

# KANSAS FARMER

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NO. 21.

TOPEKA, KANSAS, THURSDAY, MAY 23, 1901.

ESTABLISHED IN 1863.  
\$1.00 A YEAR.

## Breeders' Directory

### SWINE.

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

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

**M. H. ALBERTY**, - - Cherokee, Kansas.  
**Duroc-Jerseys.**  
100 head for this year's trade; all eligible to record.

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

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

**J. D. MARSHALL**, Walton, Kansas.  
FOR SALE—Thirty-five fine gilts, sired by Miles Look Me Over 18879, prize-winner in five fairs in 1900. Also a few fine boars. Call on me or write your wants.

**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.

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

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

**POLAND-CHINAS.** Extra Good Fall Boars and Sows.  
**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 boar, also fall and winter pigs for sale.  
**WARE & POCOKE**, Station B, St. Joseph, Mo.

**D. L. BUTTON**, 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 lot 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.

**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. MAGUIRE**, Haven, Reno Co., 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 48268 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. SOMERS**, 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, granddam 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.**  
Telegraph address Pearl, Kans.

**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. 20186; dams equally as well bred, all good colors. I am also booking orders for choice spring pigs sired by Logan Chief 2d 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 Mechtildie 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,  
**CRESO, 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**  
1,300 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. Cruickshank 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. 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**, FOSTER,  
Butler Co. Ks.  
Breeders of Red Polled Cattle, Herd Headed by Powerful 4882. 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, Mechtildie 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.

**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 Iola 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** 180913 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 Acorn Duke 18th 142177. Herd composed of Young Marys, Galateas and Sanspareils. Young bulls for sale.  
**A. M. ASHCRAFT**, Atchison, Kans.  
Inquire at **H. 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 Habbo, 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.

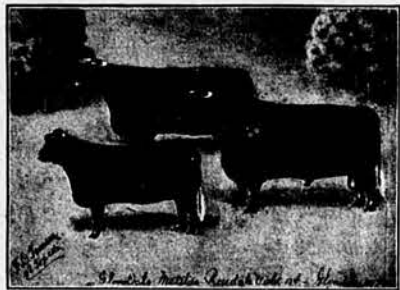
**SUNFLOWER HERD**  
**SCOTCH AND SCOTCH-TOPPED SHORTHORN CATTLE,**  
**POLAND-CHINA SWINE.**  
Herd Bull, Sir Knight 124403. Herd Boars, Black U. S. 2d 25582 S, and Sunflower Black Chief 23603. Representative stock for sale.  
ADDRESS **ANDREW PRINGLE**,  
Rural Route 2, Eskridge, Kans.

**PURE BATES SHORTHORNS.**  
  
**M. W. ANDERSON**, Independence, Mo.  
Wild Eyes, Croggs, Peach Blossoms, Duchess Cragge, Harts, Barringtons and Bracelets.  
166th Duke of Wildwood 134671 at head of herd. Can sell young females, bred or open.

**CATTLE.**  
**H. M. SATZLER,**  
 Burlingame, Kansas,  
 BREEDER OF  
**HEREFORD CATTLE,**  
**BERKSHIRE SWINE,**  
**COTSWOLD SHEEP,**  
**STOCK FOR SALE.**

**H. R. LITTLE,**  
 HOPE, DICKINSON CO., KANS.  
 BREEDS ONLY  
**The Best, Pure-Bred**  
**SHORTHORN CATTLE.**

Herd numbers 135, headed by ROYAL CROWN 125698, a pure Cruickshank, assisted by Sharon Lavender 149002.  
**FOR SALE JUST NOW 16 BULLS** of serviceable age, and 12 bull calves. Farm 1 1/2 miles from town. Can ship on Mo. Pac., R. I., or Santa Fe. Foundation stock selected from three of the great herds of Ohio.



**GLENDALE SHORTHORNS, OTTAWA, KANS**  
 Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bull Scotland's Charm 137284, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Twenty bulls for sale.  
**C. F. WOLFE & SON, Proprietors.**

**HORSES AND MULES.**  
**PERCHERON HORSES and**  
**ABERDEEN-ANGUS CATTLE.**  
**GARRETT HURST, Breeder,** Zyba, Sumner Co. Kans. Young stock for sale of either sex. All registered.

**PERCHERON HORSES.**  
**J. W. & J. C. ROBISON, Towanda, Kans.**  
 Importers and Breeders. Stallions for sale. Send for Catalogue.

**LIVE STOCK AUCTIONEERS.**  
**JAS. W. SPARKS, LIVE STOCK AUCTIONEER**  
**MARSHALL, MO.**  
 Have been, and am now, booked for the best sales of high-class stock held in America. Write me before claiming dates.

**R. E. EDMONSON, late of Lexington, Ky., and T. R. tersall's (of Chicago, limited), now located at 208** Sheildley Building, Kansas City, Mo., offers his service as Live Stock Auctioneer. All the Herd and Stu books. Write before fixing dates.

**CAREY M. JONES,**  
**Live Stock Auctioneer.**  
 Davenport, Iowa. Have an extended acquaintance among stock breeders. Terms reasonable. Write before claiming date. Office, Hotel Downs.

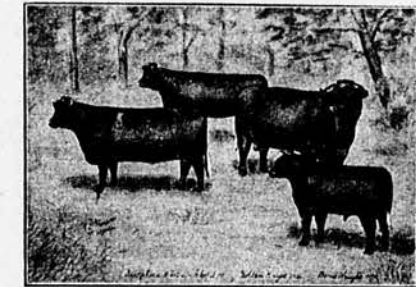
**LIVE-STOCK AUCTIONEER**  
**Col. J. N. HARSHBERGER**  
 Lawrence, Kansas.  
 Special attention given to selling all kinds of pedigreed stock, also large sales of graded stock. Terms reasonable. Correspondence solicited. Mention KANSAS FARMER.

**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.

**STEELE BROS., Belvoir, Douglas Co., Kansas.**  
 Breeders of **SELECT**  
**HEREFORD CATTLE.**  
 Young Stock For Sale Inspection or Correspondence Invited

**T. K. Tomson & Sons,**  
 \* \* Proprietors of \* \*  
**Elderlawn Herd of Shorthorns.**  
**DOVER, SHAWNEE COUNTY, KANSAS.**  
 GALLANT KNIGHT 124468 in service. How would you like a cow in calf to, or a bull sired by Gallant Knight 124468? His get won 14 prizes at the National Cattle Show held at Kansas City last October. 100 head in herd. Correspondence and inspection invited.

**SCOTT & MARCH,**  
 BREEDERS OF PURE BRED  
**HEREFORDS,**  
**BELTON, CASS COUNTY, MO.**  
 BULLS in service, HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93862, FRISCOE 93874, FULTON ADAMS 11th 83731. HESIOD 29th 66304 Twenty-five miles south of Kansas City on Frisco, Fort Scott & Memphis, and K. C., P. & G. Railroad



**PEARL SHORTHORNS**  
 HERD BULLS:  
 BARON URY 2d 124970. LAFITTE 119915.  
 Inspection Invited  
**C. W. TAYLOR, Pearl, Kans**

**Draft Stallions** OF THE **SHIRE, CLYDE, AND....**  
**PERCHERON BREEDS.**  
 Imported, and Home Bred. All Ages.  
 POLLED DURHAM AND SHORTHORN CATTLE. POLAND-CHINA HOGS. Prices Right  
**Snyder Brothers, Winfield, Kansas.**

**AMERICA'S LEADING**  
**HORSE IMPORTERS.**



**100 PERCHERON STALLIONS**  
**40 FRENCH COACH STALLIONS**  
 Now on hand. All mature and ready for service. Frequently there is a neighborhood in which there is no stallion men who will invest the price necessary to procure a first-class registered stallion. In such a locality those farmers and breeders who wish to raise horses must resort to some means of procuring a good Stallion in their neighborhood. We have a plan that has proven most successful where the above conditions exist, and will furnish full explanation upon inquiry.  
 If you live in such a neighborhood, write us and we will show you how you can procure one of the best stallions and raise horses that will sell for the highest prices.  
**McLAUGHLIN BROS.,**  
 Sixth and Wesley Avenues, COLUMBUS, OHIO.

**Sunny Slope Herefords**  
 ...290 HEAD FOR SALE...  
 Consisting of 200 bulls, from 8 months to 4 years old, and 90 yearling heifers. I will make very low prices on bulls, as I desire to sell all of them before May 1. Write me, or come at once if you want a bargain.  
**G. A. STANNARD, Emporia, Kansas.**



**GUDGELL & SIMPSON,**  
 INDEPENDENCE, MO.,  
 BREEDERS AND IMPORTERS OF  
**Herefords**  
 One of the Oldest and Largest Herds in America.  
**ANXIETY 4th Blood and Type Prevail.**  
 BOTH SEXES, IN LARGE OR SMALL LOTS ALWAYS FOR SALE



**GALLOWAYS.**  
 LARGEST HERD OF REGISTERED GALLOWAYS IN THE WORLD.  
 Bulls and females, all ages for sale—no grades. - - Carload lots a specialty.  
**M. R. PLATT, Kansas City, Mo.** OFFICE AT PLATT'S BARN, 1613 GENESSEE STREET.

**GALLOWAYS.**  
 Largest Herd of Registered Galloways in Kansas.  
 Young bulls, cows, and heifers for sale.  
**E. W. Thrall, Eureka, Kansas**

**50 Shorthorn Bulls For Sale.**  
 The Bill Brook Herd of Registered Shorthorns  
 Have on hand for ready sale, 50 Young Bulls, from 6 to 20 months old; also a few good heifers.  
 Address. **H. O. Tudor, Holton, Kans.**

**VALLEY GROVE SHORTHORNS**  
 THE SCOTCH BRED BULLS  
**LORD MAYOR 112727, AND LAIRD OF LINWOOD 127149,**  
 HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull, Baron Lavender 2d, out of Imp. Lady of the Meadow, and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.  
 Address **T. P. BABST, Proprietor, Dover, Shawnee Co., Kans**

**Tebo Lawn Herd of Shorthorns.**  
 —HERD BULLS ARE—  
 IMPORTED COLLYNIE 135022 bred by Wm. Duthle.  
 IMPORTED BLYTHE VICTOR 140609 bred by W. S. Marr.  
 IMPORTED BAPTON MARQUIS bred by J. Deane Willis.  
 ADMIRAL GODOY 133872 bred by Chas. E. Leonard.  
 FEMALES are the best CRUICKSHANK families topped from the leading importations and American herds. These added to the long established herd of the "Casey Mixture," of my own breeding, and distinguished for individual merit, constitute a breeding herd to which we are pleased to invite the attention of the public. Inspection and correspondence solicited. Address all correspondence to manager.  
**E. M. Williams, Manager.**  
**G. M. CASEY, Owner,**  
 Shawnee Mound, Henry County, Mo.

FARMERS WILL HANDLE THEIR OWN GRAIN.

A delegate meeting of wheat-growers was held at Salina, May 16 and 17, at which a cooperative company was organized to handle the wheat of members. This company has been duly incorporated. It proposes to act with the many local cooperative associations which are in process of formation throughout the State. The wheat belt of Kansas was well represented by men who have the grain growing in their fields. There was not a semblance of politics or party-seeking in the entire proceedings. On the contrary the gathering was one for business only, and to business the farmers proceeded with an unusually small amount of delay for speech-making. Such inquiry as the writer was able to make as to the politics of the nine directors chosen disclosed the fact that in politics three are Populists, three are Republicans, while as to the other three no information was obtained.

The purposes and plan of the State organization are clearly set out in the charter and by-laws. It was the intention of the editor to publish in this paper the by-laws of one of the local companies, but it has been suggested that local companies hereafter formed will probably use a form similar to that of the State organization, and that the changes necessary to adapt these to local companies will be readily seen. All questions as to these points should be addressed to the secretary of the State association, Mr. James Butler, Topeka.

Charter of The Farmers' Co-Operative Grain and Live Stock Association.

The undersigned, citizens of the State of Kansas, do hereby voluntarily associate ourselves together for the purpose of forming a private corporation under the laws of the State of Kansas, and do hereby certify

First—That the name of this corporation shall be The Farmers' Co-operative Grain and Live Stock Association.

Second—That the purposes for which this corporation is formed are to buy and sell on commission, or otherwise, all kinds of grain, live stock, or other farm produce and for this purpose to act as agent for any person, company, or organization, or association to establish and maintain offices, yards, grain elevators, marts and emporiums for the safe keeping, selling, and distributing such products, to conduct a business exchange and to transact any business necessary or incidental to the foregoing purposes.

Third—That the place where its business is to be transacted is at Topeka, Kansas, and subordinate offices at such other places in the United States as the Board of Directors may designate.

Fourth—That the term for which this corporation is to exist is ninety-nine years.

Fifth—That the number of directors of this corporation shall be nine, and the names and residences of those who are appointed for the first year are:

- J. A. Bucklin.....Oakley
A. P. Collins.....Salina
C. W. Peckham.....Haven
H. C. Hawkins.....Kellogg
James Butler.....Topeka
W. C. McConnell.....Morehead
R. W. Smith.....Delphos
Geo. E. Smith.....Kensington
W. O. Mathers.....McPherson

Sixth—That the estimated value of the goods, chattels, lands, rights, and credits owned by the corporation is ..... Dollars. That the amount of the capital stock of this corporation shall be Twenty Thousand Dollars, and shall be divided into two thousand shares of ten dollars each.

Seventh—That the names and residences of the stockholders of said corporation are as follows, to-wit:

- Name Residence.
H. N. Gaines.....Topeka
J. A. Bucklin.....Oakley
C. W. Peckham.....Haven
W. S. Elem.....Wherry
R. W. Goodman.....Antrim
W. A. Tanner.....St. John
H. Langfeld.....Ellinwood
C. S. Newton.....St. John
Isaac Coslett.....Danville
J. W. Clark.....Oakley
E. C. Prather.....Oakley
J. W. Purdum.....Grinnell
W. J. Davenport.....Oakley
John Hapes.....Oakley
E. L. Parker.....Luray
Joseph Sparks.....Bison
James Butler.....Topeka
W. P. Harrington.....Gove City
G. R. Werner.....Colby
Geo. H. Lawson.....Clay Center
Wm. A. Kurtz.....Clifton
W. D. Gilpin.....Topeka
W. C. McConnell.....Morehead
Lesley Bros. ....Culver

- Fred J. Close.....Smoky Hill
L. E. Dowell.....Morehead
John Marquardt.....La Crosse
John Chittenden.....Hays
B. F. Replogle.....Hays
R. H. Irons.....McPherson
M. T. Shade.....Pfeiffer
Geo. Britton.....Bison
M. K. Krider.....Rozel
S. W. Tuttle.....Rozel
Geo. W. Divilbiss.....Lindsey
John Randell.....Mingo
Jas. S. Vandeventer.....Yorktown
H. C. Hawkins.....Kellogg
E. F. Green.....Hackney
T. J. Timmerman.....Yorktown
S. C. Martin.....Atwood
G. Johnson.....Oberlin
G. W. Sloan.....Selden
Mich Sweeney.....Pawnee Rock
J. E. McQuillen.....Great Bend
H. D. Martin.....Topeka
David Shewer.....Bashan
Fred Borgstadter.....Bashan
George Martz.....Bashan
R. W. Smith.....Delphos
A. C. Hellman.....Salina
A. P. Collins.....Salina
R. M. Hammond.....Portis
G. W. Tunnell.....Brownell
F. H. Suffield.....Canton
John W. Yowell.....McPherson
W. O. Mathes.....McPherson
J. B. Felton.....McPherson
J. A. Brucee.....Canton
Fred Jackson.....McPherson
G. E. Smith.....Kensington
G. A. Bishop.....Lyons
Horace Rutler.....Lyons
G. D. Hoss.....Geneseo
E. B. Cowgill.....Topeka
Fred Nickerson.....Oakley
E. D. Smith.....Lincoln
Clarence C. Rolfe.....Monument
W. F. Kline.....Kanopolis

In Testimony Whereof, We have hereunto subscribed our names, this 17th day of May, A. D. 1901.

JAMES BUTLER,
W. C. MCCONNELL,
H. C. HAWKINS,
J. A. BUCKLIN,
R. M. HAMMOND.

State of Kansas, Saline County, ss. Personally appeared before me, a Notary Public in and for Saline County, Kansas, the above named James Butler, W. C. McConnell, H. C. Hawkins, J. A. Bucklin, and R. M. Hammond, who are personally known to me to be the same persons who executed the foregoing instrument in writing, and duly acknowledged the execution of the same.

In Testimony Whereof, I have hereunto subscribed my name and affixed my notarial seal, this 17th day of May, A. D. 1901. E. W. BLAIR, Notary Public. My commission expires March 9, 1902.

By-Laws.

ARTICLE I.—MEMBERSHIP AND STOCK.

Section 1. Any person over the age of 16 years, who is engaged in the business of farming in any of its branches, any grower of live stock, grain or farm produce, or any farmers' cooperative association, shall be eligible to become a stockholder in this association upon making application in the following form to-wit:

APPLICATION FOR STOCK IN THE FARMERS' CO-OPERATIVE GRAIN AND LIVE STOCK ASSOCIATION.

I, ....., a resident of ....., in the county of ....., State of Kansas, do hereby make application for ..... shares of the capital stock of The Farmers' Co-operative Grain and Live Stock Association, of the par value of \$10 each, and agree to pay for same at such time and in such manner as may be required by the Board of Directors. In consideration of the acceptance of this application and the advantages to accrue to me as a stockholder, I hereby agree that so long as I remain a stockholder in this association, I will employ said association to dispose of any grain or other products which I may desire to sell in car lots and agree to pay a commission of one cent per bushel for selling wheat and one-half cent per bushel for selling corn, and its regular commission for selling other products. And in the event of my shipping or selling any grain or other produce in car lots to any competitor of said association, I agree to immediately report such sale to the association and pay one-half of the above named commission to said association as liquidated damages for breach of this agreement. I further agree that any failure on my part to comply with the terms of this agreement shall forfeit my right to continue as a stockholder in said association and I agree to surrender my stock for cancellation upon the payment to me by the association of 50 per cent of the amount actually paid thereon, forfeiting to the association the balance of such payment, together with any profit that may have accrued as a penalty for violation of this agreement. I further

agree to conform to the by-laws of the association which exist at this time or may hereafter be adopted, and that I will not dispose of the stock hereby subscribed for to other than a member of this association, without the written consent of its officers. I further agree that any controversy arising between the association and myself shall be settled by arbitration, as provided in the by-laws of the association.

Dated at ....., Kansas, this ..... day of .....

Witnesses:

Sec. 2. No person shall be entitled to more than ten shares of stock in this association, and the stock shall be liable for any indebtedness to the association and shall not be transferred while the registered holder thereof is indebted to the association in any manner. This section of the by-laws shall be printed upon the back of all stock certificates, together with the notice that all stock is subject to the provision of the by-laws of the association, and cautioning all persons against purchasing stock before consulting said by-laws.

Sec. 3. Whenever any stockholder shall fail to pay an assessment on his stock in the manner and at the time required by the Board of Directors, he shall forfeit all previous payments, and the association shall be deemed and held to have a lien upon his stock for the full amount of such previous payments.

Sec. 4. Any stock forfeited to the association shall be sold by it before any new stock is issued and until sold shall be carried on its books as part of its assets.

ARTICLE II.—OFFICERS AND MANAGEMENT.

Sec. 1. The officers of the association shall consist of a President, a Vice President, a Secretary, a Treasurer, and a Board of nine Directors. The directors shall be elected at the annual meeting of the stockholders, and the other officers shall be elected by the Board of Directors at their first meeting after their election. All such officers shall serve for a term of one year and until their successors are elected and qualified.

Sec. 2. The business of the association shall be under the management and control of the Board of Directors, and the association shall not engage in any business unauthorized by its charter or enter into any contract or undertaking except by direction of the Board.

Sec. 3. The Directors may appoint an attorney for the association, and such agents, or other representatives, and employ such persons as may be necessary to properly conduct its business, and all such appointments shall be subject to the pleasure of the Board as to time of employment and compensation.

Sec. 4. The Board of Directors may create an Executive Committee consisting of the President, Secretary and Treasurer of the company, and empower such committee to act in certain matters during a recess of the Board, but the powers of such committee shall be especially stated by resolution of the Board and in no case shall said committee exceed the powers of authority thus granted.

ARTICLE III.—QUALIFICATIONS, POWERS AND DUTIES OF DIRECTORS AND OFFICERS.

Sec. 1. Before entering on the discharge of his duties, each Director shall take and subscribe the usual official oath.

Sec. 2. At their first meeting after their election the Board shall elect from their number a President and a Vice President, and from among the stockholders a Secretary and Treasurer.

OFFICERS' BONDS.

Sec. 3. The Board shall fix the amounts of the bonds of the Secretary and the Treasurer at double the probable amount of money coming into their possession respectively, and shall approve of the same, and shall designate a proper custodian for all bonds and see that such bonds are delivered and receipted for by such custodian; and in case the Board shall fail to cause such bonds to be given the Board shall be held as bondsmen.

STATEMENTS, BOOKS AND ACCOUNTS.

Sec. 4. The Board of Directors may require any officer, agent or employee of the association to submit a written report of any transaction had by him at any time and any failure or refusal to submit such report shall subject such officer to suspension or removal at once in the discretion of the Board.

Sec. 5. The Board of Directors shall have power to designate the manner of

keeping the books and records and accounts of the association and it shall be their duty to see that all accounts are kept in a neat, accurate and proper manner and that the books are written up and posted at all times, to the end that an inspection of same at any time will disclose the true condition of the association. And they shall require a monthly trial balance to be taken at the close of each month. At the end of each fiscal year they shall cause to be prepared a full and complete statement showing the condition of the company, a statement of the receipts and disbursements and a statement of the profits and losses for the preceding year, and shall cause such statements to be printed in convenient form and distributed to each stockholder by mailing a copy, postage paid, to his last known address; provided, that the Board may elect to cause such statement to be published in the official publication of the association, in which case the mailing of the paper shall take the place of a printed copy of such statement.

REMOVAL OF OFFICERS.

Sec. 6. The Board shall have power to remove any officer, agent or employee at any time for misconduct in office, incompetency or for any cause which in their judgment affects the best interests of the association; provided, that any such officer shall be served with a notice of the charges against him, upon which it is expected to act, at least ten days prior to the meeting at which they will take action. And provided further, that such officer, agent or employee shall be entitled to be heard in his own behalf, either in person or by attorney.

VACANCIES IN BOARD OR OFFICE.

Sec. 7. The Board of Directors shall have power to fill any vacancy in the Board or in any office by appointment. Such appointee shall hold office for the unexpired term unless removed for cause.

DIVIDENDS.

Sec. 8. The Board of Directors shall have power to declare dividends from the net earnings of the association, either annually or semi-annually, and may provide that such dividends shall be payable in cash, or if the stock has not been fully paid up, may provide that same be credited to the stock pro rata, or may provide for part cash and part stock dividend. In case of a stock dividend the same shall be endorsed on each certificate outstanding, or presentation of the same at the general office of the company; provided, that no dividend shall be declared in excess of the net earnings of the association after deducting all losses; and it shall be the duty of the Board to carefully estimate the value of all real estate and property owned by the association, causing any depreciation to be charged off before declaring any dividend; and provided further, that before any dividend is declared, ten per cent of the net earnings since last dividend shall be carried to a surplus account.

Sec. 9. The Board of Directors may set aside ten per cent of the net earnings of the association as an educational organization fund to be used in propagating the plan of the association and extending its limits.

PRESIDENT.

Sec. 10. The President of this association shall perform the duties usually devolving upon such officer. Shall sign all orders drawn upon the Treasurer, and all contracts, agreements, or undertakings entered into by order of the Board of Directors; shall have a general supervision over the affairs of the association; shall act in an advisory capacity to all officers, agents, and employees as the executive head of the Board, and shall perform such other duties as may be required of him from time to time by the Board. Before entering upon the discharge of his duties he shall give such bond for the performance of the same as shall be required by the Board, and shall receive such compensation as they may provide.

VICE PRESIDENT.

Sec. 11. The Vice President shall perform the duties of President in his absence or in case of his inability or refusal to act.

SECRETARY.

Sec. 12. The Secretary shall be clerk of the Board of Directors. He shall keep a true and correct record of all the proceedings of the Board and of the stockholders, transcribing the same into a permanent record book. He shall have charge of the books, papers and records of the association,

(Continued on page 490.)

Agricultural Matters.

Soy-Beans in Kansas in 1900.

FROM KANSAS EXPERIMENT STATION BULLETIN NO. 100 FARM DEPARTMENT.

The year 1900 was the most unfavorable but one that we have had in twelve years of growing soy-beans. The usual rainfall in May was followed by an exceedingly dry June. The rainfall in August was deficient, and during the dry weather hot winds blew. These made the beans ripen too soon, reducing the yield greatly and injuring the quality of the beans. The beans had to be cut and shocked or stacked in August. September opened up with about ten days of continuous rain, seriously damaging many of the beans in the stack and spoiling those still in the field. Such an unfavorable condition is unusual. The following table shows in inches the normal rainfall and the rainfall in 1900, as recorded by Pres. E. R. Nichols:

Table with 3 columns: Month, 1900, Normal. Rows for June, July, August, September.

EARLY YELLOW SOY.

The college had 59.5 acres planted to early yellow soy-beans, besides the area planted to this variety in the variety test. Thirty-seven acres planted on high upland with a decided southern slope yielded 3.9 bushels per acre. Another planting of 2.7 acres on upland with southern slope yielded 7.4 bushels per acre. An upland field of 3.5 acres having a northern slope yielded 7.6 bushels per acre. A field of 16 acres lying along a small, dry stream produced 9 bushels per acre. These 4 fields were planted in May, and were in the blossom when struck by the hot winds; the more exposed the field the lower the yield. A patch of one-fifth of an acre partly protected on the south by trees was planted June 7, and yielded at the rate of 35.6 bushels per acre.

Soy-beans have been raised on the college farm for twelve years. The yield of soy-beans, corn, and Kaffir-corn, for this period, is given in the following table:

Table with 4 columns: Year, Soy-beans, Corn, Kf.-cn. Rows for years 1889-1900 and averages.

In 1890 and 1897 the yield per acre was not determined, but notes taken during these years show that the crops were good ones, and in calculating these averages it has been assumed that they were equal to the average. It is probable from the notes that the yield in these two years was greater than the average. While the average yield of soy-beans seems low, the food value produced is fully equal to that of the corn produced during the same time, and the beans have to their credit their effect on the soil and their value in a rotation.

TEST OF VARIETIES.

We made a test of 16 varieties of soy-beans, using 22 acres in this test. Each variety was planted in rows and cultivated, in the test for grain; and each variety was planted thickly in

FARM WAGONS

The Western Farmer or Teamster who neglects to investigate the new Tiffin Wagon is not alive to his own interest. It runs easier, wears longer and looks nicer than any other wagon. Insist upon having it. If your dealer don't handle it and will not get it for you, write to us. "We will do the rest."

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

Reduction in Price of Binder Twine

KANSAS BINDING TWINE Is made from pure Sisal and put up in 50-lb. bales. No bales broken for shipment. Price is 7 1/2 cents per pound, f. o. b. Lansing. Special price on 10,000-lb. lots. Remit with order to

E. B. JEWETT, Warden, Lansing, Kansas.

drills, the same as wheat, in the test for hay. There was not sufficient seed of 6 varieties received from Japan to make a fair test of yield, 2 varieties were too late in maturing to furnish seed, and in one variety the seed was so poor that no start was secured.

The table following shows the results obtained with these varieties. In each variety the yield of grain and the yield of hay was secured from different plots:

VARIETIES OF SOY-BEANS.

Table with 4 columns: Variety, Seed from, Yield of beans per acre, Yield of hay per acre. Rows for various varieties like Early Yellow, American Coffee, etc.

As usual, the Early Yellow soy gave the highest yield of both grain and hay. It was closely followed by the Early Soy from Johnson & Stokes, the Dwarf Soy from Hilliard, the Early Soy from Henderson, and the American Coffee from Gregory. The season was so unusually unfavorable that the acclimated variety—Early Yellow—had a distinct advantage, and it may be that after these four promising new varieties become acclimated they will yield well. We will give them a further trial. The Early Soy from Henderson is the variety introduced by Prof. Wm. P. Brooks of the Massachusetts Agricultural College, and has yielded with him as high as 50 bushels per acre. It is a very distinct variety, and has a rugged, vigorous appearance.

The twelve years' test made at this station of varieties of soy-beans show that the Early Yellow soy is the best variety yet tried for Kansas. We hope to find or breed something better.

TESTS OF THE SOY-BEANS BY KANSAS FARMERS.

The first general trial through the State of the soy-beans was made in the summer of 1900. (See map.) We have received reports from 292 Kansas farmers who raised soy-beans. These reports come from 75 of the 105 counties of the State. The letters, giving these reports, detail the methods used, the difficulties encountered, and the failures and successes.

SUMMARY OF TESTS BY KANSAS FARMERS.

Most of the farmers, successful in growing soy-beans, plowed and harrowed the ground as for surface planting of corn. A few listed or double-listed, either listing shallow or else harrowing the furrows nearly full.

The Early Yellow soy gave the best returns in most cases. A few farmers report success with the late varieties, and fully as many more found the late

probable that in seasons having the ordinary rainfall the beans will be a profitable crop to plant after wheat and oats.

The same cultivation as for corn was usually given. "Eagle-claw" attachments to the ordinary 2-horse cultivator and the 5-toothed cultivator were frequently used. Level culture is necessary to ease in harvesting.

The season was exceptionally unfavorable. Hot winds and drought

from the time of blossoming to maturing cut the crop short, ripened them prematurely, and shriveled the beans. This was immediately followed by heavy and long-continued rains, that injured the beans in shock and stack. The worst pest was rabbits, the injury from them varying from slight to the total destruction of every stalk on 11 acres. In some parts of the State soy-beans can not be profitably grown while the rabbits are so numerous. In many places fields of 10 to 20 acres will be profitable, as the rabbits are sufficiently numerous to eat the outside rows only, while small patches planted in the same field would be entirely destroyed. A few cases report serious injury or total destruction of the planting by grasshoppers, but most of the trials show no injury from these insects. A few reports show injury from other insects.

Most farmers had difficulty in harvesting the beans, and many farmers will abandon the crop after another trial, unless they are able to improve on their present methods of harvesting. Favorable reports were made of harvesting with knives attached to the beams on cultivators, with mowing-machines, with plows set to cut just under the surface, and with home-made sleds having knives attached. Other farmers report unfavorably in regard to each of these methods. In this connection, it may be mentioned that a regular bean harvester will cut an acre an hour and the work can be done as easily as cultivating corn. Good harvesters are made by Charles H. Bidwell, Medina, N. Y., and by the Le Roy Plow Company, Le Roy, N. Y.

The yields were from nothing to 31 bushels of grain per acre, where the beans were cultivated, and up to 2 tons of hay per acre, where sown broadcast, the hay being reported as nearly



The dots show places where soy-beans were grown in Kansas in 1900.

sorts unprofitable. It is possible that late varieties of soy-beans may be found to do well in the southern tier of counties.

The favorite method of planting was with a grain-drill, stopping up all the holes but those that put the rows 32 inches apart, and dropping single beans 2 to 3 inches apart in the row. Corn-planters with drill attachments and 1-horse corn-drills were frequently used. Objections are made that corn-planters put the rows too far apart for the best yields.

The best yields were usually secured by planting as soon as corn planting was finished. Several farmers in eastern Kansas report that with them the beans may be planted at any time before July 1. In eastern Kansas, it is

equal to alfalfa and superior to clover. Most of the yields were from 12 to 20 bushels per acre. On the college farm soy-beans yielded 7.4 bushels per acre, alongside of Kaffir-corn yielding 20 bushels, and corn a total failure.

Many reports show a failure of seed to grow. Soy-beans for seed must be kept in cool, well-ventilated bins, in thin layers. On buying seed, empty the sacks as soon as received, and keep the beans spread out in a dry, cool place, in a thin layer. A grower may send the best of seed, and yet, if it is kept in the sacks until planting time, it will usually heat sufficiently to destroy its growing powers.

Almost every feeding trial was highly favorable. Satisfactory results are reported in feeding soy-beans to horses,

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mules, colts, steers, dairy cows, young stock, calves, sheep, lambs, hogs, chickens, and other poultry. Many farmers write that they never fed anything equal to soy-beans. A few say that their stock could not be induced to eat either beans or hay. Some of the reports show the beans harvested in the field by cows, calves, and hogs, the entire plant being eaten to the ground. The plants fed green made a palatable food. Many hog raisers fed the beans in the straw, securing as good results as when threshed, and reports are given showing satisfactory results from feeding the beans in the straw to all kinds of farm animals. The general opinion seems to be that soy-beans are an appetizing feed, producing good growth, increased yield of milk, rapid gain in fattening, and that soy-beans keep the coat glossy and the animal in a thrifty, healthy condition. These reports were received from 292 farmers, and came from 75 of the 105 counties of the State. One hundred and thirty-five farmers write that the soy-bean is a profitable crop, 68 have a favorable opinion but need further trial, 33 report unfavorably, and 30 think the crop a total failure. The others did not express their opinions.

The season was the most unfavorable for growing soy-beans but one that we have had in twelve years. The crop was a new one to most of the farmers raising it, and many mistakes were made. Good results were secured in this poor season, and with a new crop by a majority of farmers who reported, indicating that in an ordinary year most Kansas stock raisers will find this crop profitable.

SOIL INOCULATION FOR SOY-BEANS.

In Bulletin No. 96, published by this station May, 1900, the fact was noted that Kansas soil does not contain the bacteria which form tubercles on the roots of the soy-bean.

The yield of crops of all kinds is increased where they follow soy-beans, wheat showing in large fields an increase of 5 bushels per acre, when following soy-beans, over that grown on adjoining land that had not been in beans. This increase is shown where soy-beans bearing no tubercles have been grown. Where no tubercles grow on the roots the soy-bean does not add fertility to the soil, but simply makes available for other crops the plant-food already in the soil. The soy-bean is a strong feeder, and can obtain plant-food from the soil that a weaker plant, like wheat, is unable to secure. Then, when the beans are harvested, their roots decay and the plant-food in them is in such a condition that wheat or other ordinary farm crops can easily use it.

Inoculated soy-beans add plant-food to the soil. Nitrogen is one of the most needed elements of plant-food. The reduced yield from our long-cultivated field comes chiefly from the lack in the soil of nitrogen in the form which our field plants can use. Four-fifths of the air is pure nitrogen, but ordinary plants can make no use of it. The bacteria that cause and live in the tubercles on soy-bean roots take this nitrogen from the air and put it in such a condition that our ordinary field plants can use it. In this way inoculated soy-beans, while yielding a profitable grain crop, make the soil richer than before the crop was grown. Where the beans do not have tubercles no plant-food is added to the soil, but that already there is made available for the production of larger yields of crops following the soy-bean, and in the end the land is made poorer.

In order to introduce these bacteria in soil where they are absent, soil is taken in which soy-beans bearing tubercles on their roots have grown and this soil is planted with soy-beans. The soy-beans germinate, and the young rootlets immediately come in contact with the bacteria and become infected. It requires from 1,000 to 1,200 pounds

of inoculated soil for 1 acre. A trial was made to develop a method of inoculation that would not require so much inoculated earth. Ten pounds of inoculated soil and 10 pounds of water were thoroughly mixed by stirring together at intervals for half an hour. The dirt was then allowed to settle and the water was poured off. To this water was added 1 pint of molasses. This gave enough liquid to wet half a bushel of beans. The beans were thoroughly dampened by pouring the sweetened water over them and mixing. The wet beans were placed in a burlap bag and allowed to drain. They were then spread out and dried for planting. In a previous experiment using the same method, but omitting the molasses, inoculation was a failure, as the bacteria would not adhere to the beans. Molasses was added in this experiment with the hope that it would stick to the beans and would hold the bacteria.

A plat was planted without being inoculated, another plat with beans inoculated with this fluid, and a third plat with beans inoculated by planting with infected earth. The plants in the plats not inoculated bore no tubercles, those in the plat inoculated with the liquid bore an average of 1 tubercle to the plant, and those inoculated by infected earth in the usual way bore an average of 1½ tubercles to the plant.

CONCLUSION.

Soy-beans have been grown on the college farm for twelve years, and during that time have produced feed worth fully as much as corn grown on an equal area of the same kind of land. They stand drought well, and supply cheaply protein, the material necessary in the formation of blood, muscle, and milk. They increase the yield of succeeding crops, and are an excellent crop with which to prepare the soil for alfalfa or wheat. They are not touched by chinch bugs, but are a favorite feed for rabbits. They are a valuable feed for horses, beef and dairy cattle, calves, hogs, sheep, and poultry, supplying in a home-grown crop protein and mineral matter, the materials in which most Kansas feeds are deficient.

A majority of the 292 who reported growing soy-beans in 1900 think them a profitable crop, and this with a new crop, in an unfavorable season.

On Kansas farms where there is a sufficient supply of alfalfa for all the stock, we do not think it will usually pay to grow soy-beans. Alfalfa supplies protein and mineral matter at a less cost than soy-beans. On most Kansas farms where there is not alfalfa for all the stock, it will pay to raise soy-beans. Judging from the experiences of the farmers who raised the beans last year, it is most profitable to plant 10 acres or more.

Inoculated soil for soy-beans may be obtained in limited quantities of the farm department of this station at 50 cents for 100 pounds. We advise raising soy-beans two years in succession where the soil has been inoculated, in order to make the inoculation thorough and permanent.

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 18, 1901—H. C. Duncan, Shorthorns, Kansas City.
- January 28 to 31, 1902, for Sotham's Annual Critterton Sale, at Kansas City.

Care and Management of Hogs for the Greatest Profit.

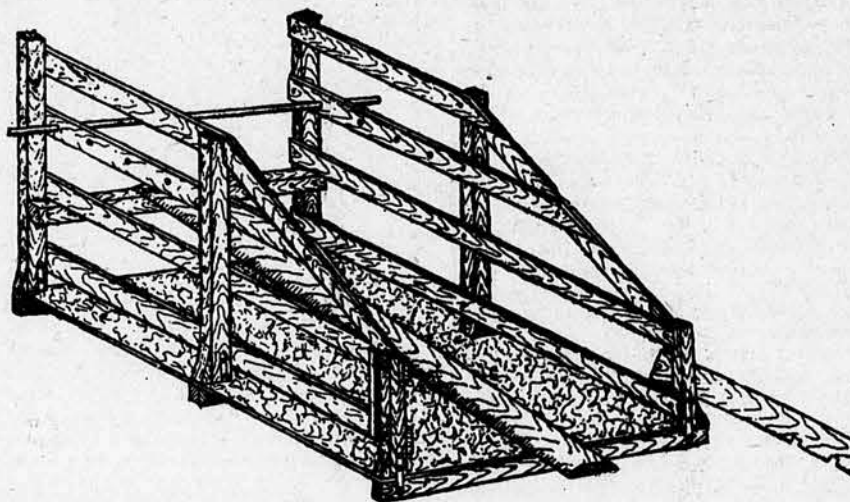
W. A. HART, NEW MT. PLEASANT, IND., IN SWINE ADVOCATE.

The sows should be bred to farrow near the latter part of March and the latter part of September, and have them farrow their first litter of pigs near sixteen months of age. Sows bred too young frequently farrow small litters of pigs—each pig selects a teat and the remaining teats dry up. The teats permitted to dry up seldom produce milk for any great length of time at any subsequent farrowing, thus making the sow an unprofitable brood sow. Besides, the sow bred too young seldom attains sufficient size to carry the flesh necessary to suckle off to the little to produce the most rapid growth. Have the sow raise regularly two litters of pigs each year. Sows not bred to farrow twice each year frequently are

difficult to get with pig or farrow unsatisfactory litters. Many sows are at their best as breeders at from 6 to 12 years of age. Make the sow work for her pigs from one year's end to another. Few seem to realize the importance of keeping the brood sow ever at work. Feed fed to the sow will produce as much growth on the pigs as if fed to the pigs direct, besides the sow from time of weaning to time of farrowing should be made to consume sufficient feed not only to maintain herself and properly develop her unborn litter, but also sufficient that she may store up 200 or 300 pounds of flesh to suckle off to the expected little. It may also be a surprise to many to know that it is a part of the economy of nature that the mother may thus store up surplus flesh while carrying her young, and again, after the birth of the young, through the medium of her milk, transmit it to the pigs with but little, if any, loss.

It is one of the provisions of nature that the mother should thus lay on surplus flesh. Note what a great amount of flesh she will lay on at this period for feed consumed. Note how she relishes almost any manner of food. The most successful breeder and feeder is the one that keeps closest to nature.

Our civilization has brought about conditions by reason of which we have drifted somewhat from nature's methods, but the successful feeder and breeder plans his feeding and management to conform as nearly as possible to the natural laws. The more nearly he succeeds in this the more success



attends his efforts. Mature sows and boars should be used for breeding purposes if one obtains the proper sized litters of big, strong, growthy pigs. A good specimen of boar of any of the leading breeds of to-day, when properly developed, is too large and heavy to obtain a full and complete service upon any but the largest and fully matured brood sows. For this reason many discard a boar just at a time when he is approaching the best period of his life. Instead of discarding the boar the sow should be placed in a properly arranged breeding box when served. This will insure a full and complete service free from too much worry. Sows so bred will produce better litters of pigs. To use a breeding box does not necessarily mean that one should purchase one of the high-priced breeding boxes advertised in the agricultural press.

The cut shows a breeding box that may be made by any farmer or stockman with but little expense, and yet will answer every purpose. By the use of this breeding box it matters not how small the sow, she may be bred to any sized boar and always receive a good service. In order to accommodate all sized sows the floor of this box is made 32 inches wide and 5 feet 4 inches long, and is nailed to 3 cross pieces 2 by 3 inches, placed an equal distance apart underneath the floor. The upper pieces are 2 by 3 inches, and the 2 longer ones on each side are the same size and 14 inches long. The cut shows straps of iron on each side of these upright pieces and extending down through the floor so that the ends of the straps of iron fit on each side of the cross piece underneath the floor. In from the row of mortises in the right side of the floor 5 inches and 10 inches a second and third row of mortises are made, that this side of the box, when the sows to be bred are smaller, may be moved in and thus make the box narrower to suit the size of the smaller sow. The body of the sow should quite or nearly fill the space between the two sides of the box. The board lengthwise in the center of the box is 5 inches wide, with the two upper edges rounded off. This board is

bolted at one end and to a cross piece about 10 inches above the floor. This cross piece also has holes bored in the ends to suit the different widths at which the box is used. The high open end of the breeding box should be placed against a fence or in a corner of a building when used. The cut shows the box ready to receive the sow. As soon as the sow goes into the box astride the board, the end of the board now resting on the floor is raised up between her hind legs and the notched bar shown in the cut is slipped through the end of the box under the board and behind the hind legs of the sow. This prevents her from backing out of the box. The notches in this bar fit over the edges of the side pieces of the box and

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.

disappointing, but at one year the animal's defects are usually very visible.

The feed and management of the young bull until fit for service may be as follows: From birth he should be fed with the object of producing muscular development and bone, rather than fat, but he should never be thin in flesh. During the milk period he should have a liberal allowance of new milk or skim-milk and necessary adjuncts. He should be taught to eat some oats at an early age, as in the writer's estimation there is nothing better for the young bull than a liberal allowance of oats, bran, and corn. For roughage, nothing comes nearer to filling the bill than good clover hay. If he is liberally fed on oats, bran, and clover hay, and gets sufficient exercise, he should make a good, healthy growth. The amount of service a bull should do is a point that is all important. A bull should never be used for service under 1 year old. Under 2 years old the number of cows served should not be more than 20. A 3-year-old bull may serve 50 cows without any injurious effects. The number of cows a mature bull can serve will depend largely on the length of the breeding season. If the breeding season extends over several months, the bull can serve a great many more than where all the cows are bred in the course of a couple of months. One service is sufficient. Ground wheat is considered to be an excellent food for a bull during the breeding season.

Should the bull run with the females or be kept by himself is a question that puzzles many people. The far too common practice is to allow the bull to run with the cows. This is a very dangerous practice, as most bulls become vicious after they reach the age of 2 or 3 years. It is also next to impossible to keep them in a pasture, as no ordinary fence will check a mature bull. The only advantage of such a method is that the bull will get plenty of exercise, a point that is so often overlooked when the bull is stabled. The only proper way to keep a bull is to have a box stall of considerable size, with a yard attached, so that he can take exercise at will.

His feed during the winter season should be of a nitrogenous nature, such as will keep him in good health. Special care should be taken to see that he is not fed too much heat-producing food,

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such as corn, barley, etc. No kind of grain feed will give more desirable results than ground oats, bran, or ground wheat and some oil cake. Such foods are of a cooling nature and will keep him in good tone and vigor. Never feed a breeding bull large quantities of corn, and the feeding of molasses should never be indulged in at all, as it is almost sure to cause sterility. For roughage, good hay, preferably clover, and a liberal allowance of roots or silage. Roots are preferable to silage, as they are of a more cooling nature.

During the summer season the bull should be kept in a box stall during the day when the sun is hot and flies are bad, and he should have access to a paddock at night. If this paddock contains grass, so much the better, as then he can get a liberal amount of green feed. Where there is no grass in the paddock, some green food should be supplied in the way of a soiling crop, as vetches, peas and oats, cow peas, etc. The grain feed should be about the same as that heretofore mentioned for winter feeding.

Other points to consider in the care and management of the bull:—Where bulls are confined much of the time some attention must be given to the conditions of his feet. The hoofs will grow out and need to be shortened and pared down occasionally, not less frequently than once a year. Various devices are used for this purpose, but nothing will do the work better and quicker than a 2-inch carpenter's chisel and a mallet. After shortening with the chisel, take a rasp and rasp off the edges until the hoof assumes its natural shape. Most bulls do not have a sufficient amount of exercise. In order to secure plenty of exercise some breeders have their bulls led a certain distance each day. A very effective way to exercise the bull is to use him on a tread power. He can thus be made to pump water, cut feed, grind grain, etc.

Some causes of sterility are too heavy feeding on heat producing foods, as corn, barley, etc., lack of exercise, used too heavily for service when young or even at any age. The remedy in each case is to remove the cause, but it is much better to avoid such by giving good care, feed, and plenty of exercise.

#### Cross-bred vs. Pure-bred.—II.

EDITOR KANSAS FARMER:—In my last letter upon the crossing of the different strains of Shorthorn cattle, I treated mainly upon the crossing of Booth and Cruickshank strains. I suppose everybody knows that the terms, Cruickshank and Scotch are now synonymous, but the term "Scotch" is now almost universally used when speaking of the Cruickshank cattle and their descendants. The Scotch cattle are now the popular strain, and Scotch bulls are crossed upon everything with great success. Mr. Glick says we can not cross Cruickshank and Bates cattle, and "if he crosses different breeds (strains?) he is raising animals for the butcher only." How was it when Col. Harris bought the great cow, Norton's Golden Drop, of C. W. Norton of Iowa, and bred her to his Scotch bred bulls, establishing the Golden Drop strain in his great herd? That was his continual pride, and he never would sell one of that cow's female descendants until he dispersed his herd. And what was Norton's Golden Drop? Her sire was a pure Bates, her dam was got by a pure Booth bull, her grandam, Golden Drop 1st, was by an English bull of mixed breeding out of no particular or established strain, the great grandam was Golden Drop by Scarlet Velvet (16916), bred by A. Cruickshank and got by The Baron (13833) bull that was one-half Booth, and it seems Mr. Cruickshank had no more sense than to buy him and use him extensively in his herd. However, the blood of that one-half bred Booth bull has been continued in some of the greatest prize winners of England, and the greatest the world has ever seen. The wonder is how a cow of such crooked breeding as Norton's Golden Drop could become such a great cow as to attract the attention of Col. Harris, and become the ancestress of such a valuable strain of cattle as the Golden Drop strain in his herd, all done by the crossing of distinct strains. I very much regret to revert to my own personal experience in this letter, but it is in substantiation of my argument. I have used Booth bulls in my herd and one bull that was of mixed Booth and Cruickshank, and am now using one that is of mixed Booth and Bates. The first Booth bull I used was bred to one of our best pure Bates cows, bringing a very fine bull calf. In the winter of '94 the late Peter Sim called on me. He was looking for a bull calf to head his herd and was much pleased by the cross-bred calf

mentioned. He appeared to want him, but said he must see two other herds first, and one was Gov. Glick's.

While Mr. Sim was looking for something in the other two herds, I sold the calf to a party in Rice County. In a few days Mr. Sim sent an order for the calf, and was greatly disappointed because he was gone. Now, as to the outcome of this cross-bred calf. His owner was an experienced stockman and knew when he had a good thing. When the bull was 5 years old, I tried to buy him, but the owner would not put a price on him. He still remains in the family, and probably will as long as he can get a calf, because he is a wonderful breeder. According to the theory of Mr. Glick, he was worthless for breeding purposes at the start.

I presume it will be conceded that our Col. Harris, of Linwood, knows something about the breeding of Shorthorns. He knew what he was doing when he bought the great cow, Norton's Golden Drop, of the crooked breeding, and made the cross upon her with his Scotch bulls. I know of my own personal knowledge that he once negotiated for the purchase of two Booth cows and offered \$1,200 for them. He had no possible use for them except to breed them to his Scotch bulls. This would indicate that he believed the Scotch and Booth cross is a good one to make. Dunlap, Kans. D. P. NORTON.

#### Range Horse Outlook.

Now that the season for regular trade in the different classes of native market horses is approaching the period of minimum proportions, commission firms and dealers are directing their attention westward to the land of the range-bred equine, and it will be only a question of a few weeks until traffic between herd owners in the general West, and the "consumers" in the Mississippi and Ohio valleys will be on with a will.

Naturally the drift of reflection turns to the question: "What are the prospects for the coming summer?" Without any hesitancy, we voice the universal sentiment of horsemen that they are good. A few months ago this paper made a circular canvas among the dealers who during the previous season had handled range horses, bought on this market, with a view to ascertaining the result accomplished, whether good bad or indifferent by the people who bought and handled them. With one accord the interrogatories were answered by the information that the animals had done capably and that their purchasers were well pleased. With the exception of very few instances, they broke quickly, acclimated readily, and became accustomed to grain feeds, took flesh steadily, and became thrifty workers. Some few counselled against the acquisition of aged animals, claiming that there was undue difficulty in bringing them to a permanent state of submission, but in this the majority did not coincide. It was admitted by all that the young things, and many too that had passed the stage of maturity, proved to be all that could be expected, and more.

Such testimony practically solves the question of the desirability; there can be no doubt that the demand will be ample. The eastern dealers who bought the best finished and smoothest of the chunks were highly satisfied; they all made plenty of money, and to suppose under those circumstances that the demand would not be as good, or better than last season, would not be logical. There was also a vast army of domestic horsemen, who during the native horse season, consign horses to market, who bought hundreds of carloads of branded horses, shipped them to points in Illinois, Missouri, and Iowa, and made money. These must also be reckoned upon as a big constituent in the demand of the coming season.

There is another important consideration in connection with the outlook, which should have the most material bearing for the better on the demand—the unexampled shortage of horses throughout country districts. To alleviate this condition with regard to farm workers, the regular dealers this winter and spring have been forced into the market auctions, and the horses that have come from one farming section have been purchased to go back to another, in order to provide enough material for farm operations. Why then should not these sections furnish a haven for full-grown mature range horses, when with very little trouble, thousands of them can be developed into workers virtually the equal of the native breeds? There is every reason to believe that such will be the case.

As concerns the matter of supply there is probably some question at issue, when one considers how heavy

were the exportations from ranges during the past season, but from what can be gleaned among those who are best acquainted with the situation, there are evidently no grounds for the fear that not enough good ones can be recruited to supply all wants. Ranch owners in the West have taken lessons from the good conditions which surrounded the market the year before, and it is reported that more care has been given their animals to prepare them for the summer market than during any previous year.

The values of range horses during last season were more profitable than they had been in a decade of years. If the conditions surrounding the demand count for anything, they should this season be as good, or better.—National Live Stock Reporter.

#### Passing of the Grade Bull.

For years we have been advocating and urging the use of pure-bred sires instead of grades. The results of this continuous warfare against the scrub is having its effect, as indicated by the declining demand for grade bulls in particular. This decreased demand is noticeable more particularly among the progressive ranch cattle owners, who are, generally speaking, awakening to their own best interests as never before. They are not only buying pure-bred bulls to turn with their herds, but are organizing to protect their herds from being contaminated with grades and low-bred bulls. An illustration of what is being done along this line was recently reported to us by Messrs. A. B. Thomson and Jesse Moore, of Echo, Oregon, who have been visiting breeders in a number of the middle States for the purpose of buying several car-loads of pedigreed bulls for their respective ranches. They state that a half dozen of the principal ranch owners in their section have entered into an agreement to castrate every grade bull they own, to buy and turn out only pedigreed bulls, and to castrate, upon sight, the first grade bull found within the confines of their grazing grounds. This is a move in the right direction, and forcibly indicates the progress that is being made by ranch owners. If it pays range cattle breeders to use only pure bred bulls, it will certainly pay farmers on the higher priced lands of the corn and tame grass belt to adopt the same good business policy. We think that any farmer who will stop to give the matter some serious thought will come to the conclusion that it does not pay to breed to a grade bull. The season is now at hand when many of our readers should be thinking about securing a bull for the coming season's service, and we hope that none of them will be tempted to follow the short-sighted policy of using a grade bull simply because one can be bought for a few dollars less than a good pure bred of individual merit. To do so is like saving at the spigot and wasting at the bung hole. When the demand for grade bulls is done away with, then speculators will not traffic in them, and we will have more good steers, because the bulls which are turned to steers will be replaced by pedigreed bulls, which in turn can be depended upon to sire a much better class of steers than the grades could be expected to do. Some may say, "Well, pedigreed bulls are selling too high." This is a mistake. While the best pedigreed specimens are selling for good prices to head pure bred herds, yet the public sales held during the past few months have shown that many really good bulls have sold around \$100. This situation is likely to prevail at public sales for some time. Those who do not wish to attend public sales can buy privately at prices ranging from \$100 up, owing to age and quality. We would advise buying one worth more than \$100 rather than one worth less. The passing of the grade bull is one of the things to be desired, and we are pleased to note the progress that is being made to that end.—"The Ranch."

#### Intelligent Swine Feeding.

There is quite a revolution going on in swine feeding, which must not only have a beneficial effect upon the health of the animals, but upon the quality of the pork. We are still inclined to consider quantity more than quality in this feeding, but gradually we may expect to see the old methods of feeding the animals with slops give way to something like what may be called a refined and civilized diet. A good deal of the prejudice existing against pork in the past was due to this slipshod and careless method of feeding the swine. Any old thing was considered good enough for the pigs, and the pens and feeding trough were in many instances so literally dirty and filthy that it

nauseated one to look at either from the inside. People who were fond of pork vowed they would never eat it again after looking in a filthy pig pen and seeing the kind of food the animals devoured. As a partial excuse for this the pig was said to be dirty and filthy by habit and nature, and that it preferred to grub its food from dirt and mud.

This theory is not sustained by actual practice. Turn the pigs out into a clover field, and they will keep as clean as the cows; but if you shut them up into narrow pens where they do not get the food they need, they can not help getting dirty. Confine human beings in the same narrow quarters, and they would prove almost as filthy in their habits. It is the artificial life we give to the pigs that make them degenerate.

Swine feeding should be just as clean and wholesomely intelligent as that of any other farm animal. The quality of the food must indeed be considered. Do not dump great quantities of refuse in the pen, and then if the animals clean it all up, rest content with the idea that they have made good pork off of food that cost you nothing. Sometimes the pigs will eat a great amount to find a very little nourishment. I have seen such slops turned into a pen where the pigs quickly devoured it all eagerly, but when they had finished I calculated they had about half enough to eat, although they were stuffed full. There was little or no nourishment in the food. Now the pigs do need a good deal in quantity, but there must be some quality also. If we feed them on the husks, we must add grain or milk, or other good food in fair proportion, to give them the nourishment they require. We can not expect to make good pork or bacon out of leaves and the barnyard rakings. If we could, pork would go a good deal lower than it is to-day, and farmers would be quickly doubling their profits. Yet a little intelligent feeding will enable us to dispose of slops and other cheap foods to advantage. It is all in balancing the ration, so we do not cheat ourselves by trying to cheat the swine.

#### Make the Cattle Fat.

The season is at hand when stock farmers in the corn belt who are handling cattle must decide whether they will turn the cattle out on pasture, keep them on dry feed, or send them to market. The price of corn is causing not a few to decide between the two questions of sending to market, or turning out on grass. The larger the number that is sent to market prematurely, the better will be the prospect for those who stay in the trade. The people who are feeding distillery cattle seem to have confidence in the future, and some of the best informed men in the country are calculating that the best thing to do with cattle will be to make them ripe and fat.—Chicago Live Stock World.

Kansas is now, according to statistics that ought to be trustworthy, a creditor State. Not so long ago it was deeply in debt. The record-smashing wheat crop of last year, however, fairly showered gold dollars among the farmers, and now that fair Commonwealth has more money than it can use profitably, 50 to 70 per cent of her wealth being owned by farmers. As outlining where a part of this great prosperity comes from, A. S. Nelson, a real estate man of Wichita, relates this: "Mr. M. W. Callahan, president of the People's Bank, Camp Point, Ill., bought 140 acres of grass land in Butler County, Kans., last spring. May 3, 1900, he placed 70 steers on these 140 acres, weighing them before they were turned in. September 7, 1900, or in four months and four days, they were taken from the pasture, weighed and sold for \$4.25 per cwt. They had gained on an average 365 pounds each, so that without outlay, trouble, or expense of any sort they made the land pay a profit of \$7.75 per acre." One great point in favor of Kansas land is that it is north of the quarantine line. This invests Kansas ranch and grazing grounds with a value that land does not possess south of that imaginary but well defined line.—Breeders' Gazette.

The Moore Chemical and Manufacturing Company, Department J, 1501 Genesee St., Kansas City, Mo., who are having a wide sale of their cattle and hog remedies, have recently gotten out two interesting publications, the American Hog, and Liquid Cattle Dip, which they will mail to any applicant mentioning this paper.

#### ...MEN...

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## 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.

**Castration.**—Will you kindly advise me the proper age at which to castrate pigs with the least danger of losing them. R. SAMMUELSON.

**Marladahl, Kans.**  
Answer.—At two weeks old is a very good time to castrate them.

**Shoulder Lameness.**—I have a bay mare about 6 years old, heavy with foal, weigh 1,000 pounds, that was injured in the left front shoulder by a heavy pull up a steep siding hill. Shoulder seems to give way when she steps and leg turns slightly. There was some little swelling in muscles at first and mare was a little tender to touch. Swelling has almost disappeared and soreness has entirely gone, but the mare is almost as lame as ever. We bathed it quite frequently with hot water the first two days after the injury, but since that time have done nothing in way of treatment. Mare has been turned in small alfalfa field.

**Barnes, Kans.** C. B. INGMAN.  
Answer.—Apply the following liniment once a day until blistered well, then grease with carbolic vaseline; wait a few days and repeat again: Aqua ammonia, 2 ounces; oil of turpentine, 3 ounces; tincture of Cantharides, 4 ounces; soap liniment, 3 ounces, and sweet oil, 4 ounces; mix thoroughly.

**Swelling.**—One of my horses has a large hard swelling back of front legs. This swelling started while I was treating him for pistula, about three months ago. Pistula is cured, but swelling remains. JOHN NUTTMANN.

**St. George, Kans.**  
Answer.—Make a good free opening in the most prominent point of swelling and wash out well with soap suds. When clean, inject the cavity full of tincture of iodine; repeat in two days. After this use zenoleum once a day in 50 parts of warm water.

**Sitfast.**—I have a brown mare 8 years old, used by my daughter for a saddle horse, whose back was hurt a year ago just where the back end of the saddle-tree rests upon it. She was not used under the saddle for some time, and the sore healed up. Then we began to use her again and there appeared one or two lumps under the skin which finally broke and made raw sores. Rest again cured them up, but use caused them to return, and they are now raw sores once more. They discharge little, if any, matter. She is fed mainly corn fodder with the corn on it, and a little oats; is also allowed to graze about an hour every day on a piece of fall wheat. What can I do to the sores to heal them permanently? A. CALHOUN.

**Cobb, Mo.**  
Answer.—Have a qualified veterinary surgeon dissect them out, and then if treated as an ordinary wound they will heal up sound.

**Injured Stifle Joint.**—About a year ago I had a traveling veterinary surgeon trim the hoofs of a valuable jack which I own. We threw him in the usual way with rope and drew his hind feet forward, as in castrating. After the operation he could not get up, and I found one of his hind legs nearly useless. Put him in a sling and for a month he seemed in great pain. There was swelling in stifle joint, but could not detect any broken bones. He has lived until now, and looks fairly well, but has no use of this leg. He holds it up and forward and does not try to touch the ground.

I also have a yearling jack with one foreleg crooked, and to all appearances he is getting worse. Your advice will be thankfully received.

**Longford, Kans.** J. L. WARNER.  
Answer.—1st. Apply the following to the joint every ten days: Powdered Cantharide, 1 ounce; hog's lard, 3 ounces; mix and boil a few minutes; when cool stir well and apply to the joint. Leave on thirty hours, then wash off and grease. Repeat this in about ten days.

2nd. Bandage the leg with a small splint over plenty of cotton batting, and change it twice a day.

**Inflammation of the Tongue and Lymphatic Glands.**—I lost one steer about 18 months old, color red, castrated last fall about the 20th of December. It did

not seem to do well afterward. Some time in February showed signs of swelling about the throat, and died about April 5. I did not treat him. I skinned him, and the swelling looked to be filled with a kind of bluish water. I now have two heifers showing the same symptoms. All three were good calves last fall. Advice will be gladly received. CHAS. B. PALMER.

**Youngtown, Kans.**  
Answer.—Give the following: Iodide of potassium, 3 ounces; water, 1 pint. Give a tablespoonful to each once a day in a teacup of milk (drench).

**Pus in Frontal Sinews.**—I have a 3-year-old steer that has a running sore in the center of his forehead. I think it was caused by a boy hitting him with a rock. Will you please tell me what I should do for him? A SUBSCRIBER.

**Junction City, Kans.**  
Answer.—Have a qualified veterinary trephine the cavity and remove all the bone that is broken in. Then syringe the cavity full of peroxide of hydrogen once a day for a week; afterwards use 1 of zenoleum to 50 of water to keep it clean, and to keep flies away until closed up.

**Abortion.**—I am pasturing a cow, with calf, on rye sown last fall, and intend soon to pasture her on winter sown rye. Is there any danger of abortion? Is it safe pasture for horses in foal?

**Russell, Kans.** S. S. RUPPENTHAL.  
Answer.—There is not much danger of rye causing abortion in cows or mares this time of the year.

**Chickens Die.**—Would like to inquire what is the matter with my chickens. They seem to be well and healthy and are anxious for their feed, but die when they go on the nest to lay. I have examined them and found that their liver was twice the size it should be and of a very blue color, and would break all to pieces when you handled it. I have fed them corn and oats.

**Answer.**—It is probably the oats that is killing them.

**Enteritis.**—My cows seem to be well one day; the next they are loose in the bowels and in three or four days are dead. Upon examination I find that the bladder is full of water and hard as a drum, also inflamed. They suffer much pain in making water at all. I feed my cows alfalfa, prairie hay, and beans. They all seem to be in healthy condition, never lost any before in such a way. AUG. BENTEL.

**Alma, Kans.**  
Answer.—It was inflammation, and was probably caused by the feed. Give a pint of raw linseed oil and 1/2 ounce of paragoric once a day.

### Gossip About Stock.

A Farmer, missionary spied a model Poland-China gilt while it was en route to the State agricultural college at Manhattan. This fine show gilt was from the herd of J. D. Marshall, Walton, Kans.

The live stock premium list of the Pan-American Exposition, Buffalo, N. Y., is now out and breeders of pure-bred stock can converse the same by addressing Frank A. Converse, superintendent, Buffalo, N. Y.

The Breeders Gazette says that O. P. Updegraff, Topeka, Kans., did the judging at the New Orleans Horse Show, May 3 to 5. From there he journeyed to Memphis, Tenn., where he gave equal satisfaction in a similar capacity.

The Oklahoma Agricultural and Mechanical College, at Stillwater, Okla., will hold a public auction on June 4, during the annual commencement, of registered Hereford, Shorthorn, and Red Polled herd bulls that have done service at the college farm.

So far this season 1,032 car-loads of fat lambs have been marketed from the northern Colorado feed lots. Something over 200 car-loads are yet to go. The increase in the price last week may very likely be preserved, if the balance of the stock goes to market slowly.

John Drennan, of Blue Rapids, Marshall County, one of the large breeders of Herefords, has decided to dispose of a very fine lot of high-grade Hereford cows and heifers so as to make room for registered stock. See his advertisement for a bargain in high-grade stock.

T. P. Babst & Son, of Dover, Kans., recently sold a very choice Shorthorn heifer to the Kansas State Agricultural College, similar in breeding to T. K. Tomson & Sons' herd bull, Gallant Knight. A Bloom heifer was sold to T. K. Tomson & Sons, and a dairy Shorthorn cow to Guilford Dudley, of Topeka, Kans.

At the recent meeting of the Larimer County, Colorado, Stock Growers' Association the following officers were elected for the ensuing year: H. E. Tedmon, president; W. B. Miner, vice president; Charles L. Gilpin-Brown, secretary; Charles Emerson, treasurer; C. B. Andrews, T. A. Robertson, Charles Emerson, executive committee.

The Wisconsin Shorthorn combination breeders' sale, held at the experiment station barns, in Madison, Wis., on the 14th ult., was a very successful affair and 56 animals sold for \$13,840, an average of \$247.10; 4 females averaged \$304 and 10 bulls \$168. Griffith Bros., of Dodgeville, Wis., topped the sale at \$750 for the imported cow Mary 4th, consigned by Geo. Harding & Son.

The Kansas Farmer has received from



### The Nichols-Shepard Drive Wheel Axles for Traction Engines.

The same points of superiority and excellence stand out in this important essential, just the same as in all things emanating from the Nichols-Shepard factory. In the above cuts we show how the axle, sleeve and nut appear on our traction engines. The axles are made of best wrought iron and are three (3) inches square, thus being specially strong and durable. This axle is covered by an iron sleeve six (6) inches in diameter, upon which the traction wheel runs. It is provided with special facilities for oiling. The objects and advantages of this construction are numerous. A much larger bearing surface and consequent longer wear is afforded both sleeve and wheel. Traction wheel does not tip over to either side, or wobble, throwing traction gearing out of line, as is the case with old style, small spindles, after being worn and cut out. The wearing life of the sleeves may be doubled by simply turning it half way round on the axle. When for any reason sleeves become worn, they may be easily and cheaply replaced. These are features peculiar to the Nichols-Shepard Engines only, and but a few of many things which make them the best for the thrasher to buy and for the farmer to use. If interested, write.

**Nichols & Shepard Co., Battle Creek, Mich.**

BRANCH OFFICES:  
Kansas City, Mo. Des Moines, Iowa. Indianapolis, Ind. Minneapolis, Minn. Milwaukee, Wis.  
Mansfield, Ohio. Bloomington, Ill. Nashville, Tenn. Fargo, N. D. Lincoln, Neb.

John W. Groves, secretary of the American Shorthorn Breeders' Association, Vol. 46 of the herd-book in two parts. Part 1 contains the pedigree of 5,088 bulls calved before Jan. 31, 1900. Part 2 contains the pedigrees of nearly 6,000 females calved before Jan. 31, 1900. The necessity for a volume of the herd-book in two parts clearly indicates the prosperous activity in the affairs of recorded Shorthorns.

The sale of pure-bred bulls of the beef breeds has been going at a lively rate during the past thirty days and only a few localities have animals of serviceable age to spare. At Hope, Kansas, Mr. Albert Dillon has 5 young bulls, sired by the splendid herd bulls Klondike and Lincoln, which he will close out at a special price. Mr. R. H. Little, of Hope, has several head of one and two year old Shorthorn bulls that are a positive bargain for the prices asked. By addressing these breeders at once buyers will get something good for the money.

### Publishers' Paragraphs.

The DeLaval Cream Separator Company has been one of the most persistent advertisers of farm and dairy machinery in the Kansas Farmer for many years. It goes without saying that they have made a great success of their business in Kansas, for the reason that their separators possess practical merit, which has resulted in an enormous sale of their goods. By their aggressive efforts in advertising and promoting their business they have been of material assistance in the very rapid development of the dairy industry of Kansas. Recently they issued a little 44-page booklet for the farm and dairy of their improved twentieth-century "Alpha Baby" styles of separators, which will interest every dairyman who may secure it for the asking by addressing as per their advertisement in the Kansas Farmer.

The Century Manufacturing Company, of East St. Louis, Ill., are large manufacturers of buggies and surreys. They sell direct from their factory to homes at factory prices. They are consequently in a position to save the customer from \$20 to \$40 on the purchase of a buggy and from \$40 to \$80 on the purchase of a surrey. The

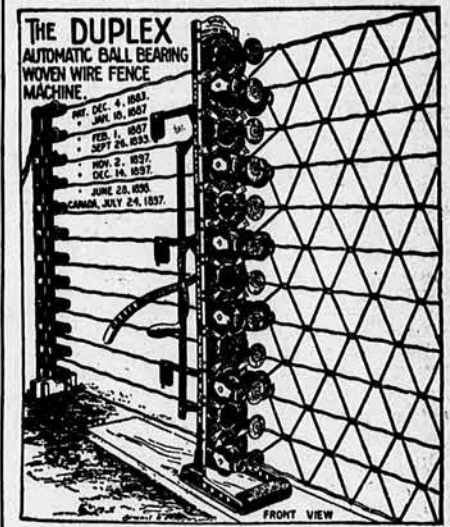


Century buggies are among the best manufactured. They sell for cash, or on easy monthly payment plan, and they shall be pleased to extend credit to honest people living in all parts of the country. They are offering a regular \$75 buggy for only \$35, and the buggy is fully guaranteed for three years. The Century brand of buggies are warranted for three years. We would suggest that our readers write to the Century Manufacturing Company of East St. Louis, Ill., for their free Buggy Catalogue, and in so doing please mention the fact that you saw their advertisement in the Kansas Farmer. We call our readers' attention to their regular advertisement which appears elsewhere in this issue.

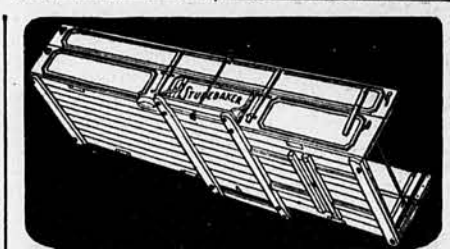
### One Hundred Different Styles of Fence.

It seems almost past believing that one little machine, which can easily be handled and moved about by one man, is capable of weaving over one hundred styles and kinds of farm, lawn, poultry and ornamental fencing. This is, however, true of the Duplex Ball Bearing Woven Wire Fence Machine. It is manufactured by our old friends and advertising patrons, the Kitzelmann Brothers, of Muncie, Ind. The cut shown with this article gives a very good idea of the machine and its method of operation. It also shows one style of farm fence in course of construction. The Duplex will handle satisfactorily any and all sizes of wire, using large wires for laterals and weaving on any number of smaller sizes of wires. It will also weave perfectly a fence with degradable barb wire

at top and bottom, a style of fence much sought after and appreciated in certain localities. Fence may be made of any desired height up to 50 inches. As to capacity, this will vary somewhat, depending upon many things, but the manufacturers state it conservatively at from 40 to 60 rods of farm fence per day. The Standard Duplex Machine makes a fence up to 50 inches high as stated above, but at a small additional cost special machines may be had which will make fence 54 1/2 and 59



inches high respectively. The Duplex is well and honestly made of good material and with anything like ordinary care will last indefinitely. Kitzelmann Brothers are also large manufacturers of Ornamental Fence and Gates. These fences are made entirely of wire and iron in the greatest variety of form and fanciful designs. They are so constructed that they will turn all sorts of marauders and at the same time increase rather than detract from the beauty of the enclosure. The ornamental gates and the neat steel posts and rails greatly set off and increase the beauty and strength and value of the fence. Write these people requesting printed matter on fence machines, ornamental fencing and gates and all classes of fence materials.



### This Studebaker 20th Century Wagon Box,

which possesses features and improvements entirely new in wagon box construction, is but another indication of the superior methods of the Studebaker Shops and of the Studebaker Wagons. Indeed every detail as to design, material, workmanship, construction and finish of the Studebaker Wagons are peculiar to our own enormous and perfect plant, and not like those of any other. The result is a wagon that is superior in every way. Ask your neighbor who has used one for years and see if he does not fully confirm these statements. Stop at your dealer's and look the Studebaker Wagon over. If you don't find it there, write to us direct and we will tell you where you can see it in your locality.

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



## The Home Circle.

"IN A SUMMER GONE BY."

Sweet Betty sat turning the wheel in the sun,  
In a sad-colored gown, as demure as a nun,  
When Hiram came in at the white wicket-gate  
By the lavender-bed, to discover his fate.  
She looked at the sky and she blushed  
rosy red,  
And she stooped for a sprig from the lavender-bed;  
For she knew very well by the light in his eye,  
Young Hiram came wooing that summer gone by.

He spoke of the cot in the woodland's embrace,  
With windows that waited to frame her sweet face  
In a temple of roses, and where to the end  
Their lives and their pleasures would peacefully blend.  
But swiftly she turned with her cheeks in a flame:  
"Why speak ye of peace or of pleasure—for shame!  
While others go forth for our country to die!"  
Said the patriot maid in that summer gone by.

"There is bloodshed and famine abroad in the land:  
Go get you a sword and a troop to command.  
'Tis a year since the Congress proclaimed we were free;  
Go fight for the rose-girdled cottage—and me!"  
He went, with a sob swelling up in his throat,  
And the lavender-sprig she had dropped in his coat;  
And she watched him from sight with a smile and a sigh,  
'Mid the roses and pinks of the summer gone by.

No message, no letter, and deep lay the snow.  
"It will come, though," she said, "when the crocuses blow,"  
No letter, no message, and sunshine and rains  
Had summoned the roses to hedges and lanes,  
She sat at her wheel with the tears dropping down,  
And a lavender-sprig in the breast of her gown,  
When they told her how bravely a soldier could die,  
And brought her his sword, in a summer gone by.

—New England Magazine.

## THE MAN OF THE WEEK.

Edward Jenner.

(Born May 17, 1749; died January 26, 1823.)

It has been confidently asserted that "No motion impressed by natural causes or by human agency, is ever obliterated." The results of Jenner's works suggest that there is good reason for believing in the truth of the saying; for his works do follow him.

On May 14, 1796, Jenner vaccinated a boy. It was a new thing, and the youngster might well have been proud of his sore arm; for it was the first of millions made sore by the cowpox virus. That very year smallpox caused 18 out of every 100 deaths in England. For more than a thousand years Europe had been scourged by this loathsome disease. Hardly a family escaped. The hundred years following the discovery of vaccination have worked a great change. In the United States, in 1897, out of 338,994 recorded deaths, only 44 were the result of smallpox—1 out of 7,704.

The misery and death which Jenner's discovery has saved can not be estimated; but intelligent people the world over hold the discoverer of vaccination in high esteem. They know that he has saved more lives than Alexander and Tamerlane and Napoleon destroyed, and that for real service to humanity he ranks among the greatest of the race.

But because Dr. Jenner was keen enough and fortunate enough to suspect that there was a hidden meaning in the tradition that the milk-maids of his country were almost entirely free from smallpox, and was wise enough to search intelligently for an explanation, and bold enough to try an unheard-of experiment to test the soundness of his theory—does all this entitle him to be ranked with those who have advanced agriculture? Surely, the physician who cures disease and prevents plagues is a benefactor of humanity, but not a builder of agriculture.

Edward Jenner is an exception. It has not been mentioned that he ever did a thing to improve cultivation; yet his great idea has been taken up and worked out until vaccination has become the greatest thing in medicine. It is the one sure preventive that saves millions of dollars every year to the farmers of the United States alone. It prevents many of the scourges that used to destroy millions of cattle and sheep. We do not realize what this means.

In 1884 the chief of the Bureau of Animal Industry estimated that contagious pleuro-pneumonia cost the United States

about three millions of dollars every year. In 1888 the State of New York spent over \$250,000 in an attempt to stamp out the disease in that State. It is believed that the disease has been driven out of the United States—a thing which would hardly have been possible without vaccination.

In an address before the National Live Stock Association, in 1896, Dr. Charles Gresswell estimated that contagious diseases result in losses amounting to \$30,000,000 a year in the United States. Hog cholera and swine fever, he thought, caused one-third of this tremendous loss; tuberculosis, one-fifth; anthrax and blackleg one-sixth. Anthrax and blackleg have been nearly conquered by vaccination. The other diseases are modified in their destructiveness to a great degree. The dreaded southern cattle fever has been made comparatively harmless by the application of Jenner's method.

It is not the direct saving of animal life by means of inoculation that makes the discovery of vaccination of such enormous value to the farmers of this country; it is the indirect saving by practically destroying the diseases or by preventing their spread that puts agriculture under such a burden of obligation to Jenner. It is probable that vaccination in its various forms has saved the farmers of the United States enough to pay our national debt twice over.

It must not be understood that Jenner's vaccine is used exclusively, or that Jenner himself is entitled to all the credit for the saving of human and animal life by the method of vaccination. Koch and Pasteur, and our own Dr. Salmon have done wonders to make inoculation more useful and to give the world a better understanding of its benefits. But Jenner was the pioneer, the original discoverer of the method. Others have walked worthily in his footsteps, but none of them have matched their master in service to men.

Vaccination is now practiced on live stock for two distinct purposes. It is used to secure immunity from diseases. In 1899 the Department of Agriculture sent out over half a million doses of vaccine for the prevention of blackleg. It is used as a test of the condition of animals suspected of having certain diseases. Everyone is familiar with the fact that tuberculin is an almost infallible test for tuberculosis. A similar toxin, called mallein, is used as a test for glanders.

If the most competent investigators and most successful physicians may be trusted, there is good reason for believing that vaccination, or inoculation, as a preventive of disease, will continue to make new conquests; and there is strong probability that tuberculosis in men and animals will be destroyed by an appropriate vaccine yet to be discovered. D. W. WORKING.  
Denver, Colo.

## Some Excellent Cakes.

Written for Kansas Farmer.

### STRAWBERRY SPONGE CAKE.

Make a sponge cake as follows: Beat 8 egg yolks till creamy, add 1½ cups sugar. The whites of the eggs should be beaten stiffly and folded into the yolk and sugar mixture. Next fold in 2 cups of flour to which a little baking powder has been added. Fold smooth and bake in sheets at low baking temperature. Two layers is all that should be made. For the filling whip 2 cups of cream, sweeten and flavor slightly with strawberry. Carefully look over and wash enough strawberries to cover a sheet of the sponge cake. Place these on the sheet of cake selected for the bottom layer and pour over them the whipped cream, allowing it to fill in about the strawberries. Frost the upper layer of the sponge cake with boiled icing, which may be colored pink and flavored with strawberry. This cake requires considerable time and care in preparation, but is well worth while on special occasions. It should be eaten perfectly fresh.

### DELICATE CAKE.

Cream, 1 cup of sugar, and a scant ½ cup of butter together. Add ½ cup of sweet milk and 1½ cups flour to which has been added a teaspoon of baking powder. Lastly fold in the whites of 4 eggs. Bake in a small loaf after flavoring with any preferred extract. To make a nut cake of this, add ½ cup of blanched chopped nuts to the dough. Frost with plain boiled frosting to which coconut or nuts may be added. Made perfectly plain and covered with plain boiled frosting; this is an excellent cake to serve with strawberries and cream or other fruit.

### LEMON CAKE.

Make a layer according to any good cake recipe and fill with a lemon filling prepared as follows: Place ½ cup butter, 1 cup sugar, and the yolks of 4 eggs

# Don't Scrub away your temper-



## Use GOLD DUST Washing Powder

GOLD DUST does most of the work that your muscle has to do when you try to get along without it.

in a double boiler. Stir constantly to keep smooth until the mixture reaches the boiling point, when it should be thick and smooth. Remove from the fire and stir in the grated rind of 1 lemon and the juice of 2. When cool spread on the cake. The layers of cake may be also flavored with lemon. Serve as fresh as possible, as the layers will soak to some extent if the cake stands.

### FIG CAKE.

Cream, 1 cup of sugar, and ¼ cup of butter together. Add ½ cup of milk and the well beaten yolks of 4 eggs. Fold in 1½ cups of flour to which 1 teaspoon of baking powder has been added. Bake and fill between the layers with fig filling made as follows: Chop 1 pound of figs fine, add 1 cup of water, and 1 tablespoon of sugar, and place in a double boiler. Cook until smooth and thick, stirring occasionally, then remove from fire and flavor with vanilla. Stir till cool and spread over the layers of cake. The top layer may have a coating of icing rather than the figs if preferred. MARY WAUGH SMITH.

### Recipe for Care of the Teeth.

This is a safe and excellent dentifrice given to me by our State president of the dental association—and he had long been considered authority upon all such questions. There are so many unsuitable lotions and preparations sold to parents for children, without a knowledge of their excellence, that I think this simple, safe recipe may be of value to many seeking good preparations. It consists of a mixture of equal parts of pulverized charcoal and powdered borax, scented with a drop of oil of cloves; then another preparation of equal parts of borax and orris root. This will not only cleanse the mouth and teeth chemically, but will correct any acidity of stomach and sweeten the breath.

He advised us always to be very careful of our tooth mugs, said they could develop disease germs if not properly cared for. They should be disinfected and washed out every few days with a strong solution of borax water. He also advised getting pure unadulterated borax for your teeth and for all medicinal purposes. He taught me the value of borax; that is one reason it is my hobby. I can see the good he did with it. Of course we all know the value of charcoal, and surely we all know the value of being careful with our teeth. To the boy and girl we can not say too much, and they will endure life-long suffering if they do not listen to advise. S. H.

### Mountaineer Hospitality.

The latch-string hangs outside every cabin door if the men folks are at home, but you must shout "hello" always outside the fence. "We 'uns is pore," you will be told,

"but y'u're welcome ef y'u kin put up with what we have."

After a stay of a week at a mountain cabin a young "furriner" asked what his bill was. The old mountaineer waved his hand. "Nothin," he said, "'cept come agin!"

A belated traveler asked to stay all night at a cabin. The mountaineer answered that his wife was sick and they were sorter out o' fixin's to eat, but he reckoned he mought step over to a neighbor's an' borror some. He did step over and he was gone three hours. He brought back a little bag of meal, and they had corn bread and potatoes for supper and for breakfast, cooked by the mountaineer. The stranger asked how far away his next neighbor lived. "A leetle the rise o' six miles, I reckon," was the answer.

"Which way?"

"Oh, jes' over the mountain thar."

He had stepped six miles over the mountain and back for that little bag of meal, and he would allow his guest to pay nothing next morning.

I have slept with nine others in a single room. The host gave up his bed to two of our party, and he and his wife slept with the rest of us on the floor. He gave us supper, kept us all night, sent us away next morning with a parting draught of moonshine apple-jack, of his own brewing, by the way, and would suffer no one to pay a cent for his entertainment. That man was a desperado, an outlaw, a moonshiner, and was running from the sheriff at that very time.—Scribner's Magazine.

### Born Lucky.

Blinks—Lucky man, that fellow Jones. Winks—I don't see how you make it. Blinks—Why, he took out a life insurance policy for \$5,000 and died six days before the company failed.

State of Ohio, City of Toledo, Lucas County, ss.

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the City of Toledo, county and state aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that can not be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.  
Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1886.

(Seal.) A. W. GLEASON,  
Notary Public.  
Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.  
F. J. CHENEY & CO., Toledo, O.  
Sold by Druggists, 75c.  
Hall's Family Pills are the best.

### Mothers! Mothers!! Mothers!!!

Mrs. Winslow's SOOTHING SYRUP has been used for over FIFTY YEARS by MILLIONS OF MOTHERS for their CHILDREN while TEETHING, with PERFECT SUCCESS. IT SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all PAIN, CURES WIND COLIC, and is the best remedy for DIARRHŒA. Sold by druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.



## The Young Folks.

### THE SWORD.

I have sung of the soldier's glory  
As I never shall sing again;  
I have gazed on the shambles gory,  
I have smelled of the slaughter-pen.

There is blood in the ink-well clotted,  
There are stains on the laurel leaf,  
And the pages of fame are blotted  
With the tears of a needless grief.

The bird is slaughtered for fashion,  
And the beast is killed for sport;  
And never the word compassion  
Is whispered at Moloch's court.

For the parent seal in the water  
Is slain and her child must die,  
That some sister or wife or daughter  
Her beauty may beautify.

And the merciful thought we smother—  
For such is the way of man—  
As we murder the useless mother  
For the "unborn astrakhan."

But a season of rest comes never  
For the rarest sport of all;  
Will His patience endure forever,  
Who noteth the sparrow's fall?

When the volleys of hell are sweeping  
The sea and the battle plain,  
Do you think that our God is sleeping,  
And never to wake again?

When hunger and ravenous fever  
Are slaying the wasted frame,  
Shall we worship the red deceiver,  
The devil that men call Fame?

We may swing the censor to cover  
The odor of blood—in vain;  
God asks us, over and over,  
"Where is thy brother, Cain?"  
—The Century.

### Billy the Chimpanzee.

Those interested in chimpanzees should hasten to the Philadelphia zoological gardens and make the acquaintance of Billy, for though this interesting anthropoid ape may eat, drink and be merry to-day, he may be dead to-morrow.

So says Mr. Brown, the superintendent.

It is extremely improbable that this lively chimpanzee will live long enough to attain his full size. A year or so in captivity is usually the limit. If he did live long enough to grow up, Billy would be 5 feet in height, while as it is he is from 26 to 28 inches, and about 3 years of age. He came to the zoo last July.

Instead of wondering at their short lives when in captivity in a strange clime, Mr. Brown says it is a wonder that they live at all, when you consider that they have to be taken when very young, endure the long, trying voyage and then live in an artificial atmosphere (they'd die out of doors) and eat strange food.

Chimpanzees are more rarely offered

for sale than oranges and the pensive Miss Boulan, you remember, was an orang. While the orang comes mostly from Borneo (some few being from the low, swampy part of Sumatra), the chimpanzee is to be found over a great part of Africa, especially western Africa.

A late discovery, by the way, has been made by the distinguished explorer, Sir H. H. Johnson, who says that the gorilla also is found over a much greater area than has been supposed—half way across the dark continent, in fact. Mr. Brown says it has always been supposed to go but a short distance inland.

While the orang, to come back to Boulan, has a brain and mental facilities generally a bit more human than the chimpanzee, other characteristics considered, it's a little too nice a question to decide either way. The orang seems most intelligent to the ordinary observer because of its moody, sluggish phlegmatic way of getting at things, while the chimpanzee gets over so much ground in so short a time as to seem more the monkey.

Billy's cage is in the little mammal house, and on it is a card inscribed "Chimpanzee, *Anthropopithecus niger*." He is under glass for two reasons; he is sensitive to atmospheric changes, and he'd last no time at all with promiscuous feeding.

He is fed upon sweet potatoes and milk. The potato he holds in his left hand, while with his right he makes sure of his cup. You'd think he'd be as gentle 'as any sucking dove' upon this fare, but no. In fact, it must be confessed, that when his keeper had taken him out, and Billy had clung affectionately to his neck, and yours truly had offered to shake hands, Billy hit his wrist with the back of his hand. While no damage was done, his strength was amply proved. He only blinked when reminded that he had not beld to Marquis of Queensberry rules.

He excels in calisthenics and juggling rather than pugilism, however. He's very clever with a ball, and as for "skinning the cat," why, the small boy waxeth enthusiastic thereat.

And such a mouthful of teeth! He uses them chiefly for smiling (or making faces) and testing the sewing on of his keeper's buttons.

In his favorite pose he has a veritable corset advertisement shape. Compared with humans, his toes are long, while his ears—well, his mother ought to have bandaged them.

Though devoted to a mirror, he is not vain. He stares at his reflection in surprised delight for a moment, and then feels behind the mirror for the rest of the other chimpanzee. And then regards his keeper with pitiable uncertainty, evidently wondering whether it's a trick or the fault of his own eyesight.

Billy has a blanket, too, and when "the shades of eve are falling," he draws the draperies of his couch about him and "lies down to pleasant dreams of "dear old Africa," and those he left behind him."—Philadelphia Record.

### Life in Lighthouses.

During the storms that rage intermittently around our coasts in winter, the landsman's mind turns in sympathy toward those who in ship or lifeboat are fighting the waves for dear life. But how often does he give one thought to the men who immerse themselves in the lighthouses that stud our coast line?

"I would rather spend my life in a penal settlement than be a lighthouse keeper," declared a gentleman to the writer, after a visit to the Bishop lighthouse, off the Cornish coast. "A convict does see a little of the world he lives in, but a lighthouse keeper sees nothing but a dreary expanse of water. I am not surprised that many of them should lose their mental balance."

The visitor to the Bishop lighthouse did not over-color the picture. It was only the other day that one read of the Longships lighthouse, also off the coast of Cornwall, having been completely isolated for many weeks in consequence of fearful storms. The keepers had been reduced to smoking coffee, hops, and tea leaves, though, fortunately, they had not wanted for food.

The keepers of the famous Eddystone lighthouse not infrequently find themselves in a similar predicament. In a gale the waves that buffet themselves against this wonderful monument to the engineering skill of the country are of such stupendous magnitude that they rise to a height of 200 feet, and sweep right over the lantern. To those cooped up inside the sound of these waves is like that of a battery of guns at close quarters. "At such times the house shakes like a tree with a man on the top of it," was the graphic description of one who spent many years of his life there.

# PRICKLY ASH BITTERS

## CURES CONSTIPATION.

The new Eddystone is the roomiest and most comfortable of all our rock lighthouses. A sectional view shows the various compartments, commencing with the water tank, then the entrance, at the bottom the two oil receptacles, the storeroom, the crane, the living apartment, the low light, the bed room and the service room. Formerly only two keepers were employed in the lighthouse, but a grim incident resulted in their number being increased. One of the two men died. So fierce ran the seas that the remaining wife was given to great extravagance and he was obliged to hide the money to keep her from spending it.

When the experts laid out the pieces they found that there was over \$700. A secret-service officer was then sent to establish the facts as to the matter, and gravely reported that the negro's story was a correct one, even to the claim that his wife was extravagant.

Recently an elderly German woman came to the department from Baltimore in great distress. She had charred remnants of some money which was, she said, the savings of forty years. She thought that there was at least \$500 in the original roll. On the evening before, as she knelt at her devotions, a lamp in the room adjoining had toppled over and set fire to a dress skirt in which she had the money. Part of the debris had been lost before she remembered that the money was in the burned skirt. She had collected what had remained. Sympathetic officials took her through the treasury building to the room of the experts in the basement. There she seated herself while half a dozen experts worked on the money. She rocked to and fro and cried and sighed during the greater part of the three hours, while the women worked, and at intervals tried to calm her. By noon she had been given \$300 of the amount and sent back to Baltimore with the assurance that if she could secure the rest of the debris more of the money might be restored to her.—Inter-Ocean.

### Ticking Off the Miles.

There has been some picturesque fiction written about the ease with which railroad men and drummers are supposed to tick off the miles as the train speeds along, from things they can see from the car window, said a railroad conductor to a Star reporter this morning.

There is only one strictly accurate way, and that is to seat yourself on the side of the train from which may be observed the white mile posts that line the road and hold your watch on them. If you have a split second watch it will prove interesting to note that while you made one mile in sixty seconds the next was covered in fifty-three, and the third in seventy seconds, and so on, as the speed of the train increases or slackens. You may also follow around the little second hand on an ordinary watch. It kills time.

Some pretend to say that they can tell the speed of a train by counting the telegraph poles. If there were an exact number of telegraph poles to every mile this might be done by a little figuring, but there is a difference. The number of telegraph poles to a mile vary from thirty-three to forty, depending upon the straight stretches and the curves in the track, the later having more poles than the former. So, you see, it is not as easy as the drummer would have the other passengers believe.

If the poles are planted thirty-three to the mile they are 160 feet apart, and every eleven passed represents a third of a mile. If placed forty to a mile, they are 132 feet apart, and every twenty represents half a mile.

"These are easy figures to remember, and by applying them on a journey a passenger may obtain an idea, more or less accurate, of the speed of the train.

Another way is to attempt to count the clicks of the wheels of the truck of your car as they pass over the rails where joined. The rails of the roads as

placed to-day are too evenly joined to arrive at an exact determination by this method, because, if you miss two or three joints your calculations are thrown out as to accuracy.

However, there are railroad men who can not tell you the number of rails to the mile of their own roads, and rails vary in length, the average being thirty feet, some thirty-three feet and some sixty feet. At thirty feet there are 176 rails to the mile; and if you count 176 consecutive clicks as your train flies along you may determine its speed, and not otherwise.

Twenty years ago a rail weighing 50 or 56 pounds to the yard was considered heavy. To-day the average weight is eighty and ninety pounds, favoring the former; so the average rail in use now weighs 800 pounds. If there are 176 rails to the mile, each separate mile of rails weighs 140,800 pounds, and on a four-track road 563,200 pounds of cold rolled steel hold up the cars to every mile.

As New York is 221 miles from Washington, on each of the two four-track lines of railroad between the two cities, at the above average weight of rails, the earth holds up 502,268,800 pounds of steel.—Washington Star.



## Beware of Them

There are two afflictions which perhaps give the most pain and trouble, viz:

Sciatica

and

Lumbago

Both disable and cripple, but

## St. Jacobs Oil

is their best cure.

## A Competence

160 ACRE FARMS IN WESTERN CANADA FREE

Is assured the industrious settler on the WHEAT AND GRAZING LANDS of Western Canada. Should you have a friend settled in Manitoba, Assiniboia, Saskatchewan or Alberta, write to him and ascertain what are his views of the country.

Thousands of Americans have settled there within the past four years and the universal verdict is that all are well satisfied. The

### FREE HOMESTEAD LANDS

adjoin lands that may be purchased from the Government or railway. In a few years they will yield the pains-taking farmer a competence for himself and family. The climate healthful, fuel plentiful, taxes nominal, yield of wheat and other grains phenomenal, prices for produce excellent.

Railways, schools, churches, etc., convenient.

Write for full particulars, maps, pamphlets, letters from settlers, etc., to F. Fedley, Superintendent of Immigration, Ottawa, Canada, or to

J. S. CRAWFORD,  
214 W. Ninth St., Kansas City, Mo.  
Special low excursion rates during  
February, March and April.

# Epilepsy

weakens the body and degrades the mind. It saps the nervous strength that is the source of all health, and perverts the functions of every organ. Because of its stubborn nature, it is often called incurable. This is not true. There is one medicine that never fails to check the nervous spasms and give new strength to the entire system.

"My little girl had epilepsy so bad that in one day she suffered seventy-one fits. The doctors gave her up to die, but I began giving her Dr. Miles' Nervine and now she is perfectly well. It took five bottles to effect a cure."  
MRS. ADIE LEWALLEN,  
Siloam Springs, Ark.

## Dr. Miles' Nervine

allays nervous irritation, stops spasms, restores digestion and mental vigor.

Sold by druggists on guarantee.  
Dr. Miles Medical Co., Elkhart, Ind.

## The Topeka Business College

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

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Established in 1863.

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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.

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.

There will be a meeting of farmers, fruit growers, and stockmen of Shawnee County, in the interest of a State fair, at the rooms of the Commercial Club, 627 Kansas Avenue, Topeka, on Saturday, May 25, at 2 o'clock.

The price of the penitentiary binder twine has been reduced to 7 1/2 cents f. o. b. at Lansing. Agents of the State sell it at 8 cents wherever an agency exists.

Memorial Day this year will witness a considerable reduction in the number of old soldiers who will be able to bring to their comrades' graves the tokens of affection and honor.

More of the science of agriculture is published in the KANSAS FARMER than in any other journal in the United States. This comparison is not confined to agricultural papers but is extended to all periodicals of every kind published in the entire country.

this State so that the banks are burdened with excessive deposits, recent statements of which show that a very large proportion belongs to farmers. Farming is rapidly becoming applied science and the man who keeps even with the band wagon necessarily farms scientifically. Kansas leads the band wagon.

The Kansas State Agricultural College has just received from the Minnesota College of Agriculture a pure-bred four-year-old Shorthorn bull which is the equal of any blooded beef animal ever brought to the State, and is valued at one thousand dollars.

TO REALIZE ON THE WHEAT CROP.

The organization of "The Farmers' Cooperative Grain and Live Stock Association," which took place at Salina last week, marks an important development in this era of combinations.

Possibly the regular dealers advanced prices expecting thereby to break up the farmers' organization. In this they can hardly succeed. The farmers' by-laws allow any member to sell his grain to regular dealers in case the regular dealer pays more than the association can afford.

These local organizations are being formed rapidly throughout the wheat belt. But it was soon realized that the local associations needed to cooperate in finding the best purchasers in the distant markets.

The officers of the State association say that they will be in readiness to handle the present year's crop. This crop promises to excel any ever produced in the State.

But by securing the full value of Kansas wheat through foreign as well as domestic markets it is expected that the State association will benefit its members by an amount several times its aggregate commissions.

The spirit of organization is widespread. The size of shares is made small in order to distribute the stock largely. Doubtless the entire capital

stock will be subscribed within a few days. For the convenience of those who may desire to apply for stock the form of application is given below. This may be filled, cut out, and sent to the secretary, James Butler, Topeka, Kans.:

APPLICATION FOR STOCK IN THE CO-OPERATIVE GRAIN AND LIVE STOCK ASSOCIATION.

I, \_\_\_\_\_ a resident of \_\_\_\_\_, in the county of \_\_\_\_\_, State of Kansas,

do hereby make application for \_\_\_\_\_ shares of the capital stock of the Farmers' Cooperative Grain and Live Stock Association, of the par value of \$10 each, and agree to pay for same at such time and in such manner as may be required by the Board of Directors.

Dated at \_\_\_\_\_, Kansas, this \_\_\_\_\_ day of \_\_\_\_\_

Witnesses: \_\_\_\_\_

KANSAS vs. IRRIGATION.

Just when the State of Kansas is inaugurating in the United States Supreme Court, an absurd action as to the waters of the Arkansas River in Colorado—and incidentally beginning the transfer of \$20,000 from the State treasury to the bank accounts of certain attorneys who are doubtless enjoying their trips to Washington, comes an active minded citizen of the Arkansas River country in Kansas, Mr. G. W. Watson, of Kinsley, and states his conclusion after a good many years' study of the matter, that it has been a benefit to western Kansas to have the water of the Arkansas used for irrigation in Colorado.

Mr. Watson next confesses to a hobby by which he obtained the name "Colonel Underflow." He alludes to the great volume of the ground waters which move so freely in the open gravelly sub-strata of the plains, and says: "From experiments which I have made I think I can demonstrate that at a depth of 15 feet below the surface of the water there is an inexhaustible supply of water that will keep an ordinary ditch or any 100 ordinary ditches running full of water the year around, and I do not believe the supply could be exhausted if a ditch were taken out every half mile.

cost that would leave a profit, there will be plenty of capital to take hold of the matter and put irrigation ditches all through southwest Kansas."

The plan proposed by Mr. Watson is especially adapted to the Arkansas valley, throughout the length of which the surface of the ground in the second bottom lies from 4 to 20 feet below the surface of the soil, the usual depth being 9 1/2 to 10 feet.

THE PRINCIPAL INSECT ENEMIES OF GROWING WHEAT.

There are many insects which feed on and injure growing wheat, but the greater proportion of the losses to wheat fields chargeable to insects is due to the attacks of less than half a dozen species. The most destructive of these pests is the chinch bug. The great damage to farm crops by this insect is due to its wide distribution, its prevalence more or less every year, the enormous multiplication in favorable seasons, and to the fact that it attacks all the cereals and most forage plants.

With the view of limiting the losses from insect pests, and notably the Hessian fly, the ravages of which in 1899-1900 so reduced the normal yield of wheat as to seriously interfere with the winter milling interests, the U. S. Department of Agriculture has had prepared and will soon issue Farmers' Bulletin No. 132, entitled, "The Principal Insect Enemies of Growing Wheat."

The bulletin was prepared by Mr. C. L. Marlatt, M. S., First Assistant Entomologist, and is a condensed account of the principal insect depredators on growing wheat, discussed chiefly from the standpoint of means of control. A brief presentation of the life histories of the several species is given, with special reference to the bearing of remedial and preventive measures.

The reasons given for the excessive damage by the various grain pests not-

ed in this country are the system of growing the same grain crops over vast areas year after year, which furnishes the very best conditions for the multiplication of the insect enemies of such crops, and the long, hot summers which also present the most favorable conditions for the increase of most insects. These two reasons are responsible for the much greater losses experienced in this country as compared with Europe, where the summers are cool and short.

The losses occasioned by these insects exhibit a wide range in different years, due as a rule to favorable or unfavorable climatic conditions, and also to the abundance from time to time of the parasitic and other enemies, which is a natural sequence of the multiplication of the host insects.

Preventives and remedies for the control of each of these insects is given.

The bulletin is for free distribution and can be obtained by application to senators and representatives in Congress or to the secretary of agriculture.

**ABOUT POLLED HEREFORDS.**

EDITOR KANSAS FARMER:—I desire a little information through the columns of the KANSAS FARMER. I bought of a stockman a yearling Hereford bull, which he represented to me to be "a Polled Hereford." I brought the bull home and began to present him as he was represented to me. My statements have caused considerable criticism, and some reflections have been cast upon them. The man from whom I purchased the bull told me that the sire of my bull was purchased in Canada. Now what I wish to know is whether there is a breed called Polled Herefords? If so, where did they originate? Are there any such cattle registered in the Hereford herd book in this country? If so, where is there a herd of them and by whom are they owned? You will greatly oblige me by answering the inquiries at an early date.

Deer Creek, Okla. C. N. BOTTOFF.

There is a class of cattle originated by Hon. W. W. Guthrie, of Atchison, Kans., which is now known as "Polled Herefords," but there is no recognized breed or herd-book of cattle so named or recorded by any association in America. Mr. Guthrie has, however, kept a private register of the cattle he has bred. It is reported that there are other herds of Polled Herefords in Iowa and Missouri, but there is no public record of them at present. The cattle known as "Polled Herefords" are not eligible for record in the American Hereford Herd-Book.

The only national cattle breeders' associations, which are organized and have separate herd-books for polled breeds of cattle, representing recognized breeds of cattle are, Aberdeen-Angus, Galloways, Red Polled, Polled-Durham, and Polled Jerseys.

**TO STOCK BREEDERS.**

The Stock Breeders' Annual, a handy book of ready reference, is now being mailed. It contains "Feeding Stuffs, Values Deduced from Considerations of their Constituents and Market Prices," by E. B. Cowgill, editor of the KANSAS FARMER, and the Kansas Improved Stock Breeders' Association's "Classified Kansas Breeders' Directory," compiled by its secretary, H. A. Heath. This Annual comprises 40 pages. It is sent free to all new subscribers to the KANSAS FARMER. Extra copies sent to any one at \$2 per 100, postage paid. Address, Kansas Farmer Co., Topeka, Kans.

**Horses Are Not Cattle.**

The Kansas State Agricultural College and the Experiment Station connected with it, have long been at a disadvantage in their work on account of lack of thoroughbred animals for illustration and experiment. The last legislature attempted to provide a remedy by means of an appropriation of \$5,000 for the purchase of such animals. The college authorities were surprised on seeing the item in the published law stated as "thoroughbred cattle \$5,000," instead of "thoroughbred stock \$5,000." Hon. F. D. Coburn, vice president of the board of regents, thereupon inquired of the attorney general, and received reply as follows:

Topeka, Kans., May 9, 1901.

Hon. A. A. Godard, Attorney General, State House, City.

My Dear Sir:—In its bill of appropriations to the State Agricultural College, the recent legislature provided for each of the two ensuing years, the item of "thoroughbred cattle \$5,000."

The recognized foremost dictionaries define "cattle" as follows:

Webster.—Cattle: Domestic quadrupeds collectively, especially those of the bovine genus, sometimes also including

sheep, goats, horses, mules, asses, and swine.

Century.—Cattle—Live stock; domestic quadrupeds which serve for tillage or other labor, or as food for man. The term may include horses, asses, camels, all the varieties of domesticated beasts of the bovine genus, sheep of all kinds, goats, and even swine.

Standard.—Cattle: Domesticated bovine animals, as oxen, cows, bulls, and calves; also, though seldom now as compared with former times, any live stock kept for use or profit, as horses, camels, sheep, goats, swine, etc.

Personally I have no doubt whatever that the author of the item, and the legislature as well, intended this appropriation for providing our agricultural college, for object lessons and means of experimentation, with animals of the different breeds of live stock, to such extent as the amount made possible, as are needed at such an institution, and as are found at kindred institutions in all other States.

Will you kindly advise me if you so construe the law referred to as to make it proper for the board of regents to buy stock other than bulls, cows, and steers? That is to say, is it your opinion that the board has authority for expending the appropriation named in the purchase of swine, sheep, and horses, as well as "cattle" proper?

On behalf of the board of regents I shall be favored by an early statement of your opinion. Very respectfully yours,

F. D. COBURN, Vice President.

Topeka, Kans., May 15, 1901.

Hon. F. D. Coburn, Vice President Agricultural College Regents.

Dear Sir:—I am in receipt of your favor of May 9, in which you inquire as to whether or not the appropriation to the State Agricultural College reading as follows: "Thoroughbred cattle \$5,000," can be used in the purchase of swine, sheep, and horses, as well as "cattle" proper.

I have made some examination of this subject and find that the great weight of authority is against such use of the term. In construing statutes, words are to be taken in their usual and ordinary meaning unless an intention that they be construed differently appears upon the face of the law. I am of the opinion that the use of the term "cattle" to include sheep, goats, horses, mules, asses, and swine, is now rare and uncommon, and that while the term originally had such meaning, it is not now so understood in its usual and ordinary acceptance; but that the term "thoroughbred cattle" as used by the people of this State refers only to animals of the bovine species. I have talked with several members of the legislature about this appropriation, and find that they so understood the term at the time the act was passed. One of the members with whom I talked was active in securing this appropriation, and he expressed surprise that it should be desired to construe the act as you suggest. I have not quoted legal authorities in this communication, as I believe it unnecessary for me to do so, and I will only say to you that I have not found any authority in law which will justify the use of this appropriation for animals other than those which are cattle proper. Very truly yours,

A. A. GODARD, Attorney General.

**When to Cut Alfalfa.**

H. M. COTTRELL, KANSAS EXPERIMENT STATION.

Alfalfa should be cut when not more than one-tenth of the plants have come in bloom. Cut at this early stage, the yield of hay for the season will be much greater than if the alfalfa is cut near maturity, and every pound of hay secured will be worth more for feed.

At the Kansas Experiment Station, a strip through a field of alfalfa was cut when one-tenth in bloom, another strip was cut after full bloom had past. The strip cut early was nearly ready to cut the second time when that cut after full bloom was being harvested for the first time. The strip cut early grew vigorously through the season and made three cuttings and a good aftermath. The strip cut after full bloom gave a low yield the first cutting, and did not grow sufficiently to yield a good second cutting. Early cuttings seem to invigorate the plant.

The late cutting of the first crop seems to injure the plant more than at any other time, and we have found it profitable to cut alfalfa the first time as soon as one-tenth was in bloom, even though the weather was bad and we knew that the crop would spoil in curing. The increased yield from succeeding cuttings over that cut late much

more than makes up for the loss of the first crop.

Successful clover growers, the first time they try alfalfa, often ruin the stand, so that it has to be plowed up, by waiting to cut until it reaches the stage at which clover is usually cut.

The great value of alfalfa is the large amount of protein it contains, that material in feed that is absolutely necessary for the formation of blood, lean meat, and milk. The higher the protein in alfalfa, the more valuable the crop. The chemical department of this station found the effect of cutting alfalfa at different stages, as follows:

	Protein Per cent.
One-tenth in bloom.....	18.5
One-half in bloom.....	17.2
In full bloom.....	14.4

The Colorado Experiment Station found the effect of cutting alfalfa as follows:

	Protein Per cent.
Coming in bloom.....	18.5
Half in bloom.....	14.6
In full bloom.....	12.9

The Utah Experiment Station for five years cut alfalfa at different stages of maturity and fed the crop to produce beef. The average production per year per acre was as follows:

	Hay, Tons.	Beef, Pounds.
In first bloom.....	5.35	706
In full bloom.....	4.90	562
Half blooms fallen.....	4.65	490

These experiments made in 3 States—Kansas, Colorado, and Utah—prove that alfalfa cut in the first bloom will give the greatest yield and feeding value. The leaves of alfalfa contain more than three times as much protein as the stems, a ton of alfalfa leaves containing as much protein as 2,800 pounds of bran. Every care should be taken in curing alfalfa to save the leaves.

**Kansas and the King.**

When Queen Victoria died last winter, the Kansas legislature adopted a joint resolution expressing sympathy to the subjects of King Edward, and appropriated money to cable a copy of the resolution to the king. In reply to the message, King Edward expressed his appreciation of the "loyalty" of the Kansas people. This answer was made a part of the records of both houses; and the objectionable word "loyalty" was not discovered until the next morning, when Representative Ed Wellep's attention was called to it. In a short speech he denounced King Edward for presuming that the Kansas people were loyal to the English king, and the motion which Mr. Wellep made that the objectionable message be expunged from the records of the House carried by an almost unanimous vote.

United States Ambassador to England Joseph H. Choate learned of the action of the Kansas House of Representatives. He set about it to have the tone of King Edward's message altered. The following letter from King Edward's secretary, Lord Lansdowne, to the members of the Kansas legislature shows that the king "came down" to Kansas handsomely:

Foreign Office, April 24, 1901.

Your Excellency:—I duly laid before the king a copy of a resolution by the Senate and House of Representatives of the State of Kansas expressing their condolences and sympathy on the occasion of the deeply lamented death of Her Majesty Queen Victoria, Empress of India.

I have received the king's command to request that your excellency will be so good as to convey to the Senate and House of Representatives of the State of Kansas his sincere thanks for this message of sympathy which His Majesty has received with high appreciation.

I have the honor to be, with the highest consideration, your excellency's most obedient and humble servant,

LANSDOWNE.

It will be observed that the word "loyalty" is omitted, indicating that King Edward has awakened to the fact that Kansans are not his subjects.

**The Proposed Manner for State Tax Levies.**

BY R. F. BOND.

EDITOR KANSAS FARMER:—Desiring to put well before Kansas farmers the rise and fall to come to counties by the suggested new tax law, the writer offers this article to your highly prized KANSAS FARMER for publication, and without attempted argument.

These figures below given furnish the way for judging the future by the past. A study of them as a whole and as affecting each county is recommended to every interested reader.

The per capita rate of State taxation last year, in each of the 105 counties, had the now proposed law been in ef-

fect, would have been one hundred and twenty-three cents (\$1.23). Therefore, the per capita rate of each county as here appearing—paid last year—should be compared with the State average (\$1.23). Exclusive of railroad, Pullman, telegraph, and telephone property, State taxes last year averaged but \$1 per capita.

As to what the main proposition is, and that no mistake be made, let it be repeated. It is for State purposes only, to be on a basis easily determinable, the size of the county in population, rather than on the valuation of property, as now made by the more than 1,000 appraisers of the State. The main object of the change is to disconnect local from State taxation, permitting tax valuation in each county by itself for itself, high or low, at will. Property continuing to pay the taxes as heretofore.

**THE PER CAPITA OF 1900.**

County.	Amt.
Allen	\$1.09
Atchison	1.06
Barton	1.06
Chautauqua	1.05
Cherokee	.58
Cloud	1.19
Clay	1.11
Coffey	1.17
Cowley	1.12
Crawford	.78
Decatur	.97
Dickinson	1.21
Douglass	1.20
Elk	1.22
Ellis	1.19
Graham	1.16
Jefferson	1.15
Jewell	1.15
Labette	.92
Lincoln	1.17
Linn	1.21
Marion	1.19
McPherson	1.17
Mitchell	1.18
Montgomery	.78
Norton	1.06
Osage	1.06
Osborne	1.11
Phillips	.90
Pratt	1.02
Rawlins	1.14
Reno	1.12
Republic	1.09
Rice	1.21
Rooks	1.16
Rush	1.12
Russell	1.18
Sedgwick	1.15
Smith	1.07
Stafford	1.03
Washington	1.02
Wilson	1.11
Wyandotte	1.09

By the per capita plan as a law the rate of State taxes in 43 counties would be raised, in 62 counties would be lowered from what it was in 1900.

Anderson	\$1.42
Barber	1.50
Bourbon	1.25
Brown	1.40
Butler	1.40
Chase	1.87
Cheyenne	1.46
Clark	3.59
Commanche	2.50
Doniphan	1.29
Edwards	1.40
Ellsworth	1.51
Finney	1.86
Ford	1.87
Franklin	1.28
Geary	1.23
Gove	2.60
Grant	2.91
Gray	3.10
Greeley	5.83
Greenwood	1.41
Hamilton	3.40
Harper	1.25
Harvey	1.24
Haskell	2.70
Hodgeman	1.80
Jackson	1.99
Johnson	1.40
Kearney	3.95
Kingman	1.48
Kiowa	1.48
Lane	2.59
Leavenworth	1.76
Logan	2.73
Lyon	1.42
Marshall	1.24
Meade	2.87
Miami	1.25
Morris	1.50
Morton	3.21
Memaha	1.58
Neosho	1.59
Ness	1.50
Ottawa	1.44
Pawnee	1.91
Potawatomie	1.44
Riley	1.53
Saline	1.39
Scott	3.05
Seward	3.20
Shawnee	1.49
Sheridan	1.57
Sherman	1.81
Stanton	4.22
Stevens	2.08
Sumner	1.89
Thomas	1.74
Trego	2.08
Wajunsee	1.39
Wallace	3.39
Wichita	2.46
Woodson	1.30

Warm spring days produce a feeling of drowsiness if the body is loaded with the impurities of winter diet. Cleanse the blood, liver and bowels with Prickly Ash Bitters. It creates energy and cheerfulness.

**St. Paul and Return, \$13.55.**

For the Biennial Meeting Modern Woodmen at St. Paul, Minn., June 10-15, the Sioux City Route (Northwestern Line) will sell tickets June 8-9-10, Kansas City to St. Paul and return, at a rate of \$13.55. Write for descriptive folder of the northern hunting and fishing resorts. J. R. Buchanan, G. F. A. Omaha. A. L. Fisher, T. F. A., Kansas City.

Horticulture.

Forest Conditions.

EDITOR KANSAS FARMER:—It is not only a gratification, but a pleasure, to note the interest the secular journals are to-day taking in the forest condition of our country.

LABOR ON FARMER'S GARDEN, 1900—HOURS.

Table with columns for months (Apr, May, Jun, Jul, Aug, Sep, Oct) and total hours. Rows include work with team, work with one horse, and hand labor.

and placid rivers into foaming billows, destroying millions of property, and often many human lives. Yet this is not the final culmination of the work of this little agent.

twenty years ago, which is now furnishing unmistakable proof that there is money in the business. Many of these first plantations are now yielding a sufficient crop of timber to cover an annual rental of the land, of from \$15 to \$20 per acre.

Topeka, Kan. D. C. BURSON. The Farmer's Vegetable Garden. JOHN W. LLOYD, B. S. A., INSTRUCTOR IN HORTICULTURE.

An accurate account was kept of all the time spent in preparing the land, planting, and caring for the garden. The time spent in harvesting the products was not recorded, for in practice, vegetables would be gathered from one to three times a day as they were needed in the kitchen.

THE HARVEST.

The first products of the garden were gathered on May 12th, and from that time until October 17th (when the first killing frost occurred) a supply of vegetables was brought in nearly every day.

Estimating the cost of labor at the prices ruling in this vicinity, the total cost for labor on the garden would be: Team work, 27 1/2 hrs. at \$3 per day, \$ 8.25

failed, the late planting as a whole was not unprofitable. Below is a summary of the products of the garden, giving the time during which each vegetable was used, the total yield, and a conservative estimate of the value of the crop at retail.

PRODUCTS OF FARMER'S GARDEN, AND THEIR VALUE, 1900.

Table listing various vegetables (Radishes, Cress, Onions, Lettuce, Spinach, Beet greens, Peas, Early beets, Early potatoes, String beans, Cabbage, Wakefield, Later varieties, Early carrots, Sweet corn, Tomatoes, Lima beans, Peppers, Parsley, Summer squash, Cucumbers, Pickles, Muskmelons, Watermelons, Winter squash, Late beets, Late carrots, Turnips, Parsnips, Salsify, Winter radishes, Celery) with columns for Period of Use, Total product, Retail price, and Value of crop.

\*The basket used was a ten-pound climax grape basket, and was crowded as full as it would hold. †The cabbages gathered Oct. 16th and stored for winter are included in this number.

About half the parsnips and half the salsify were dug and the balance of the crop estimated. All root crops for winter use were packed in boxes of dry earth and placed in the cellar.

DOES IT PAY? If nothing is charged for the use of the land nor for the manure, the total cost of the garden may be summarized as follows: Seeds and plants, \$5.45; insecticides, \$.50; labor, \$26.11; total, \$32.06.

In return for this expenditure the garden furnished a continuous supply of fresh vegetables throughout the growing season, with enough sweet corn for drying, tomatoes for canning, cucumbers, peppers, cabbage, string beans and green tomatoes for pickles, besides onions, beets, carrots, parsnips,

ance of \$51.78 in favor of the garden. What other half-acre on the farm would pay as well?

SUMMARY.

- 1. The farmer should have a large garden located near the house and planted in long rows so that it can be cultivated with a horse. 2. A succession of the same vegetable may be secured by planting different varieties at the same time, or the same variety at different times.

When writing to our advertisers please mention Kansas Farmer.

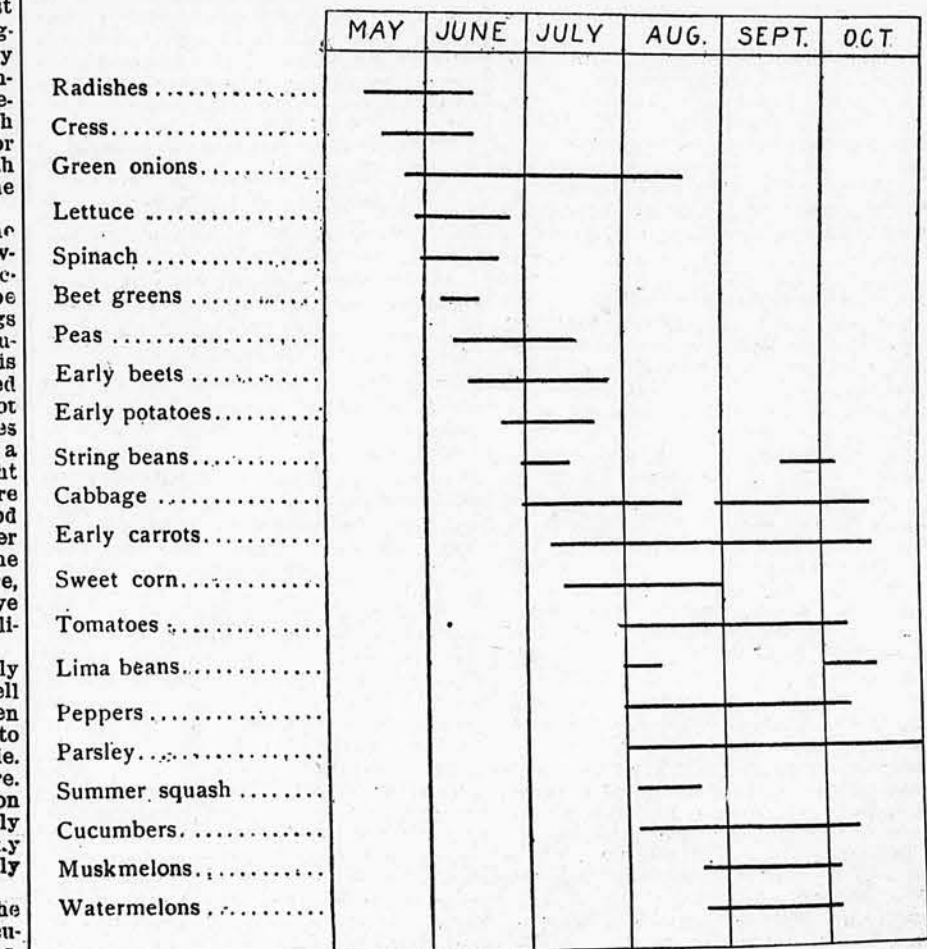


Diagram Showing Succession of Vegetables.

## 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.

### What the Grange Has Accomplished.

Issued by authority of National Grange.

The work of the grange is of such a nature that its greatest accomplishments can never be cited except in a general way. We may state how many dollars have been saved to the farmers of the country through cooperative trade arrangements, and through mutual insurance companies, both fire and life, and something definite can be stated in regard to the vast saving to the farmers of the country through wise legislation secured, and unwise legislation defeated, through the influence of the grange; but, when we undertake to make any estimate of the moral, social, and mental development that has been brought to the farmer and his family through grange influence and grange teaching, we are lost in the magnificent results obtained. It is absolutely impossible to give any intelligent estimate of the development of the noble principles of manhood and womanhood in the mind and heart of the million of people that have been connected with this order, and of the millions of other people with whom they have been associated. It is along this line that the grandest results have been achieved. Thousands of farm homes have been made happier and better, and the members of farmers' families have been reaping the highest enjoyments of life through the quickened mental abilities by grange influence, while a higher ideal in life has been reached through the development of the heart by true grange teachings. With these general statements, we leave the most important results during thirty-two years of grange work to the imagination of our readers.

In matters of legislation, among the first objects to claim the attention and engage the efforts of the grange were the State agricultural colleges of the country, many of which, in their early days, were united with, and became a part of, classical colleges and universities, thus in a large measure destroying their identity as agricultural colleges, and rendering them practically worthless for the objects for which they were established.

Through the influence of the grange a separation has been effected in a majority of States, and distinct agricultural and mechanical colleges have been established. In most of those States where the efforts for a separation have not been successful, the college authorities have been forced to give much greater recognition to agriculture, and with but few exceptions these institutions, separate and combined, are now doing a grand work in educating the farming youth of the nation.

It was through the direct influence of the grange that the additional appropriations for agricultural colleges by the 1890 act of Congress were confined to instruction only in agriculture and the mechanic arts.

The Hatch act for the establishment of State experiment stations, which are doing such a great work for the agriculture of this country, became a law by reason of the efforts of the grange to secure its enactment.

It was through the influence of the grange that the Department of Agriculture at Washington was raised to the dignity of other departments of the national government, to be presided over by a Secretary of Agriculture in the President's Cabinet, thus giving farmers a voice in the policy of the government as it affects the agricultural interests of the country.

The transportation question engaged the attention of the members of the grange in the early days of the order, and in the famous Iowa case the decision was handed down from the Supreme Court of the United States that all railroad franchises are subject to the power which created them; or, in other words, that "the creature is not greater than the Creator."

Through the direct influence of the grange, the Interstate Commerce Commission was established by act of Congress, which in a measure aims to control interstate traffic, and gives the peo-

ple a means of redress from the injustice and extortions which are often practiced by those gigantic corporations, thereby saving the people great annoyance and vast sums of money in reduced rates of transportation.

The subject of taxation has always engaged the attention of the grange, and it is through the influence of this farmers' organization that in many States the burdens of taxation have been, in a measure, at least, equalized by a more equitable assessment of real estate between town or city and farm property, and by the enactment of laws taxing personal property and corporations which had hitherto paid little, if any, taxes for local or State purposes.

The grange is strenuously opposed to adulterations of all kinds, and mainly through its influence State and national laws have been enacted to control the sale of oleomargarine and other butter frauds, and protect the great dairy interests of the country from these vile compounds which the unscrupulous manufacturers would place upon the market as pure butter.

Through the influence of the grange most maple sugar producing States have enacted stringent laws against the adulteration of this farm product, thereby protecting both producers and consumer from a spurious article.

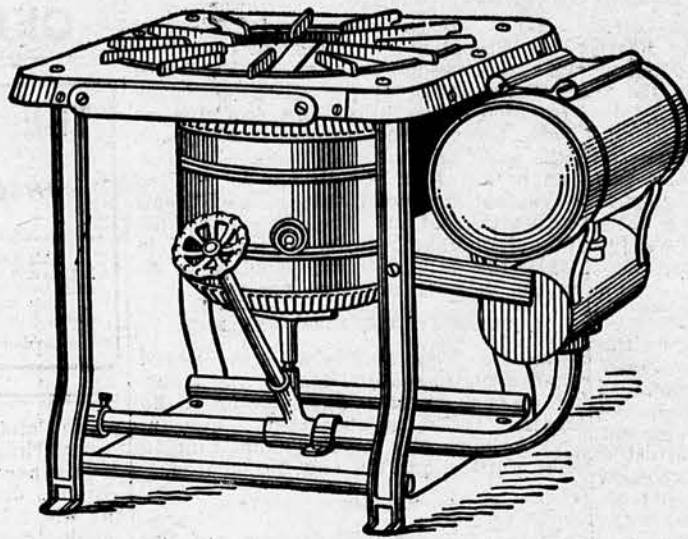
The grange successfully fought the driven well and sliding gate patents in the courts, saving enormous sums of money in royalties which were being extorted from farmers and others using them.

Through the influence of the grange upon Congress the extension of the patents on sewing machines was prevented, saving to the people fully 50 per cent in the prices, amounting to millions of dollars annually.

The grange has a grand record of usefulness in legislation in nearly every State in the Union for its influence on the side of justice and equality in the enactment of many wise and judicious laws in the interests of the people, and for the protection and advancement of farming industries.

A recent victory of the grange, and one of its grandest achievements, is the establishment of rural free mail delivery in various sections of the country. The grange was the first organization to publicly proclaim that if it was right for the government to carry mail to the homes of people in cities, it would be right for it to carry mail to the homes of people in the country, and through the discussion of the question and intelligent presentation of the matter to Congress, appropriations have been secured; first, for experiment, and now practically for permanent establishment of the system of rural free mail delivery. This breaks up the isolation of farm life, will tend to secure better roads, and advance farm values wherever it extends. The results in this matter alone will justify the entire cost of the grange from its establishment to the present day.

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in four  
larger sizes.  
Sold  
everywhere.

If your dealer  
does not have  
them—write to  
the nearest  
agency of  
**STANDARD  
OIL CO.**

### How to Organize a Grange.

Whenever there is a desire in any community to organize a grange, someone who is interested should secure the names of 25 or more representative farmers, all over 14 years of age, not less than 4 of whom must be women. A special effort should be made to include the young. Collect fees, which are \$1; then write the State master for a date when he can visit you or send a deputy to perfect an organization. Should any special date be desired, an effort will be made to meet it. A deputy master is appointed in each county, who is the representative of the State master in that county. He will be glad to cooperate with any community in organizing a grange. When the name and address of the deputy master in your county are known, correspondence may be had with him. In the absence of such knowledge, write the State master.

### Children's Day.

Children's day is more generally observed than any other event in the grange calendar, and has resulted in great good in the past. The date of observance having been fixed by the State master, by proclamation or otherwise, all the children of the vicinity of a subordinate grange should be invited to attend and participate in the exercises. This may be held in some convenient grove, or in the grange or other hall. The children will be the honored guests upon this occasion, and with speech and song contribute to the enjoyment of the day, while the banquet will remain in their memory as the most pleasing exercise of all. Let us make children's day of 1901 the brightest and best day of all, leaving happy memories with ourselves as well as with the children who have come to bless and brighten the farm homes of the nation. Efforts made in behalf of children's day will come back to us in later years as a bright spot in our memory, that can not be effaced, and will cause many happy recollections of our younger days.

### Grange Memorial Day.

The last session of the National Grange established grange memorial day upon the third Saturday of June. It is the intention that the members of each subordinate grange in the country meet at their respective grange halls at some convenient hour upon that day and hold memorial services in memory of members that have died during the year preceding, or for a longer time back if advisable. These exercises may well consist of an invocation by the chaplain, appropriate singing by the choir, Scripture reading, eulogistic remarks by members, and closing with prayer by the chaplain, the master of the grange presiding during the exercises. A memorial committee should be appointed at a previous meeting to arrange for these exercises, which can be held in closed or

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Residence or Business Property for Cash no matter where located. Send description and selling price and learn my successful plan of selling property. W. M. OSTRANDER, 1215 Filbert St., Philadelphia, Pa

open form, but preferably the latter. After the exercises, the graves of deceased members can be visited and decorated if desired. Memorial day exercises can be made a beautiful and impressive service, tending to cement more closely the ties that bind the living by the common sorrow shared, as well as by the tearful respect shown the memory of the dead.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" and Catalogue 25¢ free. West Chester, Pa.

**STARK TREES SUCCEED WHERE OTHERS FAIL.**  
Largest Nursery. Fruit Book Free. Result of 16 years' experience. STARK BROS., Louisiana, Mo.; Danville, N.C.

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Full colonies shipped any time during summer and safe arrival guaranteed. It will pay you to try my stock of Italian bees in the Latest Improved Hives. Nothing will double in value quicker.

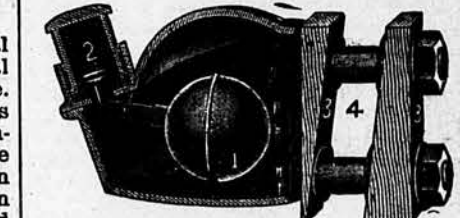
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(Sectional View.)

The valve is governed by a Water Closet Brass Float, which cannot rust, leak, freeze, or allow mud to collect beneath. The only successful Waterer on the market. 200,000 in use. Waters from 50 to 300 hogs a day; also sheep, calves, and poultry. Demand "The Improved Dewey", not "Dewey", or others that will give you trouble. Call on your dealer, or address THE B-B MFG. CO., Davenport, Iowa.

### FARMERS WILL HANDLE THEIR OWN GRAIN.

(Continued from page 479.)

shall keep or cause same to be kept, in such manner as the Board may direct; shall prepare the annual statement and any and all other statements that may be required from time to time by the Board; shall attest all orders drawn upon the Treasurer, contracts, agreements, and undertakings, making proper record of the same and shall perform any and all other service that may be required from him from time to time by the Board, and before entering upon the discharge of his official duties he shall give such bond as the Board may require for the faithful performance of his duties, and that he will at the expiration of his term of office deliver to his successor, or the person designated by the Board to receive the same, all moneys, property, books, records, papers, or accounts belonging to the association which may have come into his possession. He shall receive such compensation as the Board may provide.

#### TREASURER.

Sec. 13. The Treasurer shall be the custodian of all the funds of the association; shall keep a full and complete record of all receipts and disbursements; shall pay out no money except on the order of the President, attested by the Secretary. Before entering upon the discharge of the duties of his office he shall give bond for the faithful performance of his duties in such sum as the Board may require; shall perform such other service as may be required of him by the Board; shall receive such compensation as the Board may provide and at the expiration of his term of office, shall turn over to his successor all money, books, and other property of the association which shall have come into his possession.

#### AGENTS, ATTORNEYS, AND EMPLOYEES.

Sec. 15. All agents, attorneys, and other employees of the association shall perform such specific duties as may be designated by the Board, and, wherever possible, the compensation or remuneration shall be fixed by the Board in advance of their employment. The association shall give publicity to the extent of the authority of agents to the end that it shall not become liable for any acts in excess of such authority.

#### ARTICLE IV.—MEETINGS.

##### ANNUAL MEETING OF STOCKHOLDERS.

Sec. 1. The annual meeting of the stockholders of the association shall be held on the first Monday in June at the principal office of the association. Notice of such meeting shall be given thirty days previous to the meeting.

##### SPECIAL MEETING OF STOCKHOLDERS.

Sec. 2. Special meetings of the stockholders shall be called by the President on written request by five members of the Board of Directors, or of fifteen stockholders, which request shall set forth the purpose of such meeting. Notice of such meeting shall be given in writing at least two weeks prior to such meeting, which notice shall contain a copy of the request for such meeting, setting forth the purposes for which it is called; provided, that the President may include in the call other purposes than those named in the request, but no subject not mentioned in the call shall be acted upon at any such special meeting.

##### MANNER OF VOTING.

Sec. 3. Each stockholder shall be entitled to one vote on all matters considered at any meeting, except in the election of Directors, in which case he shall be entitled to one vote for each Director to be elected.

##### QUORUM AT STOCKHOLDERS' MEETINGS.

Sec. 4. Fifteen stockholders actually present in person, shall constitute a quorum for the transaction of business at any meeting of the stockholders. A less number than a quorum may adjourn a meeting from time to time until a quorum can be secured; provided, that in the event of a special meeting being adjourned for more than one day, such adjournment shall be for such a length of time to give one week's notice in writing.

##### MEETINGS OF BOARD OF DIRECTORS.

Sec. 5. The annual meeting of the Board of Directors shall be held on the first Tuesday after the first Monday in June each year. Regular quarterly meetings shall be held on the first Tuesday in March, September, and December; the annual meeting in June shall also be considered a quarterly meeting. At the regular meeting of the Board a thorough examination of the affairs of the association shall be

made and all officers shall submit full and complete statements at such meetings, showing all transactions since last meeting.

Sec. 6. Special meetings of the Board may be called at any time by the President and shall be called by him at the written request of three Directors or of fifteen stockholders. At least five days' notice of the time of holding special meetings shall be given each Director, provided, that a meeting may be called on shorter notice, if all Directors waive notice in writing, which waiver shall be made a part of the records of the meeting.

Sec. 7. In the event the President or Vice President shall neglect or refuse to call a special meeting of the Board of Directors or of the stockholders, as provided in Sections 2 and 6 of this article, three Directors may make such call, and their act shall be equally binding as a call of the President or Vice President; provided, that such call shall set forth that the President and Vice President have refused or neglected to make the call after requested to do so in the manner provided herein.

##### QUORUM AT DIRECTORS' MEETINGS.

Sec. 8. Five members of the Board shall constitute a quorum for the transaction of business at any meeting of the Board. A less number than a quorum may adjourn any meeting from time to time until a quorum can be secured.

#### ARTICLE V.—MISCELLANEOUS.

Sec. 1. It shall be the duty of the President and Secretary of the association to prepare, execute and file with the Secretary of State, the annual reports required to be filed by corporations.

Sec. 2. If any officer shall fail to perform any service required of him by law or by the Board of Directors, or shall be guilty of any misuse of the funds or property of the association, or shall engage in the transaction of any business in the name or on behalf of the association without authority from the Board, or shall engage in speculating, or in options on grain, stock, or produce, shall be deemed to have forfeited his position and upon determining that any officer has committed any such offense the Board shall immediately remove him from office.

Sec. 3. Any officer guilty of misconduct, as provided in Section 2 of this article, shall be personally liable to the association for any damage resulting from such misconduct and the stock of such officer or any indebtedness of the association to him on any account shall be subject to the payment of such liability.

Sec. 4. This association shall at no time purchase or speculate in grain or live stock or other farm products, nor shall the funds of the association be loaned to any person.

Sec. 5. The official publication of the association shall be under the control of the Board of Directors, who shall appoint a manager of same, or may direct any officer or employee to act in this capacity. Such publication shall be devoted to the interests of the association and to the general principles of cooperation and association, and shall under no circumstances become a partisan political publication; provided, that the Board may arrange with any newspaper of general State circulation for a department of publication, such department to be under the control of the Board and wholly devoted to the interests of the association. Nothing of a partisan nature shall be inserted in said department.

Sec. 6. In case of disagreement among the shareholders, the matter shall be settled by arbitrators chosen as follows: One by the officers and Directors, one by the aggrieved member or members, and the third shall be chosen by the first two, and the decision of such arbitrators shall be an award and binding on the several parties.

##### AMENDMENTS.

Sec. 7. These by-laws may be amended at any regular meeting of the stockholders, or at a special meeting held for that purpose; provided, that in case of a special meeting at least thirty days' notice shall be given in writing of the proposed amendment.

##### Measuring Hay in the Stack.

There has been considerable inquiry for a method of measuring hay in the stack. I enclose copy of a bill recently introduced by myself and passed in the legislature of New Mexico.

Section 1. The following rule and method of measuring loose hay in the stack, and specifying the cubical contents of a ton of loose hay, is hereby established.

Sec. 2. Measure the stack for length,



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OF TOPEKA, KANSAS.

**INSURES GROWING CROPS AGAINST LOSS OR DAMAGE  
...BY HAIL...**

This Association has complied in every particular with the new and stringent laws passed by the last legislature governing hail insurance, and furnished the State of Kansas with a \$50,000 bond, and is now fully authorized by the Superintendent of Insurance to do business in Kansas.

This Association offers you the protection you want at moderate cost. If our agent has not called on you drop us a line and he will do so. Address  
Columbian Bldg. **THE FARMERS' MUTUAL HAIL ASSOCIATION, Topeka, Kans.**

width, and the "over." To get the "over" throw a tape line over the stack at an average place from ground to ground, drawing it tightly. Multiply the width by the "over" and divide this result by four, multiply result of division by the length for approximate cubical contents of stack. To reduce to tons, for hay that has stood in stack for less than twenty days divide cubical contents by 512; for more than twenty and less than sixty days divide cubical contents by 422; for more than sixty days divide cubical contents by 380. Example: Stack measures 17 feet wide, 58 feet long, and 36 feet over. Stack has stood fifteen days. Multiply 17 by 36, equals 612. Divide 612 by 4, equals 153. Multiply 153 by length, 58, equals 8,874, which gives the cubical contents in feet. Divide 8,874 by 512, equals 17.3 tons in a stack. I have carefully tested this rule on several different stacks and kinds of hay. Hay measured in the stack, under this rule, will bale out in weight to within 5 per cent of its measurement, which is far closer than any other rule of measurement I have been able to get hold of, and in drawing up this law and the investigation preceding it I secured over 50 different systems of measurement from almost every part of the United States.

I believe this rule will prove as nearly correct as is possible to be figured out and hope it may prove of interest to your readers.—Wm. C. Barnes, in Breeders Gazette, Colfax Co., N. M.

##### Passed up the Bugs.

When the giddy wheel of Fortune stopped on the number of Jim Clark's choosing, out in Nevada the goddess paid to him a fortune. One of the original characters of the West, known in all the mining camps of the intermountain States, a prospector for years, he one day found himself rich "beyond the wildest dreams of avarice." Money is an unwieldy thing in the hands of some men, and serves but to point out their own defects. As an instance of this, the following story is told of his adventure when in New York at the Waldorf Astoria. This great hostelry was, to the mind of Clark, the plumb center of aristocracy, and he thereupon decided to plunge right in, with the feeling that his plethoric purse would carry him along on the crest of the gay social swim. He appeared in the dining room at 12 o'clock sharp wearing a dress suit and his shirt front and fingers gorgeous with diamonds. Upon the waiter approaching he asked:

"O! say, are yez th' hid waither?"

"I am not, sir."

"O! wants to see th' hid waither. Sind me th' hid waither!"

The head waiter responded to the summons.

"Are yez th' hid waither?"

"I am, sir."

"O! am daysirous of obtainin' a dinner such as th' great swells who frequent this boarding-house do be parthankin' of."

"Charles," said the head waiter, "supply this gentleman with the bill of fare."

"Begorry, O'll conshult no bill o' fare. O! am moind to have yez bhring me such a spread as th' multi-millyunares feed upon, raygardles of th' printed instructions, and furthermore, without rifr-rince to th' cost of same."

"I understand, sir. Charles, serve the gentleman carefully with a full course dinner."

"Pwhat's that? A coar-rse dinner!"

Faith, O! want no coar-rse dinner! O! till yez I want a male that'll be in stolle the bist that yez kin fur-nish. O! have th' coin to pay fur it."

"My dear sir, I believe we can satisfy you. Leave the matter to us."

"Well, foire away thin. But moind yez, play no tricks on me."

The waiter set a dish of consomme before him. He eyed it suspiciously.

"Pwhat's that?"

"It is consomme, sir."

"Consummay, is it. Pwhat's that?"

"It's a soup, sir."

"Soup, is it? Faith, if they'd thry to ser-rve such a weak liquid at Mrs. Flannigan's boardin'-house at Grizzly Gulch, th' boarders wud all leave."

The next dish contained lettuce.

"Pwhat's the bunch?"

"Lettuce, sir."

"Lettuce, is it? Yez are shure yez are not shwervin' from the pr-program followed by th' rich bluds?"

Upon being reassured that he was on the main track he stored away the salad.

A plate of shrimps was placed on the table. Clark's physiognomy took on a startled expression.

"Pwhat's that?"

"Shrimps, sir."

"Bring me th' hid waither."

That worthy arriving, Clark relieved his mind with a choice collection of electives.

"Yez seem to be pr-reshuming upon me ignor-rance. O! regrit to state that my taste has not bin cultivated to such oncivilized diet. O! parthook of yure dish wather under phrotist. O! while thinkin' that we would be shamed to offer such forage to th' mules at th' mine. But O! I'll have yez know, O! I'll see yez in purgathory before O! consume yure bugs!"

##### 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.

##### Excursions to St. Paul.

Via the Sioux City Route (Northwestern Line), American Medical Association May 28-30 and 31, June 2-3; Biennial Meeting Modern Woodmen, June 8-9 and 10. Tickets for these meetings will be sold to St. Paul on above dates at one fare plus two dollars for the round trip. Perfect track and modern equipment make the Sioux City Route the best line between Kansas City and St. Paul. Write for a copy of "Outing," a new descriptive folder of the hunting and fishing resorts of Iowa, Minnesota, Wisconsin, and Michigan. J. R. Buchanan, Genl. Pass. Agt., Omaha. A. L. Fisher, T. P. A., 823 Main St., Kansas City.

WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin of the Kansas Weather Service, for the week ending May 23, 1901, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The week has been warmer than the preceding, the temperature being more nearly normal, though frosts occurred in the northeastern counties on the 13th. Good showers fell over the whole state during the 15th, 16th, and 17th, amounting to fairly good rains over most of the state, and very good rains over portions of it, though only light showers fell in the northeastern counties. Hall fell in rush on the 15th.

RESULTS.

EASTERN DIVISION.

Wheat is in better condition than last week; it is heading in all parts of the division and in the southern part is beginning to bloom; in Montgomery some early sown bottom wheat not doing well. Corn planting is about finished, though there is some replanting to be done yet; corn is generally coming up well and with a good stand, though in Wyandotte the early planted is a poor stand; in Jackson it is a poor stand, but improving; in Atchison it is not coming up well. Oats are generally a poor stand. Apples are badly injured by worms in Bourbon and Osage, and in Crawford the early apples are being blasted and falling. Strawberries are being marketed in Montgomery, they are also ripe and abundant in Neosho. Blackberries are in bloom in Morris and Wyandotte. Grapes are doing well in Shawnee. Grass is improving rapidly. Alfalfa is beginning to bloom in Morris, and is nearly ready to cut in Neosho. Sweet potato planting has begun in Pottawatomie.

ing considerable damage to apples and apple trees. Pottawatomie.—All crops are needing rain; sweet-potato planting has commenced. Riley.—Good growing weather, warmer, with better rains; corn a good stand; pastures are good. Shawnee.—Corn planting about finished; early planted corn coming up well; wheat beginning to head; grapes and fruits of all kinds doing well, but rain is badly needed. Wilson.—Good weather for the wheat, which is heading; oats reported in bad condition, some fields being plowed up; bugs very numerous in wheat and oats; potatoes and gardens look fine; strawberries being marketed. Woodson.—Corn looks well; late rains have improved wheat very much; good prospects for fruits; Kafir-corn and cane being planted. Wyandotte.—Everything needing rain; blackberries blooming; wheat heading; corn planting about done; early plantings poor stands; fruit prospects good; pastures fair and cattle in good condition.

MIDDLE DIVISION.

Wheat is heading or has begun to head in all parts of the division; it was damaged to some extent by the dry weather in several counties, but the recent rains are generally restoring it in a large measure; wheat sown in stubble fields is suffering in some counties, and in Barton, Lincoln, and Smith is being plowed up. Corn, though generally a poor stand, has improved considerably with the showers and warmer weather; it is being cultivated in the south. Rye is headed. Oats a poor stand and not improving as well as the corn. Apples have been injured by the canker-worm in Butler, Saline, and Smith. Apricots have fallen off badly in Harvey. Strawberries are beginning to ripen and blackberries to bloom in Reno. Peaches are doing finely in Butler. Alfalfa is fine. Grass is improving rapidly.

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SCALE IN INCHES. Less than 1/4. 1/4 to 1. 1 to 2. 2 to 3. Over 3. T, trace. ACTUAL RAINFALL FOR WEEK ENDING MAY 18, 1901.

Chinch-bugs are working on oats in Bourbon, injuring corn in Greenwood, and are numerous in wheat and oats in Wilson. Allen County.—Fine rains, helped all crops out. Anderson.—Good rains have improved pastures, and crop prospects. Atchison.—The rain was of great benefit to the county, but more is needed, germination and growth are not making headway as they should; wheat heading; corn planting about finished, but corn is not coming up well; fruit in fair condition; frost on 13th, but little damage. Bourbon.—Drought broken by good rains; corn planting over; oats and flax poor stands; chinch bugs working on oats; grass growing finely; worms injuring apples; stock doing well. Brown.—Corn planting about done, first planting generally shows a good stand; wheat in good condition; some fields of oats are fairly good, others poor; pastures are good. Coffey.—Conditions much improved by the rain, but will need more soon. Crawford.—Warm week with good showers; all crops growing rapidly; wheat heading and blooming; early apples blasting and falling. Elk.—The fine rains have helped all growing crops; corn was at a stand still, but will do better now. Franklin.—Corn planting about finished; the rains were needed to start flax and other crops; canker-worms have ceased their work. Greenwood.—Rain needed for all crops and grass; chinch-bugs destroying young corn; cattle doing finely on the grass. Jackson.—Heavy frost on 13th; the light rains softened the crust on the ground and corn is doing better, though a great deal of it is a poor stand. Jefferson.—Nice showers this week; corn coming up well; some oats and flax are being plowed up on account of poor stand. Johnson.—Light rains, beneficial to wheat and pastures; corn coming up nicely; oats not very promising; wheat prospects very good. Lyon.—Corn about 3 inches high and doing well; other crops in fine condition. Marshall.—All crops made good growth; wheat is very fine; corn is all coming up and with warmer weather will grow well. Montgomery.—A good week for cultivating corn, which is growing rapidly with a good stand generally; some fields of bottom wheat not doing well, the late wheat does not seem affected; strawberries are being marketed. Morris.—A few showers, helped corn some but the ground is too dry yet for all vegetation except alfalfa, which is still looking fine and commencing to show bloom; fruit still holding well; blackberries in bloom. Nemaha.—A good week for growing crops; corn generally coming up well; oats are short; wheat heading and in good condition; fruit very promising; rains hardly sufficient and more will be needed soon; light frost on 13th. Neosho.—Everything growing nicely; strawberries ripe and abundant; alfalfa in good condition and ready to cut; all fruit trees heavily laden. Osage.—Corn greatly benefited by rains this week and growing rapidly; worms do-

Barber.—Fine growing week; crops of all kinds greatly benefited by good rains 15th and 17th; pasturage good and cattle in fine condition. Barton.—Very beneficial rains; corn all planted, is up and growing well; wheat beginning to head, some stubble being plowed up; garden vegetables in market; cattle doing well. Butler.—A better week for crops; air damp; local showers, but not enough for permanent benefit; corn not as good stand as first believed, many replanting; oats badly hurt; canker-worm gone, but the orchards show their work; peaches doing finely, small fruit well; pastures good, cattle thriving. Cloud.—Rain helped corn; wheat damaged, and it is believed, can not be improved by the most favorable weather; oats not a good stand; grass in fine condition. Cowley.—The fine rains greatly benefited crops; wheat coming out rapidly; corn growing well, but many poor stands; alfalfa blooming; all fruit fine. Dickinson.—Wheat commencing to head and making rank growth; most corn up, but corn, oats, and grass need warmer weather. Harper.—The good rains put crops in fine condition; soft wheat practically made; hard wheat promises well; corn still backward. Harvey.—Damp, showery week, helping vegetation very much; wheat generally is looking well, but some shows effects of baking after April rains; oats fairly well; corn improving, growing rapidly; most fruits well set; apricots, where set, have mostly fallen off. Jewell.—Most of the corn up and looking well; alfalfa in good condition; fruit promises well. Kingman.—Rains very beneficial; wheat beginning to head; some corn re-planted; prospects good. Lincoln.—Fine week for all crops; much complaint of small worm killing the wheat, some are plowing it up and planting corn; nearly all the wheat in ground not plowed before seeding looks badly. McPherson.—Beneficial rain, but much more is needed, wheat will not suffer for another week; oats and corn are not doing well; rye headed. Phillips.—Fine growing week; fruit in good condition; wheat, rye, and oats are fine; stock doing well. Pratt.—Fair rains this week, more needed. Reno.—Rains have improved condition of all crops; wheat heading; corn up well generally; some can and Kafir-corn planted; strawberries beginning to ripen and early blackberries to bloom. Republic.—Corn nearly all planted and is coming up well; ground now soaked; oats and alfalfa are doing well; rye and wheat heading. Rice.—Good rains; corn coming up well; alfalfa unusually heavy and tall; some wheat heading; everything looks well. Rush.—Condition of all cereals measurably improved by the rains; wheat is fine; rye headed and wheat will be in ten days; oats and barley promises well; corn is backward, but improving; hail in west part on 15th. Russell.—Rain on 15th fine for crops; was getting drv.

Saline.—Fine showers on 15th and 16th; corn not a good stand in many fields, been too dry; fruit growing well; a few orchards were seriously damaged by canker-worms; wheat looks well, but the fly is in it; alfalfa beginning to bloom; gardens good. Sedgwick.—Many light showers, but no general rain, which is needed; wheat is heading and looks well; oats a good stand and color; corn backward but is coming up well and a good color, the first is being cultivated. Smith.—A fine growing week with good rains; corn and grass are doing well; small grains being damaged by insects, in places farmers are plowing up wheat and planting to other crops; fruit doing well except apples, which are poor. Stafford.—A good week for all growing crops; wheat beginning to head. Sumner.—Good rains; hard wheat heading; pasture good; alfalfa fine; everything growing. Washington.—Fine growing week; rains came so gently none ran off; showers have freshened all crops.

WESTERN DIVISION.

The rains were very beneficial to all crops, but were delayed so long that the late sown wheat in Decatur is not stooling well; wheat is heading in Ford, beginning to head in Hodgeman, and is jointing in Sheridan; Trego reports some yellow in the east part of the county. Corn has grown slowly on account of the dry weather, but has good color and is improving. Alfalfa is in good condition; it is about ready to cut in Ford, and will be cut soon in Sheridan; it was damaged by the drought in Hamilton. Rye is heading in Hodgeman and Sheridan. Range grass is very good and cattle are thriving on it. Chinch bugs are reported in Hodgeman and Trego. Clark.—The fine rains have helped millet; range grass is in fine condition. Decatur.—Rain came in time to prevent serious damage, but late wheat will not stool, or has not stooled as well; alfalfa fine; fruit slightly injured in localities, but promises well. Finney.—Fairly good showers on four days; vegetation growing rapidly; range grass in fine condition and cattle doing well; fruit promises heavy crops of all varieties. Ford.—Cloudy, damp, rainy week; alfalfa about ready to cut; wheat heading finely; barley, oats, and corn very good; fruit prospects bright. Gove.—Four days' showers have revived the crops; wheat is looking well, as is almost everything; fruit looking better than in years, a large crop is promised. Grant.—Too dry to break sod, cultivated land has plenty of moisture; planting still progressing; grass green and stock fattening; local rains. Hamilton.—Fine rains this week; and growth is remarkable; some alfalfa has been much injured by the long drought of winter and spring; fruit is injured somewhat in places. Hodgeman.—Rye and early wheat heading; Kafir-corn nearly all in; many local showers, but the ground dries out soon, a good rain needed; chinch bugs troubling some; locust trees in full bloom. Lane.—Cool, cloudy week, much needed rain latter part, which will materially help small grain as well as corn and forage crops; stock doing well. Ness.—Good growing week; all vegetation growing well; plenty of rain; pasture good, live stock doing finely. Sheridan.—Fine rains; all crops look well; corn backward, but coming up with better color; alfalfa will have to be cut soon; rye heading and wheat beginning to joint; fruit prospects good except peaches. Thomas.—A fine rain which will benefit all growing crops considerably, but many fields of grain are very weedy. Trego.—Rains have revived everything in west part, lighter rains in the east part of county where some of the wheat is turning yellow; cattle doing well on pasture; chinch bugs flying north; good pros-

Pan-American Opening.

The Nickel Plate Road will sell excursion tickets from Chicago to Buffalo at \$13 for the round trip one each Tuesday in May the 7th, 14th, 21st and 28th, with limit of five days; namely, returning good on any train to and including midnight train from Buffalo on Saturday following Tuesday tickets are sold. They will be good going on all trains on date sold. Daily train from Chicago at 10:35 a. m. arrives Buffalo 2:05 following morning; daily train from Chicago at 2:30 p. m. arrives at Buffalo 7:35 next morning; daily train from Chicago at 10:30 p. m. arrives Buffalo 4:45 next afternoon. All trains carry through vestibuled sleeping cars. Individual club meals, ranging in price from 35 cents to \$1, and no meal in excess of the latter figure, are served in dining cars. For sleeping car reservations and all

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## 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.)

#### RED CLOVER.

Next to alfalfa red clover contains the most nutriment per hundred pounds of any roughness that we have. Clover is not a success in the western part of the State and does only moderately well in the central portion. In the eastern third, however, it is a decided success. Being a biennial plant farmers experience more trouble in keeping a good stand from year to year than with alfalfa, which is perennial, although Mr. Geo. Stevenson, of Franklin County, says he has been able to maintain a good stand for about sixteen years. His plan is to cut one crop of hay and then allow the clover to go to seed. After the seed is well formed he turns his stock on it and in this way reaps the benefit of a good pasture, at the same time his clover seed is being scattered over the field for next year's growth.

#### RATIONS NO. 4 AND 5.

It is generally considered that three pounds of clover is worth two pounds of alfalfa. Since the clover does not contain the same amount of protein as the alfalfa, it will be necessary for best results to have the grain ration richer in protein than either corn or Kaffir-corn alone. Mr. Chas. C. Lewis, of Douglass County, whose dairy record has already been given, says that the best grain ration he has found to feed with red clover is a mixture of the following: Bran 300 pounds, oil-meal 100 pounds, and corn chop 100 pounds. Mr. Lewis feeds from 8 to 10 pounds of this mixture with 20 to 25 pounds of red clover. The agricultural college has not grown red clover by itself, but in clover districts 2 tons per acre is considered a good yield. According to Mr. Lewis' way of feeding it would require two and one-half tons, or one and a fourth acres, per cow, or double the acres required when using alfalfa. The corn area required in using the above ration will of course be small. Two pounds per day will amount to only 400 pounds for the entire feeding period or at the rate of 34 bushels per acre a little less than a quarter of an acre. The objection to the above ration is that four-fifths of the grain must be purchased at the feed store. Where oil-meal is high it can be left out and still a balanced ration be maintained by feeding 25 pounds of clover hay, 6 pounds of bran, and 2 pounds of corn chop. But even here three fourths of the ration must be purchased.

D. H. O.

### Condimental Stock Foods for Dairy Cows.

FROM PRESS BULLETIN OF THE FARM DEPARTMENT KANSAS EXPERIMENT STATION, MANHATTAN, KANSAS, MAY, 1901.

Experience with Acme Stock Food: On November 1, 1900, sixteen cows from the herd of the Kansas State Agricultural College were divided into two lots as equal as possible on the basis of the yields of milk and butter fat for the month of October. One lot (cows fed Acme food) had the advantage by 212 pounds of milk and 17.4 pounds of butter fat for the month. Both lots were fed on alfalfa hay with a grain ration of equal parts of corn chop and bran. In addition to this feed one lot received Acme Stock Food fed according to directions. On December 1, oats took the place of bran in the grain ration of both lots. The results for the three months (ninety-two days) under experiment are as follows:

EIGHT COWS RECEIVING ACME FOOD.	
Milk produced, pounds.....	14,271
Test, per cent.....	4.39
Butter-fat produced, pounds.....	626.7
Cost per pound of fat, cents.....	14.6
EIGHT COWS WITHOUT ACME FOOD.	
Milk produced, pounds.....	14,395
Test, per cent.....	4.13
Butter-fat produced, pounds.....	535.9
Cost per pound of fat, cents.....	12.3

The Acme food lot consumed 136 pounds of Acme food, which at 11 cents (wholesale price) amounts to \$14.96. Deduct this from the food cost and the expense of producing a pound of butter fat is reduced to 11.68 cents. The difference in the total production of butter fat can readily be accounted for by the difference in the lots at the commencement of the experiment, but granting that it is due to the effects of the Acme food, it would make the extra butter fat cost 48 cents per pound.

Experience with Globe Stock Food: Taking the record for the month of January as the basis, a herd of twenty

cows was divided into two lots as nearly equal as possible, there being only a difference of 1.4 pounds of butter fat in the total yield for the month. All the cows received alfalfa hay for roughness and equal quantities of corn and cob meal and oats for the grain ration. One lot received the Globe Stock Food in addition. The results for two months (fifty-nine days) are as follows:

TEN COWS WITH GLOBE FOOD.	
Milk produced, pounds.....	12,784
Test, per cent.....	4.05
Butter-fat produced, pounds.....	518.1
Cost per pound of fat, cents.....	11.7
TEN COWS WITHOUT GLOBE FOOD.	
Milk produced, pounds.....	12,896
Test, per cent.....	3.96
Butter-fat produced, pounds.....	511.3
Cost per pound of fat, cents.....	11.0

If the Globe food be eliminated from this experiment the cost of producing a pound of butter fat is the same in both lots. The totals for two months show that the cows receiving the Globe food produced 6.8 pounds more butter fat. Globe food sells for 9 cents per pound (wholesale rates). The ten cows consumed 43.3 pounds, worth \$3.89, or a cost of 57 cents for each extra pound of butter fat produced.

The test of these two patented stock foods indicate that they are worthless for dairy cows accustomed to a good balanced ration. The experience of the Kansas Experiment Station coincides with the experience of other stations where a still larger number of these stock foods have been tested. When financial gain is the object, it will pay the farmer to confine himself to those feeds that have been thoroughly tested, whose merits are known, and which can be raised or purchased at reasonable prices rather than pay exorbitant sums for so-called stock foods whose merits, to say the least, are very doubtful.

D. H. O.

### Care of Aborted Cows.

L. S. EDWARDS.

When a cow aborts, it may be from any one of several causes. There may be something in the feed to cause abortion; she may have been injured in some way; or she may be afflicted with contagious abortion. This latter condition, if present, is most serious, as any stockman who has ever had the disease gain a foothold in his herd knows. It is the difficulty connected with determining whether this cause is operative in a certain case, which makes it imperative that all cases of abortion should receive the most careful attention.

If the cow can be removed from the herd before the delivery takes place, so much the better, but this is often impossible because quite frequently there are no previous indications of the condition of the animal. She should be removed as soon as possible from all contact with the herd. She should be thoroughly disinfected and the foetus and membranes burned. A good disinfectant for stalls is a 5 per cent solution of sulphuric acid in water. The manure and bedding from the affected stall should be placed in some location where the cows will not come near it, and where the drainage does not flow over ground occupied by the herd.

Often the membranes which enclose the foetus will remain attached to the wall of the uterus. They must be removed before decay sets in, say thirty-six hours at most, from the time the foetus is delivered. This operation is performed with the hand, the membranes being stripped from the walls any cobyledons or button-like projections of the uterus, with as little force as possible. The hand and arm should be well oiled and free from sores. Tying weights to the membranes, or pulling them from the animal by force, is dangerous, for if they are firmly attached the cobyledons may be torn from the walls of the uterus. If this happens, the cow is permanently injured, and even death may result.

As soon as the cow is cleaned, inject into the uterus about 2 quarts of a 2 per cent solution of creolin. This may be obtained at any drug store. The solution should be at about 100° F., so that the organs may not be chilled, causing them to contract. The cow should have warm water to drink until after the membranes are removed, and be fed lightly. The feed may be increased after the first few days.

The injection of creolin solution should be continued twice a day for the first week, and after that once a day until all discharge from the parts ceases. This may be for a month or even longer. A good instrument to use for this injection is a large syringe or a long rubber tube with a funnel at one end. The funnel may be filled with the solution and then elevated to give force enough to cause the mixture to enter the uterus. Care should be taken that the instru-

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ment used actually enters the uterus. This can be ascertained by inserting the hand along with the instrument.

The cow should be kept separate from the herd as long as any discharge is noticed and the milk discarded.

This may seem like much trouble to take with each cow, but often vigorous treatment of the first case will save the whole herd from infection, and in consequence save much trouble and money for the owner.

Where possible, the whole stable should be disinfected, as well as the stall in which the affected cow was kept.

Prof. Bang, of Copenhagen, Denmark, where contagious abortion is quite common, has shown that it is a germ disease, and that it is often transmitted from cow to cow through the agency of the bull. In a herd which had been affected for years he succeeded in eradicating the disease in one year by disinfection similar to the method given above, and in addition by disinfection of the genitive organ of the bull, both before and after service. This was done by means of a rubber syringe and about 1½ quarts of warm disinfectant solution, similar to that used for the cow. This is not a difficult operation and should be carried out where there is the least suspicion of infection from this source.

### Calves and Pasture.

F. E. UHL.

The experiment of calves fed on whole and ground corn by the Kansas Experiment Station was completed April 10th. As there was no market for them at that time they were kept until May 8th. It is interesting to note the variation in weights as they passed from dry roughness to pasture. Naturally one would suppose the calves would quickly gain in weight as soon as given pasture. But do we find such to be the case, especially with well fed calves? Let us follow the record.

At the close of the experiment, one lot of ten calves were being fed a total

of 21 pounds corn chop, 157 pounds of skim-milk, and 90 pounds alfalfa and prairie hay equal parts, daily. The second lot of 10 calves received 24 pounds skim-milk, and 90 pounds alfalfa and one lot of 10 calves received 24 pounds prairie hay. A week later the daily feed of both lots had been gradually changed to 30 pounds shelled corn, water only, and 120 pounds of alfalfa hay. April 24th, the calves were turned into Kentucky blue-grass and white clover pasture for an hour. The time on grass was gradually lengthened to about eight hours.

While in the feed lot they had access to good alfalfa hay. The week before pasturing the calves were fed 440 pounds shelled corn, and 1680 pounds alfalfa. Their total gain was 157 pounds, an average of 7.8 pounds per head. Their total gain for the four weeks before grass was, for the corn chop lot 319 pounds, for the shell corn lot 355 pounds. April 24th the average weight of the calves was 370 pounds.

During the first week of pasture the twenty calves were fed 476 pounds of shelled corn and 1170 pounds of alfalfa. The lot which had previously been fed corn chop lost a total of 9 pounds. Five of them gained 38 pounds while 5 lost 47 pounds. The shelled corn lot gained 48 pounds. Seven of them gained 84 pounds while 3 lost 36 pounds. During the second week of pasture the total dry feed given was 494 pounds shelled corn and 840 pounds alfalfa. The chop lot gained 91 pounds. 1 of them losing 5 pounds. The shelled corn lot gained 121 pounds, 1 of them losing 3 pounds.

We find the 20 calves have made a total gain for the two weeks of changing to pasture of 251 pounds during excellent growing weather; as against a total of 674 pounds while on four weeks of dry feed, most of which time was very disagreeable weather for stock. Changing to grass is at best a sudden change and as all sudden changes are at first injurious, we need not really be surprised at the above results.

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# The Poultry Yard.

## Eggs and Their Uses as Food.

FARMERS' BULLETIN NO. 128, U. S. DEPARTMENT OF AGRICULTURE.

(Continued from last week.)

### FLAVOR OF EGGS.

It is generally conceded that eggs which are perfectly fresh have the finest flavor. After eggs have been kept for a time the flavor deteriorates, even if there is no indication of spoiling. Such differences are equally important when eggs are used for table purposes. Stale eggs are not regarded as palatable, and the flavor of spoiled eggs is such that for this, if for no other reason, they are totally unfit for food. The flavor of even perfectly fresh eggs is not always satisfactory, since it is influenced more or less by the character of the food eaten by the laying hens. The New York State Experiment Station studied the effect of different rations upon the flavor of eggs. Those laid by hens fed a highly nitrogenous ration were inferior to those from hens fed a carbonaceous ration. They had a disagreeable flavor and odor, the eggs and yolk were smaller, and the keeping qualities were inferior. In a test at the Massachusetts (Hatch) Experiment Station to compare cabbage and clover rowen as the green portion of a ration for laying hens, it was found that the eggs produced on the former ration, although heavier and possessing a higher percentage of dry matter, protein, and fat, were inferior in flavor and cooking qualities to eggs produced on the ration containing clover. The North Carolina Experiment Station studied the effect of a highly flavored food upon the eggs produced. A small quantity of chopped wild onion tops and bulbs was added to the feed of a number of hens. After about two weeks the onion flavor was noticed in the eggs laid. When the amount of onion feed was increased the flavor became so pronounced that the eggs could not be used. A week after the feeding of onions was discontinued the disagreeable flavor was no longer noticed. From these tests it appears that the flavor of eggs may be materially influenced by the food consumed. This is a matter of importance, especially when poultry are kept to supply eggs for table use.

### DIGESTIBILITY OF EGGS.

Raw eggs, or eggs only slightly cooked, are commonly said to be very digestible, the idea being obviously that they digest without giving rise to pain or other physical discomfort. The term digestibility has another meaning and one which is commonly intended when it is used in the discussion of food values. This refers to the thoroughness of digestion, that is, to the total amount of material which any food gives up to the body in its passage through the digestive tract. Since only soluble or possibly emulsified matter can pass through the walls of the stomach and intestines and be taken up into the circulation to nourish the body, it follows that only material which is soluble or is rendered soluble by the action of pepsin, trypsin, and other ferments in the digestive juices, is truly digestible. The original condition of food, the method of cooking, and the amount eaten at a given time, are among the factors which determine the quantity of any given material which can be digested.

### DIFFICULT PROBLEM.

Statements are frequently made with regard to the length of time required to digest different foods. Many of these are doubtless far from accurate, as the subject is not easy to study. By methods of artificial digestion the length of time required to render different foods soluble has been frequently tested. It is possible to use in the experiments the same digestive ferments which occur in the body and to approximate body temperature, etc., but it is quite certain that all the conditions of digestibility in the body can not be reproduced in the laboratory. The results obtained are interesting and often valuable, but it is worthy of note that careful investigators are much slower to make sweeping deductions from them than are popular writers on the subject.

### A STRANGE CASE.

Some years ago Dr. Beaumont, a United States Army surgeon, had an excellent opportunity for studying digestibility in the stomach. A healthy young man was accidentally wounded in the stomach by the discharge of a musket. In time the large wound inflicted healed, leaving a permanent opening into the stomach, which was ordinarily closed by a valvular flap made by a fold of the stomach lining, which could be easily pushed aside

and the interior of the stomach examined or the stomach contents removed as desired. Strange as it may seem this could be done without giving the subject pain or annoyance, nor was his general health abnormal after the wound had healed in this curious way. For many years after the time of the accident (1822) the man was under Dr. Beaumont's care and observation. Very many experiments were made on the length of time required by different foods for digestion in the stomach, or "chymification." Many artificial digestion experiments were also made, using gastric juice removed from the man's stomach. Although these investigations were carried on before the theories and methods of physiological chemistry now accepted were known, so much care was taken in making the experiments, and in recording the experimental data, that the work has never ceased to be of great value as well as interest. However, it should not be forgotten that Dr. Beaumont studied only digestion in the stomach; his work throws no light on digestion in the intestines. This is of especial importance in the case of starchy foods, as the digestion of starch, which is begun by the saliva, ceases in the stomach but is resumed in the intestines. The experiments reported include tests of the length of time required to digest eggs, hard and soft boiled, fried, roasted, and raw. The raw eggs were sometimes whipped and sometimes not. In all the tests fresh eggs were used. Hard boiled and fried eggs each required 3 1/2 hours for digestion in the stomach, i. e., for the formation of hours for digestion in the stomach; roasted eggs, 2 1/4 hours; raw eggs, not whipped, 2 hours; and raw eggs, whipped, 1 1/2 hours. When tested by the methods of artificial digestion followed by Dr. Beaumont, which approximate bodily conditions as closely as he was able to make them, the hard boiled eggs required 8 hours for digestion; soft boiled eggs, 6 1/2 hours; raw eggs, not whipped, 4 1/2 hours; and raw eggs, whipped, 4 hours. The two methods gave results which agree in the relative length of time required for the digestibility of the different samples, though not in the actual time required. Similar results were obtained by the two methods with the greater part of the large number of foods studied. One of Dr. Beaumont's general deductions was that most of the common foods required from 2 to 4 hours to digest in the stomach. He says further:

"The time required for the digestion of food is various, depending upon the quantity and quality of the food, state of the stomach, etc., but the time ordinarily required for the disposal of a moderate meal of the fibrous parts of meat, with bread, etc., is from 3 to 3 1/2 hours."

(To be continued.)

### How the Hens Pay Freight.


Some days ago a statement originated with Bent Murdock that, in a car-load of chickens recently sent from Eldorado to California, enough eggs were laid in transit to pay the freight, which was about \$450.

The story was referred to Secretary Coburn, and the following opinion was handed down by him: "Of course, such a story, if intended to apply to the hen at large, or as she is known generally, would appear quite preposterous, while applied to a Kansas hen it might not be at all unreasonable and very properly bear the label, blown in the shell, of plausibility, possibility, and, in fact, entire probability. The Kansas fowl, whose especial trademark is 'The Helpful Hen,' is the product of years of careful breeding, training and culture, and the result is that she is every day doing things which, while seeming commonplace enough to her, and to us, invariably cause those elsewhere, who come in contact with her or her progeny, to set up a cackle of surprise and incredulity. As a matter of fact I doubt if one of our better bred hens, or a party of them, would be satisfied, if consulted about it, to ride to California in sheer unprofitable idleness, and in that case nothing would be more natural to them than laying a few eggs apiece for pastime, for pin money, paying freight, etc. This would much better comport with their ideas of duty than would gazing listlessly at the numerous roosters who go to the stations to see the trains come in. It is these little peculiarities that so differentiate the cultured, self-contained Kansas hen from her more plebian sisters and cause her and her product to be in such eager demand by luxurious liveries in all lands where the most delicate hen fruit with its bloom all on is appreciated. The records of my depart-

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ment fail to show a single instance in ten years of a Kansas hen's laying an egg not strictly fresh. Yes, I believe the California story, and am only surprised that the hens failed to do better. It can not be that they were feeling real well."

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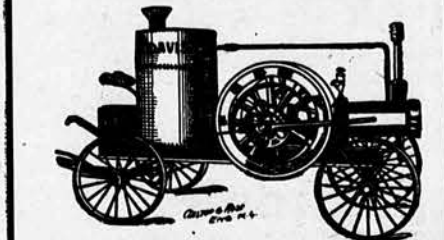
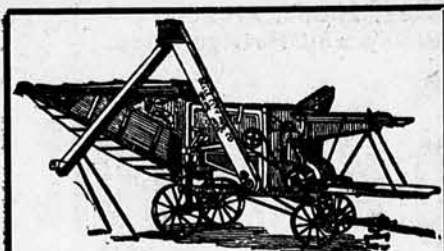
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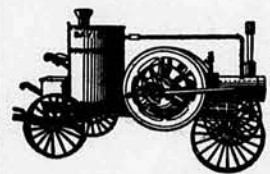
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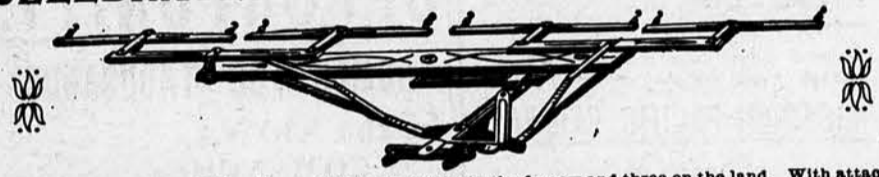
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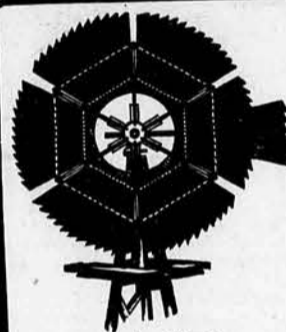
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