlement of these vast areas is required by the Government of the Dominion of Canada.

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Thousands of Americans have taken advantage of the offer made to secure

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Deep soil, well watered, wooded, wheat averages 25 to 40 bushels per acre; oats 60 to 100 bushels, and other grains in proportion. Cattle thrive and fatten on the native grasses.

Fuel abundant, climate healthiest in the world, social conditions the best. Educational advantages unequalled. Taxation nominal.

Free Farms of 160 acres to every male of eighteen years of age, and to every female head of a family. Railroad and Government Lands for sale at low prices. For full information apply to F. Fedler, Superintendent of Immigration, Ottawa, Canada, or to

J. S. CRAWFORD,
214 W Ninth St., Kansas City, Mo.



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Horticulture.

Propagating New Varieties of Tree Fruits From Seed.

C. G. PATTEN, CHARLES CITY, IA.

(Read before the Minnesota State Horticultural Society.)

The secretary doubtless intended to have me tell you how to produce improved fruits from seed, and in so doing he assigned me a difficult task. But difficult as it is I shall undertake it cheerfully and hopefully, realizing that in the forward march in horticulture there is no place for pessimism. We catch no inspiration from halting doubt or from the deep shadows and mists of narrow valleys, but from the higher levels of mountain side and mountain tops, where the vision scans the widening landscape of hills and valleys and sparkling rivers and small heights.

We discard the ancient teachings that we must plant a thousand seeds to get one good fruit, or the later fact, as given by Dr. Dennis of Iowa, that it required the growing of a thousand plum seedlings at "Sleepy Eye" to awaken one Surprise. If reversion to lower types is such a potent factor in preventing us from producing improved varieties as some believe, then indeed is our Jordan "a hard road to travel."

At the Iowa State Fair I once saw the grand cow Mercedes, that was milked three times a day and gave in twenty-four hours over eighty pounds of milk. I have seen herds of these cattle that were really very remarkable cows.

A Jersey cow, Mary Ann, of St. Lambert, made 936 pounds of butter in one year, and the most magnificent large dairy that I ever saw was of this breed of cattle at Spring Hill, Tennessee. Yet from Minneapolis to Des Moines I have seen all along the line great numbers of very inferior Holstein cattle, and I have also seen very large numbers of scrub Jerseys. What developed such results in these breeds? Surely they are good dairy cattle. Was it not want of forethought, want of selection, neglecting to weed out the inferior animals? Breeding from animals that reverted so far to the ancestral type that they were at least 75 per cent scrubs? Mr. Gideon realized this fact in his endeavor to improve the apple. He knew that the air in his orchard was full of the pollen of the little arcid, austere Siberian, mean in almost every quality of hardiness. Hence his desire to establish an experiment station in southwestern Iowa, where he believed the conditions were more favorable for his work, and this is the reason why no better advance has been made with our larger fruits. We have put too little science and common sense into the formula and have too often forgotten the trite saying that "like begets like," or the likeness of a former ancestor.

We know but little of the ancestry of our fruit trees, and so we have need to be wiser and more thoughtful than the stock grower. To breed improved fruits for this climate every element of perfection in tree and fruit that it is possible to find should be brought together. Hardiness, freedom from blight, vigor, leaves that are resistant to unfavorable combinations of heat and moisture, fruits that hang well to the tree until mature, good size, freedom from defect in skin, beautiful, productive, and of as good quality as possible. Such a tree should hold its leaves for a normal length of season for the latitude in which we are working. Judged by these points, the Oldenburg and Hibernial are defective, for they both drop their leaves seven to ten days earlier than they should in the average season, and both also drop their fruit too easily. Our northern native plums are defective in dropping their fruit and shedding their leaves too early, and I have no doubt that these defects will be improved upon by crossing them with the Miner plum and some of its seedlings.

Innumerable and serious mistakes have been made all over the northwest in an endeavor to mingle the little Siberian with our cultivated apple, forgetting that violent crosses produce untold defects in fruits and plants, as well as in animals. Some of our most noted originators of new plums here in the West are, I fear, making this mistake, getting too far away from line breeding and mixing widely distinct types. What was once one of the most important stock centers of the West for high-bred cattle has greatly deteriorated on account of this mixing process. A little Holstein, a little Shorthorn, a little Polled Angus and a little Jersey has wrought the mischief.

The mixing process is a scattering and diluting process nearly every time, in improving the apple for Minnesota

and the northwest we must have hardiness. "Then," says one, "you must go back to the Siberian." Not so, for it has been demonstrated by actual experiment that some of the third hybrids, like Whitney's No. 20 and Briar's Sweet, that are at least seventy-five per cent apple. So that if we would make an all around advance with the apple, one of the parents should be such advanced hybrids as Sweet Russet, Minnesota and Meader's Winter, and better, if you know them, being sure that they hold both leaves and fruit reasonably well, and first rate, if possible. However, holding a large part of the leaves too late would be an indication of immaturity.

The seeming advantage that the stock men have with their highly developed breeds may be more seeming than real. The horticulturist has at least this advantage, that when he has once secured a Concord or Worden grape, or a Wealthy apple, he can multiply them by the millions and have them exactly alike while the stock breeders can only rarely exceed the high average of his herd, even with the most thoughtful care, and at best his failures will be considerable.

And there is still another feature that most horticulturists have overlooked in the production of new varieties; namely, that such plants and trees as the Concord and Worden grapes, the Ben Davis, Wine Sap, Fameuse, Duchess, Wealthy, and the Patten's Greening apples and the Richmond cherry are the crowning results in horticultural evolution. They are to horticulture, whether produced by natural or artificial selection or development, what the Morgan horse is to horse breeders, Stoke Pogis 3d to the dairyman, and Bates and Crickshank Shorthorns to the producer of beef cattle. Such plants and trees are even more than thoroughbreds. They are the highest types of their race. They are the culmination of all the culminative forces toward a higher perfection in horticulture. They are the prepotent individuals that establish breeds and families in fruits. Their seedlings are often as pronouncedly stamped as are the offspring of the Holstein or the Jersey cattle. And if horticulturists would pay attention to the scientific laws of development and breed from such plants, we would hear less about the deteriorating forces of reversion to lower ancestral types, and our table would not be burdened with a multitude of small and worthless fruits.

Of course, if we plant the seeds of inferior seedlings and their crosses that fairly represent generations of worthless fruits behind them, the law of reversion will be strikingly manifest.

On the grounds of the writer are seedlings of known parentage already in bearing. Such as Duchess crossed with Grimes' Golden, Patten's Greening and Grimes' Golden, Pink Anis and Jonathan, Malden Blush and a Duchess seedling—a cross of fall Pippin and Duchess—and Briar's Sweet with Pound Sweet and Wolf River also, and so on. Also four or five grand seedlings of the Duchess with parentage partly known.

When we know that in such crosses as Duchess and Grimes' Golden we have hardiness and excellence of fruit combined, why not pollenate that tree with its own pollen, or pollen of the Patten's Greening and Grimes' Golden cross, instead of taking chances of dissipating and scattering the forces that we have already combined with the uncertain pollen of any other variety.

According to the written experience of Mr. Budd, the Duchess is a very prepotent sort, but by actual test on my grounds the reverse is true except in hardiness. I know of no variety that is more easily overcome by the pollen of another sort. It does perpetuate its hardiness to a reasonable degree. In one instance a cross of Grimes' Golden obliterated every trace of it, both in tree and fruit, except as stated.

In conclusion, permit me to say that I believe that the practice of emasculating the stamens and cutting off the petals in pollinating is faulty, and that we would reach higher results if we would let the flower remain intact. I believe that the Infinite Mind knows better than we whether the perfect maturity of both petals and stamens were necessary to the highest development of the embryo germ of the future that is forming in the flowers.

There are so many instances on record of one plant when crossed on another where the pollenizing parent obliterated the characteristics of the other parent, that we can not doubt that whether we practice heroic surgery or not on the flower, the fact still remains that one plant when crossed on another in its most natural and perfect condition will obliterate the distinctive characteristics of the other parent in their offspring. This is a broad field full of

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Something About Grapes.

BY E. P. FISHER, STERLING, KANS.

To get the perfect grape, four points of excellence are demanded in the vine, and four in the fruit.

In the vine, first, vigor of growth; second, hardiness to endure severe winters; third, healthy foliage, resisting mildew in moist, hot climates; fourth, productiveness.

In the fruit, first, size, in bunch and berry; second, superior quality for the table; third, good shipping quality; fourth, good keeping quality.

As not all these points are to be found in any one variety, we have no perfect grape.

For a market grape we need productiveness of vine and good size in bunch and berry. In a grape for home use, the most desirable thing is quality for table use. As to quality, tastes differ, and what one would call good quality, another person would call poor. Still there is a standard of quality that enables us to establish a grade of quality on grapes from poorest quality to finest quality.

Tenderness of pulp, sweetness and richness of flavor, are the things expected in a grape of fine quality for the table. Of course, the grape must be perfectly ripe to determine its quality, and the same variety may vary in quality in different soils. As to varieties, the Concord has taken the lead in its combination of good qualities for a market grape, and the Delaware for a table grape, outside of the Southern States and California, where other varieties are considered more valuable. The Worden, a seedling of Concord, is superceding the Concord in many sections, as it is larger, earlier, and of better flavor. The Mills is the finest black grape for the table, but requires special care. It is well worth this care for its fine quality.

My new grapes, Western Beauty, Sterling, September Queen, and Willard are valuable varieties, that will be offered for sale when a sufficient number of vines have been grown. All of these except Sterling, will no doubt be found valuable for both table and market, but the Sterling, a fine white grape, is recommended only as a very choice table grape for home use. Willard is a fine red grape; September Queen, a large late white grape, and Western Beauty, a large black grape, ripening about the last of August. Campbell Early is probably the most valuable early grape ever introduced. The introducer claims he sold in one season, fall and spring, 50,000 vines.

The Strawberry Leaf Roller.

EDITOR KANSAS FARMER:—The leaf roller is the only foe that the strawberry grower used to fear. They do the greatest damage in dry season like the one through which we are passing now. Sandy bottom soil is where they do the greatest damage. The berry patches on the north side of the Kaw river from Lawrence, are already seriously damaged by leaf rollers. Yesterday I saw some potatoes on the Kansas river bottom on which the leaves were more than half dead. There were but few of these pests last year, yet I warn all the berry growers who had old berry patches of the coming evil, provided 1901 should be a dry year. So now they have it—a dry season with the leaf rollers in control of the present crop. Where they

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are as abundant as I saw them yesterday, there is nothing to check them from damaging half or more of this years' crop of berries.

Now every berry grower whose fields are being destroyed or even slightly injured should as soon as the picking season is over mow off the berry patch as close to the ground as possible. Then rake the straw or mulch and leave between the rows and burn. It will not do to try to burn the field all over. I have tried it and never succeeded. But when I raked them between the rows and burned leaves and straw together then for two or three years have not been seriously troubled with the pest.

Now there is a discussion pro and con going on in many fruit papers about the value for insect destruction of the Hazel-tine moth trap. The leaf roller moth flies over the berry vines in the dark of the evening and at night laying its eggs on the leaves. Its very touch is death to the strawberry leaves. The writer has seen patches perfectly slack, as if fire has scorched them, with not a live leaf on a plant and not half a crop of berries over half grown. The writer would advise every berry grower to try the moth catcher. Set it in the middle of the patch or if one has several acres set one on about every two acres and give it a good trial. It does not cost much, and if no moths are caught the cost of a trial is not as much as cost of a spraying outfit. Then spraying will not reach the leaf roller. The moth is a slim active little creature and if he can be destroyed before he poisons our berry patches it will be a boon for berry growers, for it is our greatest foe. Lawrence, Kans. B. F. SMITH.

Good appetite and cheerfulness follows the use of Prickly Ash Bitters. It purifies the blood, liver and bowels and makes life worth living.

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Grange Department.

"For the good of our order, our country and man kind."

Conducted by E. W. Westgate, Master Kansas State Grange, Manhattan, Kans., to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master.....Aaron Jones, South Bend, Ind.
Lecturer.....N. J. Bachelder, Concord, N. H.
Secretary.....John Trimble, 514 F St., Washington, D. C.

KANSAS STATE GRANGE.

Master.....E. W. Westgate, Manhattan.
Lecturer.....A. P. Reardon, McLouth.
Secretary.....Geo. Black, Olathe.

Things for Patrons to Think About.

A good patron exacts nothing he is not willing to grant.

Patrons should always reason together, and act in unity.

Farmers are not living up to the prerogatives that are theirs.

A true patron is constantly seeking opportunities to help the grange.

The mission of the grange is to educate, protect, and elevate labor.

Every member of the order should seek to raise the standard of intelligence.

The man who plans to injure another seldom escapes retributive justice.

The grange is one of the most successful educational institutions in existence.

The "dead wood" in the grange makes the labors of the faithful few much harder.

A good patron asks no favors for himself that he is not willing to accord to others.

All differences of opinion should be settled amicably in the privacy of the grange meeting.

Why is it so difficult to bring a company of farmers into a common thought and purpose?

The patron who can miss a grange meeting without a feeling of regret is not much of a patron.

The mission of the grange is to dignify the rural homes of the nation and develop a higher type of character.

The season for open-air meetings is approaching and patrons should make them a means to a desirable end.

It is hard to understand why farmers, whose interests are identical, are unable to agree on economic questions.

The grange should always seek to elevate the moral and intellectual, as well as the financial interests of the community.

The greatest menace to the prosperity of the grange to-day is the spirit of indifference which seems to pervade a large number of patrons.

Education must go hand in hand with cooperation, for the history of the past shows that when patrons have been educated to cooperate, success is assured.—Farmer's Friend.

The P. of H. and the Pan-American Exposition.

Of course, all the world is going to the Pan-American Exposition, as well as the rest of mankind, as a President of the United States once phrased it, and the members of that grand organization, "The Order of Patrons of Husbandry," will be there in great numbers, because of the interest they take in all that tends to promote the welfare of this

nation. In anticipation of the rush to the exposition, the New York State grange, at the last annual meeting, took appropriate action with reference to bringing together the greatest number of patrons ever brought to one place at any one time, and realizing that a trip to the exposition would be much pleasanter if the visitors would be relieved of all annoyance as to securing accommodations, the executive committee has made arrangements with the Keese Information Company to care for and find accommodations for grangers and their friends, so that all can leave home knowing that they are to find good and reasonable conveniences as soon as they arrive at Buffalo. A committee of the National Grange met recently in Washington and appointed committees in different States to plan excursions to the Exposition. It also named a committee to take charge of the grange building on the grounds. Mrs. B. B. Lord, of Sinclairville, New York, that stalwart, devoted, and enthusiastic grange worker, so well known for her noble and self-sacrificing labors for the good of the order and the success of the grange, is chairman of that committee, and a better selection could not have been made. There are but few patrons who do not know Sister Lord by reputation, and thousands have listened to her earnest and eloquent addresses in behalf of the rights of the American farmer. She and her assistants will have their headquarters in the building, and we feel very certain that no grangers will have cause to complain of lack of attention, because it will be a pleasure to Sister Lord to perform a kindness for a patron. The right woman has been selected for the office. She is a resident of the Empire State, and familiar with Buffalo and its attractions and surroundings. Sister Lord will remain constantly on the grounds until November, not leaving them at night, as she has a room for her occupancy in the grange building. The fact that one so competent and so accommodating will be there to receive them and give all desired information, will induce many grangers to visit the exposition who would not have gone under other conditions. Now, patrons, when you arrive at Buffalo, go at once to the grange building and call upon Sister Lord, and you will be made to feel at home and told where to go to see the most interesting objects, as well as where to find accommodations. The grange has honored itself in selecting Sister Lord for this important position, which she is certain to fill with credit to herself, credit to the grange, and the satisfaction of the patrons who meet her at the Exposition. She is the right woman in the right place.—Farmers' Friend.

Maine is already preparing for the meeting of the National Grange within her borders next November. The officers of the State grange have decided to confer the degree of Flora at several places in the State before the National meeting. It is estimated that at least 2,000 patrons will be prepared to receive the degree of Ceres—the seventh and highest—at that time.

Equality of Taxation the Demand of the Grange.

To show what patrons in other States are accomplishing, we insert the following from the master of Maine State grange:

Patrons of Maine. Greeting:—Briefly I wish to call your attention to, and congratulate you upon the success which has attended your efforts as the first step towards a more equal and fair distribution of the tax being imposed by the State upon its citizens, by and through your Legislature of Maine. Acting under the orders of the State grange the legislative committee of the State grange presented bills to the Legislature increasing the tax by double the amount previously paid upon the following interests:

	Increase.
Seam railroads.....	\$80,000
Collateral inheritance.....	10,000
Street railroads (the lightest tax of all).....	5,000
Express companies.....	2,000
Pullman cars.....	2,000
Telephone and telegraph companies.....	2,000
Trust and banking companies.....	35,000
Franchises, foreign corporations.....	125,000
Total.....	\$272,000

This amount of increase is based upon the volume of business done in 1900, without taking into account the natural increase which has for years attended our railroad interests, trust companies, etc. Many good judges claim the increased revenue to the State on account of the legislation effected by the grange will approximate \$400,000 per year.

While this will not at the present time result in any reduction of the tax rate, it has this effect: Without this increase of revenue from the corporate interests

of the State, either we should have to reduce expenses, increase our indebtedness, or increase the tax rate, which would have to be borne by the agricultural and industrial interests, a condition that they were not in shape to stand, in addition to the already heavy tax burden of the State; but beyond and of far more importance to the members of our order is the great influence and power of our membership, when exerted unitedly for our common good. When our legislative committee first appeared before the Legislature they were ridiculed, but at the close of the session they had not only demonstrated the potent influence of our great order, but they commanded the most profound respect. With the single exception of the steam railroad, every other interest was united and combined to prevent any increase of tax upon their interest and were represented at every hearing before the committee on taxation by the ablest and most eminent counsel in Maine who were disposed to be intolerant of the wishes of the farmers. As one learned gentleman (?) said (referring to the grange committee), "These laymen, these unthinking men who have spread so much Populistic doctrine over the State, to presume to come here and propose to tax out of existence the infant industries of the State, should have no weight in important matters of which they know nothing." This man, who has great aspirations, has the sublime impudence to say the great agricultural interests should remain in the background and I with my great knowledge will handle all these great economic questions; all the farmers need to bother about is to pay when called upon to do so. Little did he understand the province of our great order, to build up an interest, develop the latent abilities, and unify and discipline the members of the Maine farms through their membership in this grand organization, to united effort in protecting and up-building the interest of agriculture, which has all too long borne more than its fair share of the public burdens.

We do not assume for a moment that all has been accomplished towards the equalization of taxation that can or ought to be done, but that the fight for equal rights and equal privileges under the law shall be meted out to all interests alike; when this has been accomplished, then and not until then should we cease in our efforts toward tax reform.

The trouble is, there is altogether too much discrimination against the real estate as compared with the holders of corporate and personal property that should and must receive the serious consideration of the State grange, that we

may approximate justice to all alike; then coupled with economy, honesty, and integrity in the expenditure of public money, the farmers of Maine will have no reason for complaint. All honor to Brothers Merrill, Deering, Roberts, and Farnsworth for their noble work in the interests of tax reform; let us continue our efforts until all property is taxed equally under the same general basis of valuation. Fraternally,
O. GARDNER,
Master Maine State Grange.

Beware of Ointments for Catarrh That Contain Mercury,

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is tenfold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by J. J. Cheney & Co., Toledo, O., contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally and is made in Toledo, Ohio, by J. J. Cheney & Co. Testimonials free. Sold by Druggists, price 75c per bottle. Hall's Family Pills are the best.

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WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin of the Kansas Weather Service, for the week ending June 6, 1901, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

A cool week, with but little rain anywhere, Clark, Decatur, Harper, and Ness being the only counties reporting sufficient to measure, and no rain over the larger portion of the State.

RESULTS.

EASTERN DIVISION.

Wheat is in fair condition generally, and would be improved by timely rains; bugs and the fly have caused some damage in Chautauqua and rust in Cherokee; it is not filling well in Jackson, is being damaged in the southeastern part of Brown, and is suffering in Doniphan. Corn needs rain; the fields have been well worked and are clean and the crop generally is doing fairly well; much replanting has been done; chinch bugs are injuring some fields in Elk; some of the corn is dying in Jackson, it is suffering in Doniphan, is not doing well in Brown, and is at a stand still in Nemaha. Oats are in poor condition, and in Crawford are being ruined by the Texas wheat-louse. Grass is suffering in the northeastern counties. Alfalfa has yielded a fine crop, the first cutting now being generally in the stack in good

high and doing well; first crop alfalfa good and well stacked.
Osage.—Good rain needed badly; ground too dry for crops to grow.
Pottawatomie.—Wheat doing well; all other crops needing rain; first crop of alfalfa has been secured in fine condition.
Wilson.—Too dry for vegetation to flourish; harvest will begin in two weeks; corn doing well, but ground is getting dry; strawberry crop shortened by drought.
Woodson.—Corn doing well; early cherries ripe and a full crop; new potatoes and green peas being marketed; fruits very promising.
Wyandotte.—Frost on 26th; wheat prospect diminishing daily; everything at a stand still for want of rain.

MIDDLE DIVISION.

Wheat is generally doing well, though the fly has damaged some fields in the central counties; it is ripening in Cowley and Barber, and soft wheat is in the dough in Sumner. Corn grows slowly, but generally looks well though quite backward; a black bug is hurting it in Butler, and cut-worms are injuring it in McPherson; frost hurt it in Barton. Alfalfa haying is progressing in nearly all parts, being finished in some, and a good crop is being secured. Cherries are ripening in many counties. Strawberries are being marketed in the central and southern counties, but dry weather is shortening the crop in Reno. Oats are heading in many counties, in some will be a good crop, in others poor. New potatoes are being marketed in Cowley and Sedgwick, but

oats poor; alfalfa doing well; early cherries ripening.
Jewell.—Corn being cultivated; first crop alfalfa being cut, short on account of drought; all crops need rain.
Kingman.—Wheat in bloom, hurt in some places by dry weather; corn doing fairly well; drought hurting oats.
Lincoln.—Unfavorable week for all crops except wheat; wheat heading; corn a good stand, but not growing; alfalfa being cut.
McPherson.—Rain needed; corn growing slowly and being damaged by cut-worms; wheat not so promising, many fields fly-killed; cherries ripening; alfalfa cut, a fine crop.
Ottawa.—Wheat doing well except where the fly infests it; chinch bugs are hatching, and reported numerous in some fields; oats poor; will not make much; alfalfa being cut, a fine crop; corn doing better; fruit prospects good.
Reno.—Light frost 28th; wheat looks well generally; oats fair, beginning to head; alfalfa about all cut and put up in fine condition, fair crop; corn looks well, but grows slowly; strawberries being marketed, crop being seriously damaged by the drought.
Republic.—Alfalfa ready to cut; spring sown alfalfa doing well; wheat headed and looks well; corn growing slowly.
Rice.—Most of the alfalfa is in stack; strawberries being marketed; cherries ripening; wheat and oats all right; need rain.
Russell.—Wheat beginning to need rain.
Saline.—Alfalfa being cut, a good crop; some damage to wheat by fly, a few fields were plowed up; corn backward, being cultivated; slight damage by frosts on low ground.
Sedgwick.—Drought severe; oats damaged; corn backward; wheat looks well and much of it will make a good crop; alfalfa being cut; cherries nearly ripe; most fruits look well; early potatoes being marketed.
Smith.—Wheat damaged by drought; chinch bugs damaging corn badly; alfalfa being cut; oats good; stock doing well on pasture; corn being cultivated.
Stafford.—All spring crops very backward; wheat beginning to suffer for rain.
Sumner.—Good weather for wheat; too cold for corn; soft wheat in the dough; alfalfa being cut.

WESTERN DIVISION.

Wheat looks fairly well, but is needing rain; in Thomas the late wheat is in better condition than the early. Corn grows slowly, the weather being too cool for it; it was hurt by frost in Thomas. Alfalfa is being cut and is a good crop. The range grass is in good condition, though in Greeley it has begun coloring; it is heavily seeded in Clark. Oats, barley, and the forage crops are in good condition, but grasshoppers have attacked the barley in Greeley. Frost hurt gardens and potatoes in Ford, Lane, Ness, Thomas, and Trego.
Clark.—Forage crops and grass in fine condition; buffalo grass heavily seeded.
Decatur.—Rain needed, though no signs of suffering; corn making poor growth; alfalfa cutting general next week.
Ford.—Barley, oats, and prairie grass fine; corn made little growth; wheat needs rain to make good crop; alfalfa mostly cut, a fine crop; frost injured gardens in bottom lands.
Gove.—Wheat, corn, oats, barley, and potatoes are looking well; alfalfa is being cut; Kaffir-corn, millet, and sorghum are up and growing rapidly; grass is good.
Greeley.—Light rain Decoration Day; crops needing rain; buffalo grass coloring; grasshoppers beginning on barley.
Lane.—Frost injured gardens and potatoes, yet week was generally favorable; alfalfa cutting begun.
Ness.—Light rain Decoration Day; more needed for small grain; frost was severe on potatoes and gardens.
Norton.—Dry; small grain showing effect of drought; corn growing some, and is being cultivated; alfalfa being cut, good crop.
Thomas.—Early wheat needing rain, late



SCALE IN INCHES.

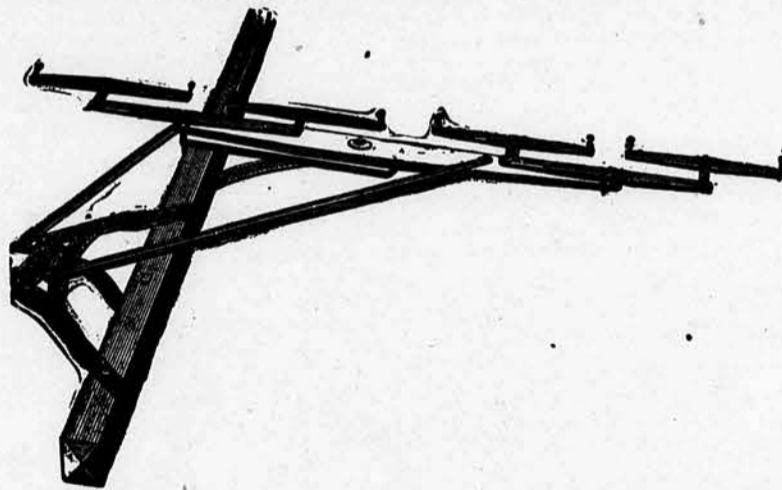
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ACTUAL RAINFALL FOR WEEK ENDING JUNE 1, 1901.

condition. New potatoes are being marketed in the southern counties. The strawberry crop has been much shortened by drought. Cherries are being marketed in the south and are ripening in the central counties.
Allen County.—All crops need rain; cherries and mulberries ripe.
Anderson.—Cool and dry; pastures and gardens need rain urgently; first cutting of alfalfa saved and cool with excessive sunshine; all crops being damaged for want of rain; wheat and corn would be all right if rain comes soon; oats, grass, potatoes, and gardens suffering.
Bourbon.—Crops not doing well; no corn weather yet; peaches doing fairly well; gooseberry crop is very large; potatoes are setting and need rain.
Brown.—Corn up, but not doing well, too dry and cool; oats poor; wheat in southeast part being damaged by dry weather.
Chase.—Too dry for corn; fine for alfalfa haying; frost hurt potatoes that had just been worked and corn in low places; apple crop appears very promising; pastures continue good.
Chautauqua.—No rain, but no serious damage; some have commenced to cut wheat; the Texas lice are just south of the county line; oats are ripening; all fruits doing well; early potatoes being marketed.
Cherokee.—Very dry, all crops suffering for rain; oats and grass badly injured; some oats being plowed up and ground planted with corn; wheat rusting and drying up.
Coffey.—Corn making little progress, much replanting done; oats and flax not doing well; wheat and fruit fair; strawberries need rain.
Crawford.—Wheat doing well; cool for corn but it is well worked and growing slowly; oats being ruined by the Texas wheat louse; cherries ripening and are abundant; flax small, with a spotted stand; clover haying begun.
Doniphan.—Wheat and corn suffering for rain; oats will be almost a total failure; vegetables and gardens very poor; light frosts 26th and 27th.
Elk.—Rain badly needed; chinch bugs injuring corn in places.
Greenwood.—Corn and pastures need rain; cattle doing well; alfalfa haying in progress; chinch bugs seem to have left.
Jackson.—Dry, corn dying; wheat does not seem to be filling; oats very short.
Jefferson.—Tame grass crop cut short; much corn in bottom being replanted; grows slowly; oats poor; good prospect for apples, peaches and plums; cherries are ripening; strawberry crop light, too dry.
Johnson.—Frost on 26th, some damage on low ground; all crops needing rain.
Lyon.—Rain and warmer weather needed; strawberries abundant; orchards in fair condition.
Marshall.—Strawberries a fair crop; blackberries in blossom; oats are short; corn doing very well and fields clean; alfalfa haying next week.
Montgomery.—Good week for cultivating corn; all crops growing and in good condition; trace of frost on 26th; new potatoes and early cherries being marketed; favorable week for the wheat crop.
Morris.—Too cool for all spring crops; alfalfa cut, a large crop, but in good condition; early potatoes blooming; wheat heading out well.
Nemaha.—Dry week and cool nights retarding all growth; corn apparently at a stand still and suffering from insects; oats will hardly make a crop; potatoes suffering for rain; wheat in apparently good condition.
Neosho.—Crops needing rain; corn a foot

the crop was damaged by frost in Barton.
Barber.—All vegetation needing rain; wheat looking a little yellow; will be ready to cut about the 15th.
Barton.—Frost damaged potatoes and some gardens, even corn in some places; wheat is doing well; barley and oats are heading; corn growing slowly, but fair stands, needs rain; alfalfa cutting begun.
Butler.—Crops need rain; chinch bugs working on small grain; a small black bug, about the size of a grain of wheat, is injuring the corn, eating the heart out at the top of the ground; oats a failure; alfalfa mostly cut and in stack; wheat looking well.
Cloud.—Condition of wheat not improved; corn looking better than last week; oats heading short; cherries ripening.
Cowley.—Favorable week for wheat, harvest will begin this week; corn growing slowly; oats will be light; new potatoes

CELEBRATED DES MOINES EQUALIZER.



No. 3; 4 horses for left hand harvesters. No. 4; 4 horses for right hand harvesters. An advertisement of more than ordinary importance to farmers just at the present time is that of the Des Moines Everer Co., of Des Moines, Iowa, on another page of this issue. These equalizers have the reputation of being the most perfect of any ever put on the market, having been thoroughly tested during the last ten years. They equalize the draft perfectly, and there is no side draft at all. Every owner of a binder should own one, and when he gets it he will wonder how he ever got along without it.
Outside teams turn machine at corners.

Four medium weight horses will run machine all day without changing, working smoothly and with ease. We claim it is the only device on the market that is giving entire satisfaction. Outside horse walks in bull-wheel track, away inside bundles. For ten years past sold under a wide open guarantee and yet out of all the thousands sold during that time not a dozen have been returned as unsatisfactory. They never come back. They work on corn binders also, equally well. Drop us a card for testimonials. Illustration shows No. 3, weight 75 pounds, complete. Sold with or without doubletrees or singletrees.

being marketed; alfalfa hay being put up in fine condition.
Dickinson.—Wheat injured and corn not growing for want of rain in south part of county; bugs and fly doing some damage to wheat in north part; prospects for wheat growing less.
Edwards.—Dry; corn doing finely; some plowing yet for forage crops.
Harper.—Wheat generally in fine condition, but in some parts cut short by dry weather; soft wheat harvest begins next week; good rain needed to fill hard wheat; corn doing well.
Harvey.—Wheat seems to be waiting for rain, some fields in north part have been plowed up owing to fly; corn needs rain;

wheat, barley, and oats in good condition; frost hurt potatoes and gardens severely; corn and Kaffir-corn growing slowly; alfalfa cutting begins next week.
Trego.—Frost hurt gardens and potatoes in some parts; a little dry for wheat, other crops looking well.
Wallace.—Alfalfa cutting begun, good crop; wheat looking fairly well; range grass good.

Some Nebraska Shorthorns.

A prominent herd of Nebraska-bred Shorthorns upon which cattlemen of Kansas may have some sort of claim because of its proximity and accessibility

to this section, is that of Ernst Bros., at Graf, Johnson County. There is no richer section of farming country on earth, and none better adapted to the highest development of all good Shorthorn traits, than that embracing the counties of north-eastern Kansas and southeastern Nebraska. It is here that Ernst Bros., have laid the foundation for what should logically develop into one of the most notable nurseries of the Shorthorn breed in this country. The name of Wm. Ernst stands for the best, most intelligent and persistent effort at promoting the growth of alfalfa, clover, timothy, and the blue-grasses in all this western country, and the 1,200 acres of rich lands occupied by himself and his sons are of a character to reflect the very maximum of success along these lines. The Ernst Bros. have planned a public sale of perhaps 60 head of good Shorthorns for their first annual offering, sale to be held at their county seat town, Tecumseh, on November 21. The bull in service is the pure Crulshank Baron Surmise, by Baron Chilton 2d, and tracing through Imp. Salamis to Champion of England. Seldom is the bull seen that conforms more closely to the most acceptable type of Scotch Shorthorn. He is broad, level, thick, wide of rib, short of leg, all red, and has demonstrated himself a remarkably good and even calf getter, a combination of considerations that made it easy for Ernst Bros., to part with \$800 as his price. It is a first-class lot of good cows that are being bred to service of Baron Surmise, and it is these that will form the mainstay of the sale in question. The whole round of facts pertaining to this event will be forthcoming for Kansas Farmer readers in due course of time.

Nothing equal to Prickly Ash Bitters for removing that sluggish bilious feeling, so common in hot weather. It creates strength, vigor, appetite and cheerful spirits.

Do you want a WIND MILL? Do you want a FEED MILL? We have them the best made and at prices that CAN NOT BE EQUALLED. Write for further information, circulars, etc. CURRIE WINDMILL CO., Topeka, Kans.

...MEN...

Book for men only, explaining health and happiness sent free in plain envelope. Address CHICAGO MEDICAL INSTITUTE, 110 West Sixth Street, Topeka, Kansas.

POULTRY BREEDERS' DIRECTORY.

EGGS—S. C. and R. C. B. Leghorn; and S. Sp. Hamburg. Strictly pure. Shoemaker's strain. \$1.00 per 15. Satisfaction guaranteed. Vira Bailey, Kinley, Kans.

FOL SALE—Choice Single Comb White Leghorn hens, one year old. \$4 dozen. Ella F. Ney, Bonner Springs, Kans.

GEM POULTRY FARM—C. W. Peckham, Proprietor, Haven, Kans. Buff Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice Burdick cockerels for sale. Pea Comb W. Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice cockerels for sale. M. B. Turkeys, 2 grand flocks. Eggs \$2 per 11. Young toms for sale.

HIGH-SCORING, PRIZE-WINNING, Cornish Indian Game, W. P. Rocks, Black Langshans. Eggs \$1 per 13. Mrs. J. C. Strong, Moran, Kans.

EGGS AND STOCK.

Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Buff Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, S. C. Brown Leghorns and Belgian Hares.

First Class Stock of

Standard Birds of Rare Quality.

Fine Exhibition and Breeding Stock. Write me your wants. Circulars free.

A. H. DUFF, Larned, Kans.

EGGS ..For.. Hatching.

From Pure-Bred, High-Scoring, Prize-Winning, WHITE AND PLYMOUTH ROCKS BARRED... 13 for \$1; 30 for \$2; 50 for \$3; 85 per 100. Recipe for making and using Liquid Lice Killer, 25 cents. Write for descriptive circular. T. E. LEFTWICH, Larned, Kansas.

HENS Setting 6 days instead of 21, and how to make \$500 yearly with 12 hens. 45 Medals, etc., for Wonderful Discovery in horse manure heat, Particular Scientific Poultry Breeder's Association, K Masonic Temple, Chicago.

200-Egg incubator for \$12.00 Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day. GEO. H. STAHL, Quincy, Ill.

HOLLYHOCK POULTRY FARM

56-page Illustrated Poultry Catalogue. The secrets of successful poultry raising told in plain language; all about incubators, brooders, poultry houses, how to hatch and raise every chick, what when and how to feed, forcing hens to lay and hundreds of valuable subjects contained in no other catalogue. Tells of 25 varieties popular throughout Iowa and quotes extremely low prices. Send 4c in stamps for postage. Hollyhock Poultry Farm, Box 1429, Des Moines, Ia.

MARKET REPORTS.

Kansas City, June 3.—Cattle—Receipts, 5,796; calves, 330. Choice fat cattle was steady, others slow; stockers 15 to 20 cents lower. Representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include STEERS, WESTERN STEERS, SOUTHWESTERN STEERS, TEXAS AND INDIAN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include TEXAS AND INDIAN STEERS (Quarantine division), TEXAS AND INDIAN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include TEXAS AND INDIAN COWS (Quarantine division), WISCONSIN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE HEIFERS, NATIVE COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE COWS, NATIVE STOCKERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE STOCKERS, STOCK COWS AND HEIFERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include STOCK COWS AND HEIFERS, Sheep—Receipts, 5,722.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Sheep—Receipts, 5,722, Hog—Receipts, 7,673.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Hog—Receipts, 7,673, Sheep—Receipts, 5,722.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Sheep—Receipts, 5,722, Hog—Receipts, 7,673.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Hog—Receipts, 7,673, Sheep—Receipts, 5,722.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Sheep—Receipts, 5,722, Hog—Receipts, 7,673.

Chicago Live Stock.

Chicago, June 3.—Cattle—Receipts, 22,000. Good to prime steers, \$5.45@6.05; stockers and feeders, \$3.00@4.90; Texas steers, \$4.25@5.40.

Hog—Receipts, 44,000. Mixed and butchers, \$5.70@5.92½; bulk of sales, \$5.80@5.90.

Sheep—Receipts, 19,000. Good to choice wethers, \$4.35@4.60; western sheep, \$1.40@4.60; native lambs, \$4.00@5.60.

St. Louis Live Stock.

St. Louis, June 3.—Cattle—Receipts, 3,500. Native steers, \$3.50@6.00; stockers and feeders, \$2.80@4.90; Texas and Indian steers, \$3.50@6.05.

Hog—Receipts, 5,500. Pigs and lights, \$5.60@5.75; butchers, \$5.80@5.90.

Sheep—Receipts, 5,000. Native muttons, \$4.00@5.60; lambs, \$4.25@6.25.

Omaha Live Stock.

Omaha, June 3.—Cattle—Receipts, 2,300. Native beef steers, \$4.50@5.65; western steers, \$4.00@4.85; Texas steers, \$3.50@4.50; stockers and feeders, \$3.25@5.10.

Hog—Receipts, 6,000. Heavy, \$5.70@5.80; bulk of sales, \$5.70@5.72½.

Sheep—Receipts, 4,000. Common and stock sheep, \$3.00@3.75; lambs, \$4.25@5.50.

Kansas City Grain.

Kansas City, June 3.—Wheat—Sales by sample on track: Hard—No. 2, 70½@71¼c; No. 3, 69½@71c.

Soft—No. 2, 70@71c; No. 3, 69@70c. Mixed Corn—No. 2, 41½@41¾c; No. 3, 41¼@41½c.

White Corn—No. 2, 42c; No. 3, 41¼c. Mixed Oats—No. 2, 28¾c; No. 3, 28½c.

White Oats—No. 2, 29¾c; No. 3, 29c. Rye—No. 2, nominally, 56c.

Prairie Hay—\$6.00@10.00; timothy, \$5.00@11.50; alfalfa, \$6.00@10.00; clover, \$7.50@9.00; straw, \$3.00@5.50.

St. Louis Cash Grain.

St. Louis, June 3.—Wheat—No. 2 red cash elevator, 74¼c; track, 75@75½c; No. 2 hard, 73¾@74½c.

Corn—No. 2 cash, 42½c; track, 42¼c. Oats—No. 2 cash, 29c; track, 29@29½c; No. 2 white, 31c.

Chicago Cash Grain.

Chicago, June 3.—Wheat—No. 2 red, 76@78c; No. 3, 73@76½c; No. 2 hard winter, 75@76c; No. 3, 73@75½c.

July, 77@77½c; September, 73½c. Corn—June, 44¼c; July, 45c; September, 45½c. Oats—June, 28c; July, 28½c; September, 26¼c.

Kansas City Produce.

Kansas City, June 3.—Eggs—Fresh, 9c doz. Butter—Creamery, extra fancy separator, 16¼c; firsts, 14½c; dairy, fancy, 14c.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time will be inserted in this column with display, for 10 cents per line, of seven words or less, per week.

CATTLE.

FOR SALE—Fifteen young Hereford bulls, from 6 to 16 months old, equally as good as the best in the land.

FOR SALE—Three registered Shorthorn bulls; solid reds, 14 to 22 months old. F. H. Foster, Mitchell, Kas.

FOR SALE—A few Shorthorn bulls ready for service. A. C. Rait, Junction City, Kas.

FOR SALE—Five registered Holstein bulls, also high grade Shropshire rams and ram lambs. E. W. Melville, Eudora, Kas.

HORSES AND MULES.

LEAVENWORTH COUNTY JACK FARM.—Seven mammoth jacks for sale. O. J. Corson, Potter, Kas.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORTHORN CATTLE and POLAND CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kansas.

FARMS AND RANCHES.

WE have cash buyers for farms, ranches, and city property. If you want to sell or trade, place your property on our list. Send for blanks. National R. E. Exchange, Onaga, Kas.

FOR SALE OR TRADE—160-acre farm—100 acres in cultivation; 6-room house, outbuildings, 3 miles from Florence, Kas., first-class spring water. Price \$16 per acre. For full particulars, write Jno. Fox, Jr., New Cambria, Kas.

MISCELLANEOUS.

FOR SALE CHEAP—Cocker Spaniel Pups. W. H. Richards, V. S., Emporia, Kas.

WANTED—Man and wife to work on stock farm, that have had experience in farming and taking care of stock. Wife to cook for 3 to 5 men and take care of house. Call on or address S. M. Knox, La Harpe, Kas.

FARM HAND WANTED—On dairy farm. Write with reference. Box 166, Clifton, Kas.

FOR SALE—Six pure bred Llewelling and Irish Setter pups; also a fine Llewelling bitch, 2 years old, well broke on quail. Thomas Brown, Route No. 1, Clifton, Kas.

CATALPA POSTS FOR SALE—Well seasoned, light weight posts from trees 16 years old, butt cut, full seven feet long; 2,500 all one car. Price 6 cents each f. o. b. Wiley, Morris Co., Kas. Address Geo. W. Tincher, Topeka, Kas.

SCOTCH COLLIE PUPPIES—Of pure breeding. Will be sold cheap if ordered at once. Write now to O. A. Rhoads, Columbus, Kas.

WOOL WANTED—We want, and will pay the highest market price in cash for 500,000 pounds of wool. When you write for prices send us a sample of your wool by mail to Oakland, Kas. Be sure and get our prices before you sell. Topeka Woolen Mill Co.

EARLY YELLOW SOY BEANS—For sale at \$1.65 per bushel, sacked on track at Vera, Kas. H. H. Clothier.

FOR SALE—Feed mills and scales. We have 2 No. 1 Blue Valley mills, one 600-pound platform scale, one family scale, and 15 Clover Leaf house scales, which we wish to close out cheap. Call on P. W. Griggs & Co., 208 West Sixth Street, Topeka, Kas.

A 43-PIECE DINNER SET FOR 25c. Full sizes; beautiful flower decoration and rich gold bands. Write us at once and we will send a sample set. The Acme Supply Co. P. O. Box 506 East Liverpool, O.

We Sell Farms for Cash

No matter where located. Send price and description and we will send you our plan. We also negotiate loans and make trades.

Grand Island Investment Company, Grand Island, Nebraska.

Given Away.

One hundred and twenty-five acres, Texas county, Mo., 5 miles east of Sargeant, on Memphis R. R., 6-room 2-story house, barn, 3 springs, 200 bearing fruit trees; 54 acres fenced and cultivated, 10 clover, balance corn and wheat. Possession next spring. \$750 buys it. \$500 cash; balance, 1 year. This is one of many. Write for what you want. I have farms every where. Lott, the Land Man, 900 N. Y. Life, Kansas City, Mo.

THE SMITH CREAM SEPARATOR. The only separator on the market that does not MIX the milk and water, and sold under a positive guarantee. More Cream, Better Butter, Milk fine, and no labor at all. Get a SMITH. Agents wanted. Mention Kansas Farmer. Smith's Cream Separator Co., 113 West Locust St., Des Moines, Ia.

"AVENARIUS CARBOLINEUM" PAINT. Guaranteed to preserve all wood-work against rot. Radical Remedy against Chicken-lice. Successfully used for 25 years. CARBOLINEUM WOOD PRESERVING CO. Circulars free. Milwaukee, Wis.

FOR SALE—Registered Scotch Collie and Great Dane pups. Prices \$5 to \$10 each. Burton & Burton, Topeka, Kas.

Registered Stock, DUROC-JERSEYS, contains breeders of the leading strains. N. B. SAWYER, Cherryvale, Kansas.

SILBERMAN BROTHERS. If You have Wool to Sell and will correspond with us, we can demonstrate to your entire satisfaction that we can handle it to your best advantage and profit. Ours is the largest and best equipped wool house in the west. The only house in the west with sufficient stocks to attract the large wool consumers. Business methods and credit above reproach. Ask your local banker about this. We make liberal advances on consignments. Sacks furnished free to our patrons. Send at once for our New Wool Circular. It gives latest conditions and prices of the wool market. SILBERMAN BROS., 122-124-126-128 Michigan St., CHICAGO.

WOOL SHIP DIRECT! There is no way to get full value for your wool except by shipping direct to market. The fewer hands your wool passes through before reaching the manufacturer, the more profit there is for you. WE DISTRIBUTE DIRECT TO THE MANUFACTURER. We Guarantee Full Market Price, Full Weight and Prompt Returns for all wool received, with no useless or extra expense to the shipper. You run no risk in shipping to us, as we have been established here for 27 years and are reliable and responsible. Write us for price of wool and prospect. Wool Sacks furnished free. In addition to Wool we receive and sell everything which comes from the farm. Write us for prices of anything you may have to sell. SUMMERS, BROWN & CO., COMMISSION MERCHANTS, 198 S. Water St., CHICAGO. Reference—This paper.

Epworth League California Excursions. Account Fifth International Convention of Epworth League, San Francisco, July 18-21. San Francisco is an ideal summer resort—weather always cool. Trip thither in summer, across high tablelands of New Mexico and Arizona, is pleasant—air bracing, no oppressive heat or dust. Best way to go is via Santa Fe Route, only line under one management, Chicago to San Francisco; daily trains to California, Fred Harvey meal service, personally-conducted excursions. On the way visit Indian pueblos and petrified forest, also Grand Canon of Arizona—world's greatest scenic spectacle, now easily accessible. See southern California—its noted resort hotels, idyllic valleys, majestic mountains, smooth beaches and lovely islands, its old missions, its semi-tropic fruits and flowers, its great oil wells. This important section reached via Santa Fe Route cheaper than most other lines and with greater comfort. Extremely low round-trip rates; liberal stop-over privileges; choice of routes returning; open to everybody. All ticket agents sell via Santa Fe Route. Descriptive literature on request. Address W. J. Black, Gen. Pass. Agent, A. T. & S. F. Ry., Topeka, Kansas.

Santa Fe Route.

DR. HENDERSON PILES. 101-103 W. 9th St., Kansas City, Mo. A Regular Graduate in Medicine. Over 30 Years' Practice—22 in Kansas City. The Oldest in Age and Longest Located. Authorized by the State to treat CHRONIC, NERVOUS and SPECIAL DISEASES. Cures guaranteed or money refunded. All medicines furnished ready for use—no mercury or injurious medicines used. No detention from business. Patients at a distance treated by mail and express. Medicines sent everywhere, free from gas or break. Charges low. Over 40,000 cases cured! Age and experience are important. State your case and send for terms. Consultation free and confidential, personally or by letter.

Seminal Weakness and Sexual Debility. The results of youthful follies and excesses. I can stop night losses, restore sexual power, nerve and brain power, enlarge and strengthen weak parts, and make you fit for marriage. Send for book. Stricture and Gleet. Radically cured with a new and infallible Home Treatment. No instruments, no pain, no detention from business. Cure guaranteed. Book and list of questions free—sealed. Syphilis. Blood poisoning and all private diseases permanently cured. Varicocele, Hydrocele and Phimosis. Permanently cured in a few days without pain or danger. Book for both sexes—96 pages, 27 pictures, with full description of above diseases for the effects and cure—sent sealed in plain wrapper for 6c. stamps—free at office. 157 Eleven rooms and parlors, so arranged that patients need not see each other. Free Museum of Anatomy for Men. Office Hours: 8 a.m. to 8 p.m. Sundays 10 to 12.

HERMIT REMEDY CO., Suite 736 Adams Express Bldg., Chicago, Ill. HEADACHE DR. MILES' ANTI-PAIN PILLS. At all drug stores. 24 Hours' Relief.

FREE. Send me your name and address on a stamped envelope and I will send you a sample of XOX Stomach and Indigestion Cure, the best and latest cure for stomach ills. Agents wanted. Gaylord Moseley, 401 Landis Court, Kansas City, Mo. C. F. MENNINGER M. D., CONSULTING PHYSICIAN. 727 KANSAS AVENUE, TOPEKA, KANSAS. Specialties: Chronic, and Obsolete Diseases. Heart and Lungs.

WE GUARANTEE TO SAVE YOU. From 15 to 75 per cent. on any of the 15000 articles listed in our large catalogue of drugs, medicines, home remedies, extracts, paints, oils, trusses, etc. Send 10c for catalog, amount refunded on first order. "The Only Mail Order Drug House in the World." Heller Chemical Co., Dept. 47, Chicago, Ill. BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

Don't fail to take advantage of our "Blocks of Two" offer.

In the Dairy.

Conducted by D. H. Otis, Assistant Professor of Agriculture, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Bill of Fare for a Kansas Dairy Cow. (Continued from last week.)

SORGHUM.

This feed can be grown in any part of the State; it is a heavy yielder, and the saccharine varieties furnish more succulence than any other dry feed we have. Cattle usually eat the stalks as well as the leaves, thus leaving but little waste. The question is frequently raised by those who are milking cows, whether sorghum will not cause cows to go dry. The experience at the agricultural college in feeding sorghum hay has been rather limited, but during the short time we fed it, we found that our herd of 24 cows increased in the total yield of milk from 20 to 30 pounds per day. They seem to relish the feed, and eat it up clean. However, we were very careful to feed other feeds rich in protein in connection with it. No doubt sorghum hay, fed either alone or in connection with corn, will tend to dry up the cow, for the simple reason that the cow does not get the kind of raw material she needs to manufacture milk. The average dairy cows require in order to do her best, digestible nutrients in about the following amounts: Protein, 2.50 pounds; carbohydrates, 12.50 pounds; fat, 0.4 pounds. What does she get by feeding her on sorghum hay and corn alone?

	Protein.	Carbo H.	Fat.
Sorghum hay, 20 pounds.....	.48	8.12	.24
Corn, 10 pounds.....	.78	6.07	.43
Total.....	1.26	14.79	.67

We see at a glance that there is only one-half enough protein, there is too much carbohydrates, and too much fat. The cow will give some milk on this ration, but she can not do her best, because as soon as her supply of protein (a substance absolutely essential in the manufacture of milk) is used up, she can not elaborate any more milk, no matter how much carbohydrates and fat she may have. Supplied plenty of protein and sorghum hay will prove an excellent feed for dairy cows.

RATION NO. 10.

Since sorghum is so poor in protein, it is practically impossible to get good dairy rations with it without buying some concentrated feed. The nearest approach to it is doubtless to give the cow all the sorghum hay she will eat, with 8 to 10 pounds of grain composed of 1 part oats, 2 parts soy-beans, 3 parts corn chop, and 3 parts cotton seed-meal. The average yield of sorghum hay at the agricultural college has been about 7.5 tons per acre. A cow will eat from 20 to 25 pounds per day of this hay, which would make the area requirement 1/2 of an acre per cow. Oats would require from .15 to 1/4 of an acre; soy-beans, 1/2 acre, and corn 1/2 acre per cow.

Another good grain ration to feed with sorghum hay is a mixture of equal parts oats, bran, and cotton-seed-meal. The objection to this is that two-thirds of the grain would have to be purchased. The area requirement would be 1/2 acre for sorghum and 2/3 acre for oats.

Where it is desired to purchase all the grain, or to substitute some other roughness for a part of the sorghum, the following rations, from Bulletin 81, Kansas Experiment Station, are recommended: Ration No. 11.—Sorghum with a mixture of 8 parts bran and 3 parts cotton-seed-meal.

Ration No. 12.—Sorghum 3-5, prairie hay 2-5, with a grain ration of equal parts bran, oil-meal, and cotton-seed-meal. D. H. O.

Testing Milk Without Steam or Hot Water.

JESSE M. JONES.

One of the dairy students, who is running a skimming station, sends in the following letter asking for information: "The superintendent of this division is trying to convince me that one can make accurate test without water or steam in the tester while testing. The tester here will not hold water. I asked him for a new one, and he said 'the old one is all right.'"

The college tried this method to find out the facts, and have the figures below to show the results of testing with and without heat in the tester. Two samples were taken from each of the 10 jars of milk for each test. The temperature of the room was between 64° and 70°. The water used to fill the bottles was 170°. The test being made, in a

tight tester, as quickly as possible after the mixing of the acid and milk. The tests were made with and without hot water, as follows:

No.	Test		Difference.
	Without Hot Water.	With Hot Water.	
No. 1.....	3.5	3.6	.10
No. 2.....	4.3	4.6	.30
No. 3.....	4.15	4.4	.25
No. 4.....	5.25	4.4	.15
No. 5.....	3.7	3.75	.05
No. 6.....	4.3	4.6	.30
No. 7.....	4.15	4.35	.25
No. 8.....	3.0	3.25	.15
No. 9.....	2.95	3.1	.15
No. 10.....	3.45	3.7	.25
Average.....			.20

The butter fat without hot water was from .05 to .3 per cent lower than that with it, the average being .20 per cent lower, due to the cooling and contraction of the fat.

It is very difficult to make an accurate reading of the tests made without water because of the froth at the top of the fat, and the fat being mused over 1 per cent of space in the neck of the bottle as a result of its being cold and not flowing easily. Butter fat in the Babcock test solidifies at 100°, and without steam or water, one can hardly keep the test any warmer. These bottles, after the last run, were barely warm to the hand. One should not attempt to test at so low a temperature, as the result is inaccurate and guess work at the best. A temperature of 140° is best for reading tests.

Patrons have a just cause for complaint where such methods are persisted in, as the creamery can not possibly make accurate tests under those circumstances.

Shelled Corn Compared With Corn Chop for Young Calves.

PRESS BULLETIN NO. 89, FARM DEPARTMENT, EXPERIMENT STATION, MANHATTAN, KANS., MAY 28, 1901.

In the fall of 1900 the Kansas Experiment Station purchased 20 head of young calves, composed mostly of Short-horn and Hereford grades. On November 28, these calves were divided into 2 lots as nearly equal as possible, the average weight being 127 pounds. Both lots were fed and treated alike with the exception that one received its grain as shelled corn, and the other as corn chop. All the calves were fed mixed hay (red clover, orchard grass, and English blue-grass) for the first nine weeks, prairie hay for the next four weeks, and a mixture of prairie hay and alfalfa for the last six weeks. Each lot was given all the milk, grain, and hay the calves would eat without scouring. Salt was accessible at all times. For nine days previous to the division into lots the grain for all the calves consisted of a mixture of shelled corn and corn chop. It was noticed that the calves would begin to eat the shelled corn when three to four weeks old, and in a few cases, when two to three weeks old. At the commencement of the experiment, each lot was consuming 10 pounds of grain daily. As the experiment advanced, it was found that the corn chop calves could not eat as much grain as the shelled corn calves without causing serious trouble from scours. This accounts for the difference of 325 pounds in the grain consumed by the 2 lots.

SHELLED CORN LOT.

For nineteen weeks, under experiment, these 10 calves consumed 18,561 pounds of skim-milk, 2,611 pounds of shelled corn, and 7,088 pounds of hay. The total gain during the experiment was 2,322 pounds, or 1.74 pounds daily per head. Valuing skim-milk at 15 cents per 100 pounds, grain at 50 cents per 100 pounds, and hay at \$4 per ton, the feed cost of raising these calves amounts to \$55.06, or \$5.50 per head. The cost for each 100 pounds of gain is as follows: Skim-milk, \$1.20; grain, \$0.56; roughness, \$0.61; total, \$2.37.

CORN CHOP LOT.

The 10 calves consumed 18,666 pounds of skim-milk, 2,286 pounds of corn chop, and 7,088 pounds of hay. The gain of this lot was 2,123 pounds, or 1.59 pounds daily per head. At the prices given above, the feed cost amounts to \$53.60, or \$5.36 per head. The cost for each 100 pounds of gain is as follows: Skim-milk, \$1.31; grain, \$0.54; roughness, \$0.67; total, \$2.52. If we raise the cost of grain 5 cents per 100 pounds (about 3 cents per bushel), to pay for the grinding, the grain cost per 100 pounds of gain would be increased to \$0.59, and the total to \$2.57.

Comparing the 2 lots, we find those on shelled corn made the best gains by 199 pounds, and at a cost of 20 cents less per 100 pounds of gain. Since calves relish shelled corn and will begin eating it when three or four weeks old, and make better and cheaper gains on it, and are less subject to scours

— De Laval —

Cream Separators

Great has been the previous superiority of the De Laval machines to other separators the latest 20TH CENTURY "Alpha" developments place them still further beyond the possibility of attempted competition from anything else in the shape of a cream separator.

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Improved Iron-Stool Baby No. 1,	-	450 lbs.,	=	100.00
Improved Iron-Stool Baby No. 2,	-	600 lbs.,	=	125.00
Improved High-Frame Baby No. 2,	-	600 lbs.,	=	125.00
Improved High-Frame Baby No. 3,	-	1,000 lbs.,	=	200.00
Improved Dairy Steam-Turbine,	-	1,000 lbs.,	=	225.00

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than on corn chop, there is certainly no object in going to the expense of grinding the corn. This experiment shows that it is possible to raise good, thrifty calves that will gain 1.75 pounds daily per head on feeds produced entirely from the farm, and in a form that requires no preparation of the feed outside of harvesting except the shelling of the corn. D. H. O.

Economy in the Hand Separator.

D. F. YODER.

I have seen two kinds of stations in operation; the ordinary kind, to which the farmers, within a radius of 5 or 6 miles, send their milk to have it skimmed, and the station on the farm, where the skimming is done with a hand separator, and the cream gathered up and taken to the creamery by haulers employed by the company.

This farm station is much the best, as it costs from 2 to 3 cents less per pound to get the butter fat to the creamery; for instead of the farmer paying 10 cents per hundred-weight, or about 2 1/2 cents per pound for the butter fat, and the creamery man paying 1/2 to 1 1/2—and it all comes out of the farmer—the fat can be put in the creamery for 1 cent per pound, and at the same time leave all the skim-milk in good shape for the calves and pigs, which is fully as great an object as the saving in the hauling. Then these hand separators do not cost anything for power, and the whole thing works to the best advantage of all concerned, espec-

ially the calves, pigs, and pocketbooks. The hand machine for farm use ought to have a capacity of from 400 to 600 pounds per hour, so that it will not require too much time to do the skimming, and as it is possible to get the 600-pound capacity machine, of the best make, for \$125, there is no excuse for anyone getting along with a smaller machine.

It has been estimated by those who have been in the dairy business for six or eight years, that a good hand separator will save about \$10 per cow every year, and as it costs but little to run them, anyone can soon figure up the profits which can be made by the hand separator.



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Cow Sense.



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Western Offices—Fisher Building, Chicago, Ill.

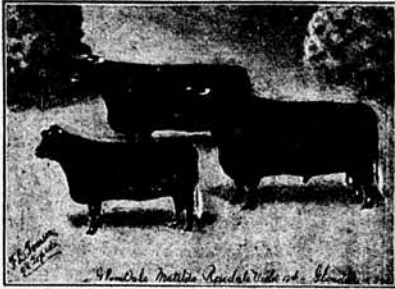






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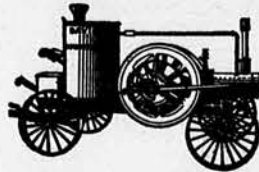
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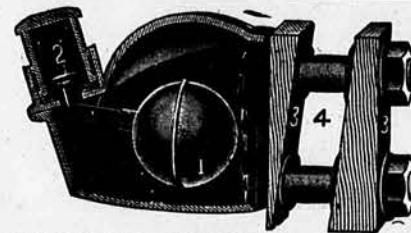
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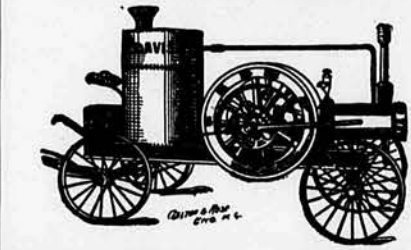
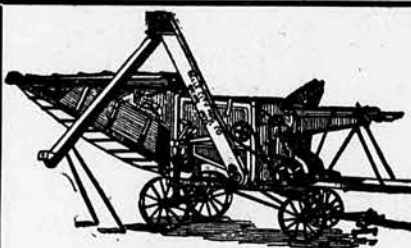
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