

# KANSAS FARMER

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TOPEKA, KANSAS, THURSDAY, JULY 4, 1901.

ESTABLISHED IN 1868.  
\$1.00 A YEAR.

## Breeders' Directory

### SWINE.

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

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

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

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

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

**FAIRVIEW HERD DUROC-JERSEYS**  
Has 80 pigs of March, April, and May, 1901, farrow for this season's trade at reasonable prices.  
**J. B. DAVIS,** Fairview, Kans.

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

**POLAND-CHINAS.** Extra Good Fall Boars and Sows.  
**Fancy Strains.**  
**DIETRICH & SPAULDING,** Richmond, Kans.

**Riverside Herd of Poland-China Swine.**  
Commodore Dewey No. 45187 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.**  
Write for prices on choice spring pigs; 100 to select from. Third annual sale date, October 7.  
**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**  
Four boars December farrow, and two November farrow, for sale. No gilts old enough to breed. Spring pigs killed also.  
**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.

**High-Class Poland-China Hogs**  
**Jno. D. Marshall, Walton, Harvey Co., Kans.,**  
Breeds large-sized and growthy hogs with good bone and fine finish and style. FOR SALE—Thirty October and November gilts and 15 boars, also 100 spring pigs, sired by Miles Look Me Over 18879. Prices right. Inspection and correspondence invited.

**R. S. Cook, Wichita, Kansas, BREEDER OF POLAND-CHINA SWINE.**  
The prize-winning herd of the Great West. Seven prizes at the World's Fair. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 28441, Black Joe 28608, World Beater and King Badley. 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.

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

**GRANGER HERD.**  
Established 25 years. Over 2000 shipped. Four crosses. World's Fair, 4 highest priced strains of Poland-Chinas. Send stamp. **W. S. Hanna,** Richter Kans.

**A FEW POLAND-CHINA PIGS FOR SALE.**  
Fine individuals. "Chief I Know" and "Look Me Over" strains. **R. J. Conneway,** Edna, Kans.

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

**Poland-China Hogs.**  
Herd headed by I Know Perfect 42263 O., sired by Chief I Know 37187 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.

**SUNNYSIDE HERD OF PEDIGREED POLAND-CHINA HOGS.**  
We now have for sale some extra good young boars, and a lot of gilts 8 to 10 months old. All good. Gilts will be bred or sold open as desired. This is a choice lot of young stuff that will be priced cheap, quality considered.  
**M. L. SOMERS,** Altoona, Kans.

**STANDARD HERD OF Registered Duroc-Jerseys**  
**PETER BLOCHER,** Richland, Shawnee Co., Kans.  
Herd headed by Big Joe 7363, and others. A few male pigs of March and April farrow. **S. C. B. Leghorn** eggs.

**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.

**THOROUGHbred POLAND-CHINA HOGS**  
I have for sale a few October boars and gilts, 4 bred sows, and 70 winter and spring pigs, good head and ears, large boned. Come and see them, or write me.  
**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**—Ten fine young bulls for sale—all red. Red Laird, out of Laird of Linwood, at head of herd.  
**F. C. KINGSLEY,**  
Dover, Shawnee Co., Kans.

**E. S. COWEE,** Eskridge, Kans., R. R. 2, Breeder of **PURE-BRED HEREFORD CATTLE**  
Kids' Duke 96637 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.**

### CATTLE.

**POLLED DURHAM CATTLE, AND CHEVIOT SHEEP.**  
Write for what you want. **A. E. BURLLEIGH,**  
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.**  
Herd headed by Sempstress Valentine 157069, son of St. Valentine 21014, and Mayor 129229, grandson of Imp. Salamis and Lord Mayor. Young bulls for sale.  
**J. F. TRUE & SON,** Newman, Kans.

**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 inquirers.  
**O. E. MORSE & SONS,** Mound City, Kans.

**Breed the Horns off by using a RED POLLED BULL.**  
**CHAS. FOSTER & SON,** Butler Co. Ks.  
Breeders of Red Polled Cattle, Herd Headed by Powerful 4582. Pure-bred and grades for sale. Also prize-winning Light Brahmas.

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

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

**125**  
**RAVENSWOOD SHORTHORNS,**  
**C. E. LEONARD, BELLAIR, MO.**

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

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

**BREEDER OF PERCHERON HORSES And HOLSTEIN FRIESIAN CATTLE.**

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

### CATTLE.

**A. D. SEARS & BROS., - - Leon, Iowa. SHORTHORNS.**  
2d Grand Duke of Hazelhurst 150091 heads the herd.

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

**D. P. NORTON'S SHORTHORNS,**  
Dunlap, Morris Co., Kansas.

Breeder of **PURE-BRED SHORT-HORN CATTLE,**  
Herd Bull, Imported British Lion, 133692.  
**YOUNG - STOCK - FOR - SALE.**

**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.**

**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 180918** 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, O

**MT. PLEASANT HERD OF SHORTHORNS.**

Herd headed by Acomb Duke 18th 142177. Herd composed of Young Marys, Galatas and Sanspareils. Young bulls for sale.  
**A. M. ASHCRAFT, Atchison, Kans.**  
Inquire at **R. F. D. No. 3,**  
Ashcraft & Sage Livery Barn, Main Street.

**CLOVER CLIFF FARM. REGISTERED GALLOWAY CATTLE.**  
Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion Hobbo, and the Saddle stallion Rosewood, a 16-hand 1,100-pound son of Montrose in service. Visitors always welcome.

Address **BLACKSHERE BROTHERS,** Emdale, Chase Co., Kans.

**SUNFLOWER HERD SCOTCH AND SCOTCH-TOPPED SHORTHORN CATTLE, POLAND-CHINA SWINE.**

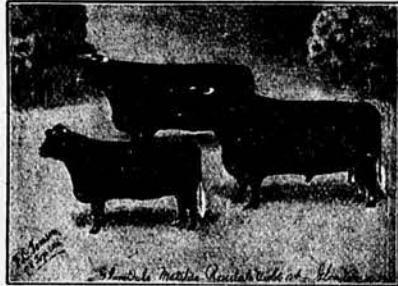
Herd Bull, Sir Knight 124403. Herd Boars, Black U. S. 2d 25582 S, and Sunflower Black Chief 23603. Representative stock for sale.  
ADDRESS

**ANDREW PRINGLE,**  
Rural Route 2, Eskridge, Kans.

CATTLE.

**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 143002.  
**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 127284, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Twenty bulls for sale.  
**C. F. WOLFE & SON, Proprietors.**

CATTLE.

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

HORSES AND MULES.

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

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

TO SHEEP BREEDERS.

First edition Stewart's "DOMESTIC SHEEP" sold out. Second edition, revised and enlarged, now ready. 84 pages boiled 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.**

When writing to our advertisers please mention Kansas Farmer.



**STEELE BROS., Belvoir, Douglas Co., Kansas**  
Breeders of **SELECT**  
**HEREFORD CATTLE**

Young Stock For Sale Inspection or Correspondence Invited

**SCOTT & MARCH,**  
BREEDERS OF PURE BRED

**HEREFORDS,**

**BELTON, CASS COUNTY, MO.**

BULLS in service, HESIOD 29th 6304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93682, FRISCOE 93674, FULTON ADAMS 11th 83731. HESIOD 29th 6304 Twenty-five miles south of Kansas City on Frisco, Fort Scott & Memphis, and K. C., P. & G. Railroad



**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.

**C. A. STANNARD, Emporia, Kansas.**



**RIVERSIDE STOCK FARM.**

**O. L. THISLER, Chapman, Dickinson Co., Kans., Importer and Breeder of  
Percheron, and French Coach Horses, and Shorthorn Cattle.**

For Sale—A few Shorthorn heifers, and Percheron stallions; also a Special Bargain on 9 Registered Hereford Bulls, 2 years old, and a few Full-blood Percheron Mares.

**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!**

We have sold all except those we have been saving for show horses next fall.

If our customers demand them we will let these go.

Our winnings already this year are 19 MEDALS at the Great Percheron Horse Show at Nogent-le-Rotrou, France.

**McLAUGHLIN BROTHERS,**  
SIXTH AND WESLEY AVES., COLUMBUS, OHIO.

**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 30 months old; also a few good heifers.

Address. **H. O. Tudor, Holton, Kans.**

**ANGORA GOATS FOR SALE.**

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

**W. T. MOUNTAIN, Agent,**  
Kansas City Stock Yards. Kansas City, Mo.



**GUDGELL & SIMPSON,**  
INDEPENDENCE, MO.,  
BREEDERS AND IMPORTERS OF

**Herefords**

One of the Oldest and Largest Herds in America.

ANXIETY 4th Blood and Type Prevail.

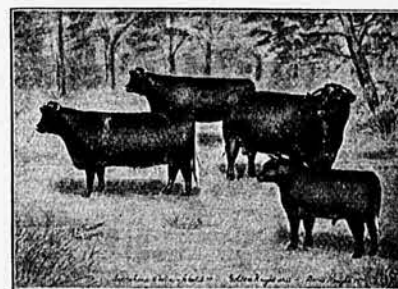
BOTH SEXES, IN LARGE OR SMALL LOTS ALWAYS FOR SALE

**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.



**PEARL SHORTHORNS**

HERD BULLS:

BARON URY 2d 124970. LAFITTE 119915.

Inspection Invited

**C. W. TAYLOR, Pearl, Kans**

**Tebo Lawn Herd of Shorthorns.**

—HERD BULLS ARE—

IMPORTED COLLYNIE 135022 bred by Wm. Duthie.  
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.

**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., Kan**

## Agricultural Matters.

### DIGESTION EXPERIMENTS WITH KANSAS FEEDS.

Bulletin No. 103—June, 1901. Chemical Department Kansas Experiment Station.

J. T. WILLARD, M. S., Chemist.  
R. W. CLOTHIER, M. S., Assistant Chemist.

A knowledge of the composition and digestibility of the feeds given our domestic animals is of the greatest practical importance. This fact is becoming sufficiently well recognized now, so that the station has occasional requests from thinking feeders for analysis of feeds, that they may make an intelligent selection in purchasing. Unfortunately we are unable to undertake such work at present for lack of time, but if it were possible to analyze feeds before buying it would bring about a revolution in the quality of our feeding stuffs. The physical qualities of a grain are easily observed; its productiveness, ease of culture, etc.; its inner capacity to nourish the body is much less easily measured. The time is fast going in which men will be satisfied with quantity only, with no regard to composition.

A knowledge of composition only is not sufficient. Two feeds may be quite similar in composition, or differ but little in that respect, and yet possess considerable difference in value because of differences in digestibility; not merely differences in their digestibility as a whole, but in that of the several constituents. Feeds are complex mixtures of a number of groups of chemical compounds. These groups differ in their food functions, and even the members of a given group differ in value. Perfect analysis of a feed is something that the chemist has not yet attained, but, incomplete as it is, it may be made of much assistance.

In analyzing feeds, and for that matter human food also, a determination of the amount of each chemical element contained in it is not made. This would be possible, but is not desirable, since the value of a feed does not depend upon its elementary composition as much as upon the particular compounds of the elements which the substance contains. A determination of the amount of each one of these compounds would be very desirable, but is not possible. The best that can be done is to ascertain the percentages of certain groups of compounds, the individual members of which resemble each other in composition and properties. A certain amount of knowledge concerning the nature and functions of these substances is essential to an understanding of the results of an analysis of feed, or an intelligent application of them, and some consideration of this subject will be given before proceeding with the special matter of this bulletin.

In any analysis of feeds for purposes of accurate comparison it is necessary to estimate the amount of water. No matter how dry the feed may be, it contains some water, if it has not been artificially dried and then sealed from contact with the atmosphere. It is a simple matter to see that, if the dry matter of two feeds is of the same composition, their relative nutritive value will depend upon the amount of water which each contains, this being of no value, as such, above water taken alone. Tables of analysis often give the results in two ways, one showing the composition of the substance in its natural or ordinary state, and the other the same results of analysis recalculated to show what the composition would be if no water were present. In some connections one form is more useful, in others the other.

The ash of a feed is that which is left after burning off all combustible matter. It is the mineral portion. It is wrong to think of this as present in the feed in the form of minerals exclusively, however. Much of the matter left in the ash existed in the feed in the form of complex organic compounds. The proteids, for example, contain sulphur as an essential constituent, in which form it is an important element in nutrition, but this sulphur in the violent chemical changes incident to burning enters into combination as a sulphate. Phosphorus, too, is found in the ash as a phosphate, but exists in the feed in important organic combinations. The ash of feeds performs very important functions in nutrition, and at times it is found advisable to pro-

vide mineral matter in addition to that of the feed.

Under the name protein, a large number of substances are grouped which resemble each other in that they all contain nitrogen as an essential constituent. This group is frequently subdivided by analysis into proteids and amido-compounds. The albumen of eggs, the curd of milk, the gluten of wheat and the muscular tissue of meat are common examples of proteids. The proteids are the most valuable of food constituents because of their relative scarcity, and their necessity in the performance of the vital functions of the body and for building up its tissues. Proteids can also perform the other functions of foods, such as the production of bodily heat and muscular force. They are thus of the greatest adaptability to the needs of the animal body. The amido-compounds, while they contain nitrogen, and can perform some of the functions that proteids can in nutrition, are not equal to them in value.

The fiber of a feed consists principally of cellulose and its modifications. Cotton is pure cellulose; linen and other vegetable commercial fibers are of a similar nature. It constitutes the wall of the cells of which vegetable tissues consist, and is present even although there may not be any fibrous structure such as shown by the examples named. Fiber belongs to the group of substances known as carbohydrates. It is the least acted upon of any of them by the digestive fluids or by chemical agents. It is somewhat digestible, however, especially by the ruminants. It is more digestible in the young state than when mature. On account of its greater resistance to chemical agents it is possible to free it approximately from the other carbohydrates, and thus estimate it separately in analysis of feeds.

The nitrogen-free extract includes all of the carbohydrates except the fiber. In analysis it is not estimated directly, but its amount is ascertained approximately by adding together the percentages of the other constituents and subtracting the sum from the whole, or 100 per cent. Its most valuable constituents are sugars and starch. It is evident that it is of high importance as a constituent of feeds. Since it contains no nitrogen it cannot be used by the body to build up its muscular or tendinous tissues, and it is not available for some other of the nutritive processes. The chief purposes of the carbohydrates—that is, the fiber and the nitrogen-free extract—is to supply the energy of muscular exertion, keep up the animal heat, and contribute to the formation of fat.

The remaining constituent of feeds which is always determined in analysis is the fat, or, as it is sometimes called, the ether extract. As these names show, it is the part that is extracted when a feed is treated with ether, and it consists largely of fat. If the feed is a grain or seed of some kind the ether extract will be nearly pure fat, but feeds consisting largely of the leafy parts of plants yield an extract containing much that is not fat, and which is of less nutritive value. The fats perform about the same functions in nutrition as the carbohydrates, but are far more effective within the limits that the body can utilize them. A given weight of fat will produce about 2.27 times as much heat or muscular force as an equal weight of carbohydrates.

In making the analyses recorded in this bulletin, the food principles named in the foregoing paragraphs were determined according to the methods recommended by the Association of Official Agricultural Chemists.

From the outline of the functions of the several groups of food principles presented, a few moments consideration will enable one to see that the composition of a feed with reference to these is of the highest importance. Proteids are necessary to the production of all of the tissues of the animal body except the fat. They are therefore essential for growth, and young animals require a larger proportion of them, other things being equal than mature animals. They are also essential in the formation of nitrogenous animal products, such as milk, eggs, and wool, and a liberal proteid ration is advantageous to all animals.

It is not the purpose of this bulletin to enter into a consideration of the details of animal nutrition, but a brief summary upon certain points seems to be too essential to be omitted in the assumption that they are already thoroughly understood by the reader.

The digestible constituents of a feed are those which can be absorbed from the digestive apparatus of the animal,

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or which are rendered capable of such absorption by the action of the digestive fluids during the passage of the feed through the digestive tract under the conditions presented by the natural healthy animal. Only substance so absorbed can nourish the animal, and while a certain amount of indigestible matter is essential to the normal action of the digestive tract, there is no danger that we shall get feeds that are too digestible. Practically, the more digestible a feed is the more valuable it is, other things being equal. Digestion experiments thus enable us to recognize the superior value of certain feeds that, by mere analysis, do not exhibit this excellence.

After the feed has been digested and absorbed it is utilized in the various functions of the body. In the case of carbohydrates, a large part is stored in the liver immediately after absorption, and is yielded to the blood as it is required. To a certain extent the absorbed feed is built into other solid tissues of the body, especially with growing animals, but to a large extent it never becomes a part of the solids, but is utilized from the fluids of the body as a source of heat and muscular force. In all the functions of the body the food is used by being decomposed into simpler substances. There may be intermediate substances, but the final products are those excreted by the skin, lungs, and kidneys.

The excretions from the intestines therefore include the indigestible parts of the feed, while those from the kidneys, lungs and skin represent most of the parts that have been digested and performed some function in the body of the animal. It will be apparent by a little thought that to fully investigate the functions that a feed has performed in an animal it would be necessary to determine the amount and composition of all the excretions, but that to determine what parts are digestible it is only necessary to ascertain the amount and composition of the dung, in addition to knowing the amount and composition of the feed eaten. However, in the process of digestion various fluids are poured into the digestive tract, which are in part reabsorbed, but not entirely so. The unabsorbed residues pass out with the undigested residues of the food. The dung will therefore contain not only the undigested part of a ration, but substances which have been produced from previously digested food. An exact calculation of the digestibility of a ration requires that a correction be made for these substances. On the other hand, the fluids from which these substances originated, although formed from digestive materials, are only the means by which the chief objects of feeding, such as meat, or milk-production, or muscular force, are attained. They are not the ultimate product, and all food constituents that go to their formation are unavailable for the production of force, meat, etc. Professor Atwater's practice in respect to human foods is to designate those parts of a ration which are absorbed, and do not reappear in the feces, as available. The available constituents of a feed, then, are found by subtracting the amounts of each found in the dung from the amounts of the same in the feed that produces the dung. The table as given in this bulletin for digestibility might be properly referred to as representing availability. The correction necessary to make them show digestibility, strictly, is not large, but, as its amount is uncertain, we have not attempted to apply it.

Since the intestines of an animal are never entirely evacuated, but, especially in the case of ruminants, contain a considerable amount of feed in various stages of digestion, it is obviously impossible to feed an animal a certain amount of feed, and then collect the manure produced from that portion. If the animal be fed for some days upon the same ration, however, the dung produced from previous rations will finally be entirely evacuated, and the daily evacuations will then correspond in composition to the feed given. Since

there is more or less variation in the completeness with which the bowels are emptied, the manure produced is liable not to correspond in quantity with the feed given each day. If the manure were collected but a single day, the error on this account might be large, but if the collection extends over several days, the longer the better, the average error will be small. In our experiments, the period of preliminary feeding was about a week, and the dung produced during the next week was collected. The feed under test was given in the same quantity per day, as a rule, through the two weeks.

In carrying out the experiments, it was our object to feed the animal only as much as he would eat closely, if not entirely, so that the material eaten would represent fairly the composition of what should be consumed in regular feeding. If a larger amount of a coarse fodder had been given than the animal might be expected to eat, to the extent that animals do in regular feeding, he would have selected the better portions, and the digestion results obtained would have seemed better than a fair test would have shown.

The grains fed were finely ground, and the hays and fodders were cut into short lengths with a feed-cutter. The entire amount of a given feed that was to be used in the experiment was very carefully mixed and sampled for analysis. At the same time, the amounts that were to be given at each feed were weighed out, so that subsequent changes in the amount of moisture would not effect the conclusions drawn from analysis of the sample. The portion not eaten were saved during the time that the dung was being collected, and at the conclusion of the experiment were weighed and sampled for analysis.

During all of the feeding the animal was kept in a stall, and so tied that he could not eat any of his bedding. Most of the time he was given daily exercise. The stall was entirely protected from flies by screens, so as to prevent any worrying of the animal, with possibly abnormal results on this account.

In the earlier experiments the dung was caught as evacuated, by means of a leather bag attached to the animal by a suitable harness. In latter experiments this was dispensed with and a watcher was constantly with the animal to collect the manure as voided. The manure collected was taken to the laboratory at the end of each twenty-four hours. There it was thoroughly mixed in a flat galvanized iron pan, spread out in a layer about one and one-half inches thick, and weighed. One-twentieth of it was immediately taken while still on the scale as a sample for analysis. This sample was taken by cutting out plugs with a cork borer, the plugs being from points evenly distributed all over the pan. The sample so taken was put into a galvanized-iron pan and dried at a gentle heat, over a radiator in winter, and in the sun in summer. The pan was closely covered by wire screen, to prevent access of flies. After drying, the sample was allowed to become air dry at ordinary temperature, and was weighed, ground, and sampled for analysis.

The following feeding stuffs have been experimented with, and the results are given in the succeeding pages:

- Alfalfa hay cut when about ten per cent. in bloom.
- Alfalfa hay cut when about fifty per cent. in bloom.
- Alfalfa hay cut when in full bloom.
- Buffalo-grass hay.
- Prairie hay.
- Kaffir-corn stover.
- Kaffir-corn meal.
- Soy-bean meal.

(To be continued.)

#### Thoughts for the Tenant.

EDITOR KANSAS FARMER:—It is undoubtedly a fact that a large majority of the farmers in Kansas, and especially in my part of the country, are, like myself, tenants tilling lands of some retired farmers, who invariably exact just a trifle more for rent than they were able to get from the land when

they were cultivating it. This being the case the tenant must necessarily be a better farmer than his landlord if he lives and has anything left at the end of the year. That this may be possible he must be very industrious, economical, shrewd, and deprive himself and family of all the pleasures which his landlord and other prosperous people enjoy. He must farm the land for all there is in it, and very often there is a great deal more in the land than we get out of it, simply because we do not double up our crops, or we let the work push us until we are up against a great wall of work as it were, and can not help ourselves any longer. By doubling your crops I mean that after your wheat is harvested plant your ground to some very early variety of corn. It will make excellent fodder and sometimes yield 20 to 30 bushels of corn per acre. You will readily see the advantage of the second crop. Then after your potatoes are laid by plant between rows some good variety of sweet corn planting it good and thick and you will be surprised to see the amount of feed you can raise there instead of a crop of weeds. When you are ready to lay by your corn, sow your turn-rows to Kaffir-corn, sorghum, or buck-wheat and cultivate as you go. All this will not make much of a yield but it beats a crop of weeds. The idea that I wish to convey is to make every foot of land that I rent produce some good for me, as I pay rent for every foot of ground I rent and can not afford to let any of it lie idle.

J. T. BUEHLER.

Hiawatha, Kans.  
[Soy-beans make a good catch crop after small grain.—EDITOR.]

#### The Good Roads Law.

EDITOR KANSAS FARMER:—The farmers of Leavenworth county would like to have you publish the road law of Kansas which is to be voted on this fall.

J. H. H.

Wallula, Kans.

#### Laws of 1901, Chapter 363.—Roads and Highways to be Improved.

AN ACT to provide for the construction and improvement of public roads and highways in the State of Kansas, and to levy and collect a tax for the payment thereof, and to repeal all acts or parts of acts in conflict with this act.

Be it enacted by the Legislature of the State of Kansas:

Section 1. For the purpose of building and improving public roads and highways under the provisions of this act, the several counties of the State of Kansas having a population of more than eight thousand shall be declared road districts and the county commissioners may by proclamation submit to the legal voters of their respective counties, at a general election for county and township officers, a proposition to adopt or reject the law to levy a tax of not more than two mills on the dollar, for a period of not less than five years, upon all of the real, personal, and mixed property within their respective counties, and upon the ballots shall be printed: "For good-roads tax levy," "Against the good-roads tax levy," under the provisions of the general election law, and the judges of election shall count the ballots cast for and against the good-roads tax levy, and make due returns of the same to the county commissioners as other returns are required by the law to be made; that said commissioners shall meet within ten days and, with the clerk of the county, shall proceed to count said votes, and declare the results in a proclamation to be published two weeks in some newspaper in general circulation in the county in which said proclamation is made. If a majority of the votes cast on the good-roads proposition are for such law, they shall declare said law to be in full force and effect, and shall state the day on which the same shall take effect, not longer than two weeks from the date of election, and from and after such date the provisions of this act shall be in full force and effect.

Sec. 2. Nothing in this act shall be construed so as to extend its provisions to any county until after the election provided for in the preceding section.

Sec. 3. That when any county shall fail to cast a majority of its votes on said proposition for the good-roads tax levy, the county commissioners may annually thereafter submit the same question to the electors of their respective counties, in the same manner as provided in section 1 of this act, and declare the results as herein provided.

Sec. 4. The county commissioners of the several counties shall have full and

exclusive control of the construction and improvement of all public roads and highways built or improved under the provisions of this act, and they are hereby authorized to purchase all machinery, tools, and materials, employ all labor, superintendence and engineering necessary to construct or improve any such roads or highways, and to pay for the same from the funds provided for under the provisions of this act.

Sec. 5. A majority of the resident property owners of the property abutting on any public road or highway in any county within the State may present to the county commissioners of their respective counties a petition setting forth that the petitioners are actual residents and owners within their respective counties, and that they desire such highway or section thereof to be constructed or improved under the provisions of this act.

Sec. 6. Upon presentation of such petition, the board of county commissioners shall investigate and determine whether the road sought to be constructed or improved is of sufficient public character as to come within the purpose of this act; and if the county commissioners shall determine that the highway to be constructed or road to be improved is of sufficient public character to come within the purpose of this act, they shall instruct the county surveyor to map the road, both in outline and in profile, and to make his report to them as to the kind of material most available for the construction or improvement of said road or highway, and to furnish an estimate of the cost of construction or improvement of such road or highway, and to furnish said county commissioners with certified copies of such maps, plans, and specifications, together with said estimate of the cost, within sixty days of the filing of said petition, and said county surveyor shall be paid a sum therefor not greater than that already allowed by law to the county surveyor for like services.

Sec. 7. Upon receipt of the report of the county surveyor, as provided in section 6, a majority vote of the county commissioners shall adopt a resolution that such public highway shall be constructed or said public road improved under the provisions of this act as soon as practicable.

Sec. 8. The improved or permanent roadway of all roads or highways constructed or improved under the provisions of this act shall not be less than eight or more than sixteen feet in width, unless for special reasons, stated by such county surveyor, a greater width shall be necessary.

Sec. 9. For the purpose of defraying the expense of construction or improvement of said roads and highways, the county commissioners of the several counties are hereby authorized and empowered to levy and collect annually on all taxable property of said county, a tax not exceeding two mills on the dollar, and the amount paid by each township of the tax voted by the county shall be credited to the township paying the same, and set aside and used exclusively for road purposes in that township. The amounts collected from property in incorporated cities and from railroad companies, irrespective of location in said county, shall be credited to a general county road fund, and said fund shall be used: First, in the purchase of all machinery necessary for the economical prosecution of the work contemplated by this act; second, for surveys, maps, estimates, but no greater sum shall be paid therefor than that allowed by law to the county surveyor for like services; third, the balance of such tax shall be annually divided by the county commissioners between the several townships according to the value of the roads constructed or being constructed or improved under the provisions of this act.

Sec. 10. It shall be the duty of the county commissioners, where the roads have been constructed under the provisions of this act, to apportion to the real estate situated within one-half mile of said road or highways, irrespective of improvements, fifteen per centum of the cost of such improvement.

#### Education and Production.

O. H. ELLING, KANSAS STATE AGRICULTURE COLLEGE.

Do we appreciate the meaning and weight of these everyday terms—education and production? What a panorama do they suggest to our imagination. Is it action? Is it labor? To be sure it is! Without these, life becomes miserable and degrading. Idleness is the root of evil. Ignorance is the curse

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of God. Education stimulates labor, labor brings happiness, and happiness is the greatest blessing of humanity. In brief, education is the leading out and training the mental powers, the information and enlightenment of the understanding, the formation and regulation of the principles of character, and the process of making us more useful in life. It makes men more industrious, more trustworthy, more active and systematic, more cheerful, more far-sighted, and more economical as producers and preservers of property. The schools and colleges and universities of a nation determine the education of its population. Production is applying labor in such a way as to bring wealth into existence. The two go hand in hand, and as education is, so is production.

Look back three centuries when the red man hovered on the eastern coast of this continent. How many generations he had breathed the pure air of this land nobody can tell; yet surely for ages. The bow and arrow, the canoe and wigwam constituted all. He knew little of the country, and was dependent upon the fishes of the sea, the wild beasts of the forests, and the birds of the air, to supply his food. The great resources of the country, climate, soil, and minerals were useless in the hands of the untrained people. They knew not how to use them.

When the man of thought and mental power landed, the Indian was crowded back to the interior. Along the coast, schools and colleges were established. The result was an intelligent and thinking people, through whose labor the vast ocean was made one great path of commerce; the interior was penetrated with the harnessed force that was unknown to the Red Man; the iron ore that laid dormant beneath the surface was transformed by the brain of man into life, which would convey thought by the touch of a finger. The spark, which was thought by the illiterate to be the fire tongue of some hideous serpent floating about in the clouds, was used to turn the huge wheel of production. A great nation is the result. To-day its people travel from shore to shore in a few days, transmit thought across the ocean in seconds, read the news of the world six hours after the event. Life is everywhere and its productivity has increased beyond our imagination.

You ask what brought about this wonderful change? I answer, education, thought, study, training, and action of the mental powers. These are the pillars on which production rests. Much has been accomplished, yet more is to be done in the future. Agriculture as a science is yet in its infancy. The best locomotive that the mechanic is able to construct has an efficiency of only 14 per cent. Thus 86 per cent of the energy in coal is not utilized.

Liquid air opens a wide field for investigation. In fact, science as a whole is yet in the cradle and we can only dream of the possibilities of the twentieth century.

The chief characteristic of the nineteenth century has been the extension of the benefits of education to the masses of the people. The chief lesson that we should learn is that education increases the wealth producing power of a people in direct proportion to its

distribution and thoroughness. The relation between education and productivity are so well understood that you can measure the wealth producing power of a people by the school privileges which they have enjoyed. Statistics show that the power of the people of the different States to earn money is in direct proportion to the length of the period that the average citizen of each, has attended school. (The total annual production of the United States for 1800 was \$30 a year for each inhabitant, in 1850, as education has advanced, the productivity was increased to \$92, and in 1899, it was \$170 a year for each person.) Let us compare only two States of our union for the year 1899. Massachusetts, which has the best schools, the average school period for each inhabitant being seven years, while in Tennessee the average school period for each inhabitant is less than three years. The average productivity of every man, woman and child of Massachusetts for that year was \$260, while in Tennessee where the average school period of each person is less than half the time of that in Massachusetts, the average productivity for each person in that state was only \$116 (or 45 per cent of the individual productivity of Massachusetts.)

This is not a mere coincidence in the case of Massachusetts and Tennessee; it is the law the world over. The productivity of a people is everywhere proportioned to their education, that is, their intellectual, physical and moral training. It is not the natural resources, the climate, the soil, and the minerals; it is not even the race; much as these things count in production; but it is the education above every thing else determines the wealth earning power of a people.

If Tennessee would compete in production with the people of the other States, and the world, they must educate their people, not only the rich, but the poor as well, not poorly for a few months in a year and a few years in their lives, but thoroughly through a series of years. If history teaches us anything, it is the solidarity of all mankind that "no man lives unto himself" and no man dieth unto himself but that we are each his brother's keeper.

We sometimes think that marvelous energy and common sense are sufficient guarantee of our success in the battle of life. But common sense and even unmeasured energy do not win in these days without education. We must each have some high ideal in view. Then strive for a thorough knowledge and training to reach it. Education is growth, not alone in knowledge and in power, but day by day and hour by hour; in reverence and in charity.

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to San Francisco with the Epworth League? The Union Pacific will run Special Tourist Sleeping cars every day from July 6th to July 13th, Topeka to San Francisco without change. Rate \$5.00 for double berth. The round trip rate will be \$45.00 and tickets will be good till August 31st, 1901. Stop-overs may be secured at and west of Denver. For other information see your nearest Union Pacific Agent.

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## 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.  
 November 20-22, 1901—National Hereford Exchange, E. St. Louis, Ill.  
 December 10, 11 and 12, 1901—Armour-Funkhouser, Herefords, Kansas City.  
 December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.  
 January 28 to 31, 1902, for Sotham's Annual Criterion Sale, at Kansas City.  
 March 25-27, 1902—National Hereford Exchange, Chicago, Ill.  
 April 22-24, 1902—National Hereford Exchange, Kansas City, Mo.  
 May 27-29, 1902—National Hereford Exchange, Omaha, Neb.  
 June 24-26, 1902—National Hereford Exchange, Chicago, Ill.

### The Future of the Berkshire.

WM. D. M'TAVISH, BEFORE IOWA SWINE BREEDERS.

If there is one thing more pleasant than another about breeding swine it is breeding large English Berkshire swine; that good old breed that has withstood the onslaughts of all newcomers and held its own so successfully at all times and in all climes. Any breed that has stood the test of time and is in the second century of its existence is certainly secure in its future. It is of necessity a survival of the fittest.

The Berkshire is to the swine field as the brave old oak to the forest; he has withstood the tempests of fads and fashions for over a hundred years, and is still the most lasting and enduring. He has had no booms or soaring prices, but has gone steadily on in the even tenor of his way to that practical improvement that makes him to-day the best all-round hog for all climates and all purposes on earth. He is the leading favorite of England, that breeding ground of the world, where royalty itself is found in the breeder's ranks, whence came the Hackney, Cleveland Bay, and Shire horses; the Shorthorn, Hereford, Aberdeen-Angus, and Red Polled cattle; the Lincoln, Cotswold, Leicester, Southdown, Shropshire, Hampshire, Oxford and Dorset sheep. We also find him a favorite in Ireland, British Columbia, Central America, Canada, and nearly every State in these United States.

The Berkshire has always had just grounds for the foremost position he had held among the breeds of swine, and has no doubt been a source of help to them. To the Berkshire breeder the past is truly an inspiration.

The present has its duties and the future its possibilities. The duties of the present being faithfully performed regardless of fads or fashion, the Berkshire will, in the not far distant future, be the leading far vite of the corn belt.

As the pork barrel is the end of the hog, so the hog that can fill it in the most satisfactory manner is in the end the most useful. This the Berkshire can do with both quality and quantity, as he produces a greater proportion of lean or nicely marbled flesh, and when it comes to size, he is unexcelled. He is an excellent grazer, and on account of his great inherent vitality and strength of constitution he is more apt to live to reach the pork barrel. In prolificacy and evenness in breeding he is unsurpassed. The sows are good sucklers and careful mothers. None can point to as long a line of as carefully selected ancestors as the Berkshire.

On this foundation the breeders of today are rearing the superstructure of the future—the coming Berkshire hog of the corn belt. They are producing a hog that is truly a money-maker, a rent-payer, a bread-winner and a mortgage-lifter.

### DISCUSSION.

The President—This paper is now open for a short discussion.

Mr. Howard—The gentleman that has just read his paper is evidently a very enthusiastic Berkshire man. I do not know whether Prime has had him in his care, or under his tutorage, or not.

Mr. McTavish—I was under Poland-China tutorage for five years. (Laughter.)

Mr. Howard—You can tell them easy enough. The Berkshire hog is a very good hog, so are the Hereford cattle pretty good cattle. But when you want to get a good feed steer you couple the Shorthorn cow with your Hereford bull and you get two good ends in your steer. Take your Berkshire hog, and inject a little Poland-China blood in it and you may get a good hind end on your Berkshire hog. (Laughter.)

Mr. McTavish—The trouble with

you Poland-China men is you need a little Berkshire blood.

Mr. Howard—We had some once but we got well. (Laughter.)

Mr. Lambing—There is a gentleman from Kansas City here that perhaps has had something to do with breeding hogs. We would like to hear him.

Dr. G. A. Moore, Kansas City—Mr. President, and gentlemen of the association, I have a paper that I expected to read before this convention and doubtless I will have the opportunity of doing so before we adjourn, perhaps this evening or to-morrow. But, in regard to the hog, I take a great deal of interest in it, perhaps more than I do in men, and have for the last nineteen years. The men with me has been a tax payer and a mortgage raiser, as Mr. McTavish stated in his paper. I have bred thoroughbred hogs, but principally hogs for market. While the discussion was going on here in regard to the making of the hog, big and coarse, fine and super-fine, I was a little bit surprised that no gentleman in this audience, with the brains and ability and the experience, did not tell his fellow hearers what it took to make a hog—the one part of the hog and the other part of a hog; he did not tell him where to begin. You men of experience know it. It seems to me you ought to begin with the sow, before she farrows, then with the pig, and so on, until you put your hog into market. The best hog that I ever raised was a cross between the Poland-China and the Berkshire—invariably the Berkshire sow to the Poland-China boar. The Berkshire sow makes the best mother, the most careful mother, and the best suckler, and invariably has from 7 to 10 pigs. And, as this gentleman stated here, I do not want a sow on my farm that brings me more than from 7 to 9 pigs; the other gentleman can have the sow that brings the 12 or 15 pigs if he chooses. This is my experience for nineteen years. Now, to get the pig; first, I would rather have a hog with a good constitution than one with a pedigree as long as the moral law, without any constitution. And how will you get constitution? First you develop bone and muscle and capacity in your pig, and you begin with the sow four weeks before she farrows. First of all, you must breed to a boar with a good constitution. Select your own sized hog. If you believe in the medium sized hog select him. If you believe in the larger hog select him. Never breed a gilt until she is a year old. No gilt is bred on my farm until she is a year old. You may think this is a loss, but you will find it will pay to keep the gilt until that time before you breed her. Four weeks before she farrows begin feeding her scalded oats, bran, and a little bit of oil-meal and wheat. You may think wheat expensive. Every bushel of wheat you give her will bring you eighty cents and every bushel of oats will produce you forty cents. I can produce the figures for this borne out by my experience and by my neighbors. Then continue the pig on that feed until he is fifty or sixty pounds, never allowing him to have any corn or to follow the cattle. The droppings from the cattle are too rich and burn him up. This oats, bran, oil-meal, and ground whe tagive the pig capacity, bone and muscle. If you will adopt the plan of feeding your pigs in a 40 or 80 acre lot in both ends of it, it matters not how often they travel from one end to the other it develops the pig that much faster. Just divide a litter and try it one season, and you will convince yourselves that it is the best plan for market or breeding purposes. When the pig weighs 50 or 70 pounds put him behind your cattle, or on corn and you will make a hog in seven months that weighs from 225 to 245 pounds. That is the way to get the hog into market at early maturity, and I believe you all know that, if you do not, you ought to. That is the plan I adopted, and I certainly made a success of the hog business if of nothing else. I agree with the president in the statements in his paper he read here. The hog of which he speaks is the coming hog, and I want to say now that the man that keeps the hog on his place, that he is getting ready for market, after he is nine months old, is not making a dollar. Now, you were speaking of quality. I want to cite you to one instance and I guess that will be sufficient. There has been a test at Kansas City for the last eight years in regard to cattle, the age and what they bring. Mr. Geo. N. Casey, of Shawnee Mound, has beaten them all in producing cattle that brought the top of the market, save this last year. This is the first time he has ever been beaten. He put in steers, twenty and twenty-

two months old, that weighed from 1,470 to 1,560. Mr. Geo. N. Casey has got the top of the market. He breeds Shorthorn cattle. Last year there was a bunch fed in Kansas at Maple Grove farm, and they brought ten cents more than his and they were Herefords. That is the first time I ever saw the Hereford beat the Shorthorns on the Kansas City market.

We learn by experience; it is the best teacher. I want to say to each and every one of you, in selecting a boar for breeding purposes to watch and see that he is not inbred. Many have fallen by the wayside from that. They are breeding too closely, some for bone, some for muscle, and for quality in different ways. Never breed to a hog that is too closely inbred. There were articles passed through the papers nine years ago in Kansas City, between myself and the breeders in the country, and fortunately I had one man come to my rescue or I would have been left alone. That man was Mr. Axline, of Oak Grove, Mo. He said my statements were correct, and he could bear them out by the experience we had in dealing, I buying hogs from him and he from me. There is where there is a great mistake made. When you go to a sale you do not watch closely enough to see whether the hog is kin to the sow you want to breed him to. Watch out for this inbreeding. The man that makes the money off of the hog for market is the man that gets his hog into market matured as quickly as possible, at from six to eight months. That is my experience, and I believe it is the experience of every man that is raising hogs.

Mr. T. J. Kegley, of Ames: I agree with the gentleman, as a general rule, that it is not a good plan for farmers or producers to inbreed too much. But wouldn't he get more money for an animal sufficiently inbred that he could call it a straight line breeding—one that had all these qualities, than he would for one that had not these qualities?

Mr. Moore—Yes, sir; he would.

Mr. Kegley—And so would any other breeder.

### On What Lines Will the Best Shorthorns of the Future Be Bred?

S. F. LOCKRIDGE, GREENCASTLE, IND.

What line of procedure the future breeder of Shorthorns may adopt is, of course, very much a matter of speculation, but it is fair to suppose that while he will readily accept new and approved ideas, he will not be indifferent to the observations and experiences of the best breeders of the past. It is questionable, indeed, if better Shorthorns ever existed than were bred during the first half of the last century. The records are somewhat meager concerning the operations of what may be termed the formative period of the breed as we know it to-day, yet there is sufficient evidence to show that the early breeders were not hampered by the great variety of fads and crazes that have come to vex the soul of the breeder of the present day. Starting as they did without records or any knowledge of the breeding of their cattle except that derived from private registers and traditional sources, line breeding was, of course, an unknown term for many years, although they did engage in the practice of interbreeding, in some instances from very close affinities. To-day the question of in-and-inbreeding is a debatable one, and in all probability will continue to be so for many years to come. There is no question but that valuable results have been derived from that system of breeding, and it is equally apparent that in-

jurious effects have in some cases allowed a too close adherence to that practice. The early breeders, as I have said, in some instances bred together animals of the closest relationship. The case of Favorite (252) has often been referred to. It is said that he was bred to his daughters and granddaughters, and on to the fifth generation, and that, too, without any serious results so far as history or tradition give any account.

There are two ways of accounting for this. In the first place, the men of that day who advocated in-and-inbreeding were of more than ordinary intelligence, and it is not presumable that they practiced it indiscriminately and in all cases, but that they used the utmost care in the selection of the animals they desired to submit to the experiment, mating only those that possessed the necessary requisites of constitution, vigor, and general conformation. In the second place, the Shorthorns of that time, we are told, were large and coarse, loosely made, inclined to be thin fleshed, and often poor feeders. Now it is admitted, I believe, that in-and-in breeding has a tendency to reduce the size, to refine the form generally, and to increase the disposition toward early maturity. How long this practice can be followed without impairing the useful qualities in the animal is a question not easily answered.

The Collings and other early breeders of Shorthorns bred from very close connections without apparent injury to their cattle, and Bakewell, with the Longhorns, probably to a greater extent than any other breeder of his day, or since. As intimated, however, the character of the cattle of that early period justified his practice to an extent that would not be permissible at this late day, when Shorthorns have reached the highest degree of refinement it seems, compatible with a good constitution and general usefulness. In fact, I think most of you will agree with the opinion that in some cases the limit has been exceeded, and that there are Shorthorns to-day that show the effects of too close breeding in an ex-

(Continued on page 609.)

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### Shorthorn Lore.

EDITOR KANSAS FARMER:—One year ago the office force of the American Shorthorn Breeders' Association was at least eight months behind with the work. This was due largely to the increasing business resulting from improved conditions of trade, also to the "deluge" of pedigrees that came in during the closing months of 1899, December of that year showing the record breaking receipt of over 12,000 pedigrees. During last July the office force was increased and commendable progress made, and the accumulated work would have been disposed of by the annual meeting in December, only for the increased work made necessary by the shows and sales conducted by the association.

However, I am glad to report to all patrons of the office and friends of the breed, that we are practically up with the work. Pedigrees coming to the office now are checked and certificates of acceptance are sent, and certified copies when ordered, within one week from the time the pedigree is received. In cases of emergency certified copies can be furnished on one day's notice, and in a few instances, during the last month, small orders have been filled within an hour after the order was received.

Much praise is justly due Secretary John W. Groves for the improved condition in the work, and to his faithful complement of clerks, some of whom have been several years in the office, and I am sure the patrons of the office will accord him due credit for his energetic and efficient work when it is more fully known. As I have been in the office but a very short time and so claim no credit for what has been accomplished, I can, I trust, bespeak the appreciation of faithfulness of my associates in the office, without being liable to the charge of self-laudation.

As a brief account of the methods in the office may interest some readers, I will say that when letters are received they are opened and the pedigrees hastily examined to see if date of birth, color, sex, signature of breeder, etc. are given. A good many are deficient in some of these requirements and so have to be returned to the sender, or else held until completed by correspondence. This, of course, causes delay and sometimes great disappointment to breeders who want certified copies quickly. If all pedigrees were examined carefully before sent to the office, to guard against omissions or mistakes, the work of the office would be greatly facilitated, and more prompt and satisfactory service given.

After the first examination of pedigrees and proper receipt sent, the money is entered on the books and the pedigrees marked and laid away until the "checking" clerks can examine them. This is the most careful examination, and consists in comparing the pedigree of an animal with the record of its immediate ancestors to detect mistakes, if any have been made. After being checked, pedigrees are filed away until the volume is ready for the printer, and the original pedigrees are not returned to the parties sending them, as some think, but are kept in the office for future reference.

The secretary, in fact the whole office force, is anxious to push the work vigorously and give efficient and satisfactory service, and all rejoice with the breeders on the very gratifying increase in receipts of the office, as indicating the strong and healthful demand for Shorthorns. The receipts for 1900 were larger than any preceeding year, but 1901 shows a decided increase over 1900. During the first five months of 1900 the receipts for pedigrees were \$18,856 and \$2,145.50 for certified copies, while during the same months of 1901, the receipts for pedigrees are \$26,311 and \$3,699.50 for certified copies. This is an increase of \$7,455 in pedigrees and \$1,554 in certified copies or approximately 40 per cent increase in the former and 75 per cent in the latter. As certified copies are 25 cents each, this represents a demand for 14,798 copies in five months or 113 copies for each working day.

This much from within the office—what are the prospects from without? Bright? Decidedly so; in fact rosette with promise. The increase of receipts in the office hardly keeps pace with the increased demand for Shorthorns in the country. Since Feb. 1, 1901, 2,000 Shorthorns have sold at public sale at an average of above \$300; 1000 at an average of above \$400, and 504 at an average of \$523. Is there any consolation or encouragement in these figures? Can any one beat them? And what do they

signify? Plainly that the "lordly Shorthorn" is, as he always has been, the favorite of the great mass of American Stockmen. With this strong and healthful home demand, and the national association, with other associations, reaching out after the South American trade, it would seem that the lot of the American Shorthorn breeder has truly fallen in pleasant places.

During the last few months frequent inquiry has been made at the office for dairy Shorthorns—that is, cattle of good beef type, but whose dairy qualities have been developed both by breeding and careful management. If breeders who have herds of this character will write me, I will endeavor to put them in touch with a demand, when one is known.

B. O. COWAN,  
Springfield, Ill. Asst. Sec'y.

### Care of Pigs From Start to Finish.

I have this morning (March 29th) weighed an average pig from a litter of 10 farrowed October 12th, and found the weight to be 159 pounds. We are expecting to market these pigs about the first of May and hope to make an average of 200 pounds weight at that date.

A neighbor sold two or three wagon loads of pigs recently that were farrowed in July last, hence would be about eight months old, that averaged 212 pounds. I have thought best in this article to give a general idea of the plan of management to grow pig pork with two litters from the sow each year and will begin at the start. The sows should be fed liberally, and partly on bulky and succulent food during the period of gestation, and should always be allowed exercise. We have a hog house adjoining our barn yard in which to winter brood sows, and they can be let out a part of each day into the barn yard, where they will get something from the droppings of the cattle and greatly improve the manure, as by scattering a little shelled corn over the coarser parts of it they will root it and turn it over and reduce it to a fine condition better and cheaper than any other plan I know of. Our cattle are all dehorned, so that there is no danger of their being injured, and the pigs are never left to sleep in the barn yard, as they might be trampled on when partly covered with straw. In several winters of following this plan we have never had one injured.

I feed sorghum and beets for the succulent part of the food, but lacking these I would substitute bran as the next best thing. We have fed sorghum every day both to our sows and to the pigs for just nine months, as we began feeding the first of July from a plot convenient to the hog lot. For the first two or three weeks we did not feed heavily as the sorghum was then only 3 feet high and very immature, but before the end of July it was out in head and from that day on we have fed liberally.

This question of feeding bulky, cooling food to the brood sows in one of importance both from the commercial and the hygienic standpoint. About ten days before farrowing time the sows are separated, each one being allowed a section of the hog house 8 feet square. My hog house is built 8 feet wide and arranged with movable partitions which can be put in every 8 feet, and it is so arranged that the partitions can be put in and taken out without driving a nail, as the boards are slipped down into a slot, and a pin above holds them. It is always well to have the sows put into the quarters where they are to farrow a week or more before the pigs are expected, as if not put in until later they may be restless and uneasy. Particular attention should be paid to the food from the time they are separated until the pigs are at least ten days old, as this is the critical period with the sows. Overfeeding with corn often produces milk fever and results in stunted pigs and not infrequently the loss of entire litters.

### THE YOUNGSTERS.

For the first week after the pigs are born let the feed be warm slop largely of bran with perhaps a single ear of corn at a feed and gradually increase it until within two weeks you have the sows on full feed. From this time on until the pigs are weaned you can scarcely feed too heavily, as the sows suckling large litters of pigs will require a large amount of food. When the pigs are about two weeks old we usually remove every other partition, putting two sows together in 8x16. The danger of their overlying the pigs is over by this time, and it is best that they should become accustomed to

running together. After the pigs are ten days old, if the weather is pleasant, the sows should be let out with them into the lot adjoining and if for any reason you think best to keep the sows confined longer, make an opening so the pigs can come out and go in at pleasure, as exercise is very important in the development of a healthy pig. In many cases where the sow is an extra good milker if the pigs do not have exercise they will often become very fat and die of thumps, sometimes the whole litter being lost.

### WEANING TIME.

As soon as you notice the pigs begin to crack corn put back the partition, but make a hole so that the pigs can pass over to the other apartment, and begin feeding them daily. At first you may feed them a little soaked corn, but by the time they are four weeks old place a small trough in the apartment and begin giving them a little milk, slightly warmed at first, then when they have learned to come and eat regularly add some bran or middlings to it, and before weaning time, which is generally at eight weeks old, under this system the pigs should each eat at least half an ear of corn and from a pint to a quart of slop at a meal. If they are taught to eat and carefully fed there will be no check in growth at weaning time, and if you have fed your sows wisely they will generally not be suckled down thin.

The sows can usually be bred for a second litter in about three or four days after removing the pigs. If they are thin at all they should be fed quite liberally until they show signs of improvement. Then if they can be put on clover pasture and given a moderate feed of corn once a day no other care will be needed until near the time of farrowing the second litter. If they are confined in the hog lot they should have some green food every day, and as April pigs will not be weaned until in June, clover will be available at first, and in July sorghum will be ready to feed again; and I would advise for September and October feeding there be a lot of soy-beans convenient. Probably cow-peas might answer as well, but my experience is only with the soy-beans for this purpose. As soon as corn is in the roasting ear stage it can be fed profitably as husks, cob, blade, and much of the stalk will be eaten by them. Remember that you want to get each litter out of the way of the succeeding one and do not lose a single day's growth on your pigs. See that they have a clean, dry sleeping place, especially during the fall and winter, that the bedding is changed as often as necessary, which, when they are fed slop, will be twice a week, sometimes three times. Feed just what they will eat up clean, never allowing any food to remain in the troughs or on the floor, and you will have a thrifty, healthy and profitable lot of pigs. If the owner of the pigs does not attend to them personally he should watch every day and give directions, and doing this he will have the satisfaction of seeing that there is no waste and no loss of time in getting his pigs ready for market.—Waldo F. Brown in National Stockman and Farmer.

### Sorghum Improved by Breeding and Selection.

EDITOR KANSAS FARMER:—In 1889, the Department of Agriculture distributed a few seeds of a variety of sorghum named Amber Orange. It was so named because it was a cross from Early Amber and Kansas Orange, as it proved by frequent reversions to the types of Amber and Orange. The new variety was good for sugar making, but several other varieties were quite as good for that purpose so that this variety was discarded later.

Some of the Amber Orange seeds distributed by the Department of Agriculture were planted in North Carolina in 1890. It is said the cane juice made the finest sorghum sirup ever seen in that section, as fine as "gum honey," whatever that may be. The experiment station of that State still recommends that variety of sorghum for sirup. There are several crosses of Amber and Orange, all of which are good. In 1893, the Kansas State Experiment Station, after having tested many varieties of sorghum for sugar percentage, placed the Amber Orange at or near the head of the list of chosen varieties, and distributed packages of the seeds. There are sometimes as many as 800 seeds in the seedhead of a single crossed cane. The seeds seem to be cross-fertilized in different degrees, and, although taken from one seedhead, produce canes of different types and qualities. Most

crosses are poor in quality, and are inferior to the parent varieties, but sometimes a crossed, or hybrid plant is much superior, in some desired quality, to either of the parents. Some of the seeds of the Amber Orange variety, which are said to have made superior sirup, for several years in North Carolina, will be procured from that State and will be tested in Kansas next season for sirup.

In the Gulf States a new variety of sorghum named "Seed Ribbon cane" is very highly recommended for making sirup. It is called "Seed Ribbon cane," not because it looks like the Ribbon Sugar cane, for it does not resemble that, but because it is said to produce sirup like that from sugar cane. The Ribbon Sugar cane does not produce seed, and this variety of sorghum is called "Seed Ribbon cane" to avoid confusion. A cane grower in Mississippi states his belief that the Amber Orange variety, which is praised in North Carolina for sirup, may be the same variety as "Seed Ribbon cane." Sugar cane sirup and molasses is much more popular in all wholesale markets, and brings better prices than sorghum sirup. For this reason a variety of sorghum which would produce sirup like sugar cane sirup would be desirable. Some of the "Seed Ribbon cane" sorghum has been planted in Kansas and will be tested next fall.

Dr. Schweinfurth, an eminent botanist, found some superior varieties of sorghum in the Soudan, Egypt. He said that he had never seen these varieties anywhere else. These also will be given a trial in this State. It is a curious fact that, although sorghum has been cultivated all over the country for fifty years, yet no selection of superior varieties for sirup making has been made. The only choice of varieties is Early Amber for planting where the growing seasons are short. In southern latitudes the Early Amber is not liked. It is not likely that in hundreds of varieties there is no choice in sirup making. R.

The above valuable paper was written by the gentleman who conducted the Government breeding experiments with sorghum. He is an occasional contributor to the KANSAS FARMER and his writings are always valuable. For clearness and accuracy of statement and for correctness of reasoning they are unsurpassed. The editor is forbidden to give the gentleman's name and address, not for any unwillingness to assume responsibility for what he writes, but because he persistently avoids notoriety and does not want to be bothered with the hundreds of letters of inquiry which have always followed upon the publication of his address. We violate no confidence in saying that he is a jovial old bachelor, very sociable with men and boys, but almost afraid of the sight of a woman.

He produced the Amber Orange cane mentioned in his letter as well as several other crossed varieties of great merit. He is invited to report through the KANSAS FARMER on the other experiments now in hand.

### How to Prepare a Seed Bed to Grow Wheat Successfully.

The preparation of a proper seed bed is of greater importance than many farmers can be made to believe. Much depends on what kind of crop has been grown on the ground we intend to seed to wheat. If wheat has been harvested off the field and we wish again to follow with wheat, then the field should be plowed just as soon as the wheat has all been gathered in the barn. If the field is to be manured then have that done at once, and be sure to spread the manure as hauled, and by no means let the manure set in heaps for three or four weeks so the rains have all the liquids washed out where the heaps are, and then spread, as many do, and say that the manure was of little value to the crop.

In plowing manure under we should be careful not to plow up more than five or six inches at the outside. That is plenty deep. As soon as the ground or field is plowed, if the weather is dry the roller can be started, but by no means should ground be rolled when damp or clammy. By rolling ground soon after plowing, clods, if there are any, will all be pressed down nicely and will give little trouble when we come to harrow. Ground that is not rolled before the harrow is put on will dry out much sooner and will not retain moisture nearly so well. We need not be in such a hurry to start the harrow after a rain for fear of clods, as must those that have not their ground rolled. Harrow after the first good rain as soon as dry enough. But here

let me say, don't harrow wet ground, it is just as injurious to harrow wet as to plow wet. By taking up a handful of soil, if it can be pressed into a ball, then we would better not harrow. Ground ought to be mealy and pliable, then it will not harrow sad and hinder the little plant roots from reaching out and growing vigorously. If the seed bed has been harrowed after a rain we need not necessarily harrow soon again, but always after a rain as often as it becomes necessary to have the ground mulched or, in other words, have a blanket over the field—this always stops evaporation. Ground ought not to be harrowed when dry and dusty, sooner take the roller and pack down.

[This practice of rolling would cause the soil to blow away in some portions of Kansas. Harrow after rolling.] Most likely in a week or so you will find you have cut off the evaporation even in dry weather, and your ground will likely become moist again. If seeding time has come and we find that the ground is as yet not quite compact enough, then again roll. In determining this, if your horses tramp or sink in over their hoofs you can be sure your ground needs another rolling to give you such a seed bed as will give you the best results. One inch or even less is sufficient covering for seed. We should aim to have all the seed covered evenly so the plants can all start alike, otherwise if some are covered lightly and others heavier there will be an unevenness in the plants coming up, and the stronger plants will, as in anything else, rob the weaker plants. If, however, our ground has been thoroughly cultivated and is fine and even we need have no fear, and in five or six days the little plants will all be up and growing. Ground that is not well pressed or packed before the seed is planted, in case of dashing rains soon after planting will dry out and form a sort of crust so that very little of the seed may be able to come through at all, whilst ground that has been well rolled will remain moist long enough after a rain so all the plants can come up, and in a few weeks we have a stand of wheat that will be able to go through the severest winter.

We should use nothing but a first class drill, one that will sow both wheat and fertilizer regularly and evenly. What a sad sight, if after our wheat is all up we find three or four hoes failed to sow fertilizer, or one or two hoes were not sowing wheat regularly. This we have often seen, and by farmers who thought they knew it all. Supposing you are sowing six pecks per acre, but one or two hoes are sowing just as fast again as the other six hoes, and supposing there be eight acres in the field, two hoes are sowing twelve pecks per acre, and who would want to sow that much? And so also with the fertilizer, you gauge your drill to sow 200 pounds per acre, half of your hoes are perhaps sowing correctly, but the other half are not sowing any at all. Now what is the consequence? Why, four acres of your field get nearly 400 pounds of fertilizer per acre, whilst four acres get none at all. And you know when threshing time comes around that fellow always puts the blame on the fertilizer, or on kind Providence for not sending a good and fruitful season. But you say we have no such fellows in Pennsylvania. I am sorry to say that I can point you to farmers in my county and can take you to fields of growing wheat where just such is the case, and on soil that can be made to grow from 30 to 40 bushels per acre.

#### SEED WHEAT.

We often pay too little attention to the seed we sow. We should be sure to sow nothing but good seed, and have it well cleaned. If you need 75 bushels for seed take 125 bushels, clean and re-clean until you have 75 bushels of nice plump wheat, so every grain will come up and give a vigorous plant. Much depends on the kind of wheat we plant. If our ground be strong and rich in plant food we want a wheat that is a stiff-strawed wheat, and most generally such a variety needs to be sown a little heavier or thicker, as generally it will not stool so well. And let me say here, always in getting a new variety of wheat get your seed from a colder climate than your own, as invariably if you sow wheat that has been grown farther south and in a warmer climate your wheat will not mature, but will need a longer season, whilst if we get our seed farther north our wheat will always come earlier and be ready to harvest sooner and will be a better quality.

As to the time to seed each one would better determine for himself. There is one class of farmers in nearly

all neighborhoods that want to be done first so they can go to the country store or shop and boast that they are done seeding. But you never find out how much wheat per acre their crop yielded. Then there is another class that are unconcerned, thinking there is plenty of time yet, and so they sometimes barely get their wheat put in before freezing weather sets in.

We should take some notice of the weather, and also of the seasons, and if we will do this it seems to me that it is as easy to grow a successful crop of wheat as to have a fine pen of pigs on your farm.—C. B. Hege in National Stockman and Farmer.

These suggestions by a Pennsylvania farmer show that advanced ideas as to conservation of moisture, selection of seed, and planting are taking root in the Keystone State, as in Kansas. The directions for the use of fertilizers will not interest most Kansas wheat growers, except to call forth sympathy for the men who have to pay out their good money to enrich the soil. But these directions emphasize the importance of maintaining the fertility we now have, and adding thereto by carefully saving and using all manure made on the farm and by such rotation with clover and alfalfa as will replace in the surface soil essential elements of fertility withdrawn by our grain crops.

The Pennsylvanian's suggestions as to preparation of seed are excellent. If followed complaints of varieties running out and of necessity for change of seed will be less common than now. Such method of selection of seed can not take the place of the work of the seed breeder, however. The seed breeder will reinforce the vitality of wheat by the introduction of new blood—for, as is well known, wheat left to itself is a close in-and-in breeder. The already famous Kansas hard winter wheat ought to be greatly improved by seed selection and by breeding.

#### Kansan at the Pan-American.

The buildings at the Pan-American, as at Chicago, are put up more for outward appearance and show than for durability or permanence. Instead of a dull white, as in the former case, all of those at Buffalo are finished in soft colors, such as yellow, pale blue, light green, and the various shades of red.

To all comers, whatever their tastes may be, assurance can be safely given that they will find in the exposition an abundance for their entertainment and information. Connoisseurs from everywhere have agreed that this fair, now in its perfection, surpasses all former like undertakings in several features, notably, the originality of its architecture, the wonderful beauty and novelty of its entire color scheme, and the enchantment of its unprecedented, indescribably effective electrical illumination. The "Studio," an art publication of the highest class, in describing the charming results obtained by the free introduction of color in the decoration of the buildings, towers, and domes, ventures the opinion that it may direct architects generally to a serious consideration of the adoption of color in their future designs, the beautiful effect which might be given in this way to a town as a whole, may be readily comprehended after the exposition is seen.

In my last letter the reader was left at the Government building, and in following up our ramble through the different structures the many attractions of "Uncle Sam" claim more than a mere passing view. The Government under which we live shows no parsimony in dealing with all subjects which are vital to citizens in every walk of life.

It is said, "we pay for all this," which is very likely true, but in what other way could such delicate and abstruse matters be disseminated as through the channels in which the common people are receiving them?

One whole day would hardly be sufficient to carefully study what may be seen within these walls, and all nicely illustrated; the inspection of meats for export, showing occasionally some of the deadly germs that infest pork products in particular; and everything bearing on the live stock interests of the whole country. Native exhibits from the Hawaiian and Philippine islands, although crude, but ingenious and interesting, gives a faint idea of what these people may accomplish when the civilizing influences of their "Alma Mater" is felt in those remote dependencies. The department of meteorology shows what gigantic strides have been made in forecasting the weather in the last few years; in this, as well as in all other sections of the building, experts

are stationed who are ready and willing to impart all needed information. In one of the exhibits may be seen two life size figures of sheep, one in the earlier stages, showing the effect of "scab," and another farther advanced when nearly all the wool is falling from the body, and beside them, enlarged to the size of an ordinary toad, may be viewed the disgusting and loathsome parasite that has played such havoc with the farmer's flock.

In this building are located all the latest death dealing machines that invention and experience have suggested up to date, and nearby the newest appliances used in the peaceful avocations of life. On exhibition here is the innocent looking "mine," one of which is supposed to have wrought such terrible destruction to the battleship Maine, in the harbor of Havana.

The United States Mint interests the visitor in the manner of making coins, paper money, and the finest of engraving on steel for bank notes, as well as revenue stamps for beer, whisky and tobacco. The instructor tells you that as much care is given to the work on a beer stamp as on a thousand dollar greenback. Life size Indians in native dress from the peaceful denizen of the Mohawk valley to the treacherous Apache of the Southwest, fill one wing of the building, illustrating all phases of aboriginal life in their crude arts and manufactures. Another interesting exhibit is articles that have been sent through the United States mail, including everything from the tiniest bit of jewelry to a centipede, a scorpion, and a full grown foot ball.

Now is a good time to visit the Pan-American. A. E. JONES.  
Buffalo, N. Y.

#### Gossip About Stock.

Newton Brothers, of Whiting, Kans., will hold their third annual sale of Duroc-Jersey swine on October 7. Their herd is located three miles southwest of Whiting, Jackson County, Kansas, and they report that it is in fine condition, and that their spring pigs are making extra bone and muscle growth. One of their handsome gilts farrowed ten well-formed pigs on June 21, sired by Fleet R. II No. 9945.

Mr. T. F. B. Sotham, proprietor of the Weavergrace breeding establishment, advises that he has contracted for 2,000 head of steer calves and 500 yearling steers, all by pure-bred and registered Hereford bulls mostly out of cows with Hereford blood. These are of the same brand and quality as the 1,800 head of calves exhibited by Mr. Sotham at the National Hereford-Short-horn Show at Kansas City last October. Mr. Sotham says these Nebraska calves have given the best possible satisfaction to his customers and that all the customers of last year are renewing orders for this year's crop. A limited number of these steers will be available for new customers.

A. E. Burligh, of Knox City, Knox County, Missouri, writes us as follows: "Kansas Farmer brings many inquiries and some good sales. Among the recent sales are the following: 2 bulls to J. M. Gaun, Poplarville, Miss., and 2 to E. C. Sterling & Son, Seymour, Texas. I have sold one bull to F. G. McKinney, Great Bend, Kans.; to A. R. Phelps, New Madrid, Mo.; to W. M. Cottle, Moscow Mills, Mo.; to G. W. Roberts, Ernest, Mo.; to G. K. Smith, Lincoln, Kans.; to H. H. Cleaver, Florida, Mo.; to C. B. Lego, Atlanta, Mo.; and to Fred Cockrell, Abilene, Texas. Hon. Case Broderick, of Holton, Kans., has purchased of me two yearling heifers, and the Washington State Agricultural College at Pullman, Wash., recently bought, through the professor of agriculture, E. E. Elliott, a 10-months-old bull calf to put at head of college herd of Shorthorns." Mr. Burligh has been engaged for over a dozen years in breeding up his herd of Polled Durhams, and now has many very fine animals for the show ring and for sale.

McLaughlin Brothers, of Columbus, Ohio, importers of fine Percheron horses, write us as follows: "We received a message from Mr. James B. McLaughlin yesterday saying that we won nineteen medals at the great Percheron Horse Show in Nogent-le-Rotrou, France, last week. It is our opinion that the best is none too good for the enterprising, intelligent American farmers and breeders, therefore, we deviate from the practice commonly pursued by our competitors. Many importers buy stallions abroad that they can procure for the least money on the theory that our home breeders will pay a high price for anything that is imported. All they are after is the immediate profit. They neither care for improving our stock of horses in America nor for their own reputation in future years. There is an old, and very true saying that "a thing worth doing is worth doing well," and we believe this principle applies to the horse importing business. If it is worth while going to Europe after stallions to improve our horses in America it will be most profitable to all concerned to import the very best procurable. The difference in cost to the American breeder is insignificant when results are considered."

#### Publishers' Paragraphs.

The midsummer fiction number of the July Cosmopolitan contains the best story Bret Harte has written in a long time. The well-known Jack Hamlin is the hero, and he will be eagerly welcomed back by the public. Desperado and gambler that he is, theoretically we ought not to like him, but he has that fine courage too rarely met with in real life or in fiction, and those who read "A Mercury of the Foothills" will probably lose sight of his faults in following the events which take place upon "that heaven-kissing hill." Katrina Trask's story in the same number should be read by every woman. It is one of those homely tragedies constantly going on in modern society. It is probably the cleverest piece of work Mrs. Trask has ever done. R. K. Munkittrick's quaint New England coast yarn has a breeziness about it that makes it really refreshing. The July instalment of Egerton Castle's story begins to

raise the curtain on the inevitable ruin which the Duke of Cluny's weakness must bring on those who love him.

#### Down to Hard Pan.

A Chicago merchant, many times a millionaire, is erecting a large addition to his business building and in laying the foundations has gone down through various strata of soil, sand, gravel and clay almost one hundred feet to the "hard pan." In the foundation work of life surely one ought to be as careful to get down to the "hard pan" of facts, and in no school of our knowledge is this done more thoroughly than in the Gem City Business College, of Quincy, Ill., owned and directed by Mr. D. L. Musselman, assisted by a large corps of most competent instructors. Thousands of men and women are in positions of great usefulness to day who, but for the development given their natural abilities in this school, would be unknown outside a small circle of personal acquaintances. We wish to call the attention of the young readers of our paper to the advertisement of this excellent school appearing elsewhere in this issue. Read it and write to-day to D. L. Musselman, Quincy, Ill., for his large illustrated catalogue which he will gladly send you free.

#### Widely Famed Farm Implements.

##### First Place for Twenty-Six Years.

In the making of farm implements, as in everything, the specialist is the successful man. One of Ohio's large manufacturing traces its prosperity to this policy.

The Roderick Lean Manufacturing Company, Mansfield, Ohio, have for twenty-six years confined their efforts to harrows and land rollers—and, by concentrating all their energies on this branch of the industry, have brought their product to the present state of perfection.

Their harrows, both spring and spike toothed, and their land rollers combine extreme lightness with the greatest strength—all metal parts being steel.

It is claimed that they are the most efficient, lightest draft and most durable machines on the market.

The Lean Company issues a catalogue which is sent on request, to all interested parties.

#### Kansas Fairs in 1901.

Following is a list of fairs to be held in Kansas in 1901, their dates, locations, and secretaries, as reported to the state board of agriculture and compiled by Secretary F. D. Coburn:

Allen County Agricultural Society—C. H. Wheaton, secretary, Iola; September 10-13.  
Brown County Fair Association—G. W. Harrington, secretary, Hiawatha; September 17-20.  
Butler County Fair Association—H. M. Balch, secretary, Eldorado; October 8-11.  
Chautauqua County—Hewins Park and Fair Association—N. G. Marsh, secretary, Cedar Vale; September 25-28.  
Clay County Fair Association—E. E. Hoopes, secretary, Clay Center; October 8-11.  
Coffey County Fair Association—A. L. Hitchens, secretary, Burlington; September 10-13.  
Covley County—Eastern Cowley Fair Association—J. M. Henderson, secretary, Burden; dates not yet chosen.  
Finney County Agricultural Society—D. A. Mims, secretary, Garden City; August 21-23.  
Franklin County Agricultural Society—D. C. McQuesten, secretary, Ottawa; September 17-20.  
Greeley County Fair Association—J. C. Newman, secretary, Tribune; September 6-7.  
Harvey County Agricultural Society—John C. Nicholson, secretary, Newton; September 24-27.  
Jackson County Agricultural and Fair Association—S. B. McGrew, secretary, Holton; September 24-27.  
Jefferson County Agricultural and Mechanical Association—Edwin Snyder, secretary, Oskaaloosa; September 3-6.  
Jewell County Agricultural Fair Association—C. E. Horne, secretary, Mankato; September 17-20.  
Linn County Fair Association—Ed R. Smith, secretary, Mound City; dates not yet chosen.  
Marshall County—Frankfort Fair Association—J. D. Gregg, secretary, Frankfort; September 17-20.  
Miami County Agricultural and Mechanical Association—W. H. Bradbury, secretary, Paola; September 24-27.  
Montgomery County—Coffeyville Fair and Park Association—R. Y. Kennedy, secretary, Coffeyville; August 13-17.  
Morris County Exposition Company—M. F. Amrine, secretary, Council Grove; September 24-27.  
Neosho County Fair Association—H. Lodge, secretary, Erie; August 27-30.  
Neosho County—Chanute Agricultural, Fair, Park and Driving Association—A. E. Timpane, secretary, Chanute; September 3-6.  
Ness County Agricultural Association—H. C. Taylor, secretary, Ness City; October 2-5.  
Norton County Agricultural Association—J. L. Miller, secretary, Norton; September 18-20.  
Osage County Fair Association—C. H. Curtis, secretary, Burlingame; September 3-6.  
Reno County—Central Kansas Agricultural Fair and Live Stock Association—Ed M. Moore, secretary, Hutchinson; September 2-6.  
Rice County Agricultural Association—C. Hawkins, secretary, Sterling; September 11-14.  
Riley County Agricultural Society—R. T. Worboys, secretary, Riley; September 24-26.  
Rooks County Fair Association—J. Q. Adams, secretary, Stockton; September 10-13.  
Saline County Agricultural, Horticultural and Mechanical Association—H. B. Wallace, secretary, Salina; September 17-20.  
Sedgewick County—Wichita State Fair Association—H. G. Toler, secretary, Wichita; October 1-4.  
Stafford County Fair Association—John W. Lill, secretary, St. John; August 28-30.  
Sumner County—Molvane Agricultural Society—John A. Reed, secretary, Molvane; September 27-28.  
Wilson County—Fredonia Agricultural Association—J. T. Cooper, secretary, Fredonia; August 20-23.

When writing advertisers please mention Kansas Farmer.

## The Home Circle.

### AMONG THE HILLS OF OLD KENTUCKY.

Should you ask me,  
Where the meadows are the greenest,  
Where the red bird's song is sweetest,  
And the flowers bloom the fairest,  
I would answer,  
In Kentucky,  
Among the hills of old Kentucky.

Should you ask me,  
Where the sunshine falls the brightest,  
Where the moonbeams are the mellowest,  
And the skies above are bluest,  
I would answer,  
In Kentucky,  
Among the hills of old Kentucky.

Should you ask me,  
Where the land I love the best is,  
Where I long to lay life's burdens  
Down, and rest upon the hillside,  
I would answer,  
In Kentucky,  
Among the hills of old Kentucky.  
—Nannie Beauchamp-Jones.

### The Science of Living.

E. P. MILLER, M. D.

Agriculture in this country is fast becoming an accurate science. The time is rapidly approaching when farmers will require a scientific agricultural education in order to make their farming operations most profitable and most enjoyable. The farmer must know the chemical constituents or elements of the soil he cultivates, the kind of nutrition that is required to mature and perfect every variety of crops, and also the kind of fertilizers that must be added to his fields to produce the best crops.

An evidence of what scientific gardening will do to add to the profits of the producer may be seen in a report of the increased productions of tomatoes, melons, sweet corn and other garden truck, at the New Jersey experiment station as published in Farmer's Bulletin 124 of the United States department of agriculture. An application of 150 pounds of the nitrate of soda, costing only \$3, to a plot planted in tomatoes, made a net gain of \$160.00 or \$53.33 for each dollar expended; from sulphate of ammonia, \$132.77, or a return of \$44.26 for each dollar expended; and from dried blood, \$67.65, or a return of \$22.55 for every dollar expended. Similar results were obtained when other experiments were made with other garden truck. These well corroborated facts simply indicate what may be done in all departments of agriculture when farming is put upon a scientific basis.

There is also a true "Science of Living," and of growth for the human family which is of much greater value and of more importance than any that can be derived from scientific agriculture, for it directly affects the health, happiness, and longevity of the entire community. The Creator of the heaven and the earth, who formed "the grass and the herbs yielding seed, and the fruit trees yielding fruit after His kind, whose seed is in itself upon the earth," and who said, "let the earth bring forth the living creature after his kind, cattle and creeping thing, and beast of the earth after his kind;"—who also "made man in His own own image, male and female created He them, and gave them dominion over the fish of the sea and over the fowls of the air, and over every living thing that moveth upon the earth;" and said to them, "Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree in which is the fruit of a tree yielding seed; to you it shall be for meat."

### THE HUMAN BODY PERFECT IN MECHANISM.

Man's body being made in the image and likeness of his Creator, was made as perfect as it was possible to be made in every part, and we can not doubt that it was made so as to keep in perfect order if it had been fed as the Creator designed and commanded. This body is the most complicated and the most perfectly constructed piece of mechanism that was ever made. Every organ and tissue of which it is composed was made upon scientific principles, and each part was so constructed as to be perfectly adapted to the performance of the special function for which it was designed.

For instance, the mouth, the teeth, the salivary glands, the stomach, the liver, the duodenum, the pancreas, and the intestines, were all made with reference to the digestion of definite kinds of food, and when those who possess and have charge of all these wonderful organs understand how to feed care for and use them, health, happiness, and long life will be the inheritance of every human being.

The trouble is now and ever has been, that the people do not know how

to care for their own bodies. They not only do not understand the science of running their own machine, but they do not comprehend the fact that there is a science connected with it. They eat foods that the Creator never intended them to eat, foods which interfere with digestion and assimilation, putting into their blood elements which change its quality, perverts the function of the different organs, and bring disorder, disease, and suffering in their wake. There is a true science of living as well as a science of agriculture, chemistry, astronomy, and mathematics and the people have far more to gain by acquiring an accurate knowledge of the science of living than from that of any other department of nature.

Prof. O. W. Atwater, of the department of agriculture at Washington, on page 7 of his bulletin entitled "Food, Nutritive value and Cost," to which we referred in a previous article, says: "Blood and muscle, bone and tendon, brain and nerve, all the organs and tissues of the body are built from the nutritive ingredients of food. In a sense the body is a machine. Like other machines it requires material to build up its several parts, to repair them as they are worn out, and to serve as fuel. In some ways it uses this material like a machine, in others it does not. The steam engine gets its power from fuel; the body does the same. In the one case coal or wood, in the other food is the fuel."

### IGNORANT HUMAN ENGINEERS.

There is, however, one very important difference between a steam-engine or any other man-made machine, and the human body. The engine has no power within itself to run, but must have an engineer outside to run it, and care for it; one who knows of just what material each part is made, where it can be obtained, how it is put together, etc., so that when any part wears out or breaks down he can secure the material each part is made, where it can use it so as to again put his engine in working order. But the human body is far too often in charge of those who know little or nothing about its construction or the materials required for the repair or renewal of its different parts, or how to use them after he gets them; and when his machinery gets out of order he too often employs some botch of a mechanic who knows but little more than he does himself about just what is needed.

### CLASSIFICATIONS OF FOODS.

The scientific investigators first divide food products into two general classes, viz., animal foods and vegetable foods. Under the head of animal foods are included cattle, sheep, swine, all wild animals that are eaten by man, domestic fowls, birds, fishes, and shell fish that are eatable, with milk, butter, cream, oleomargarine, buttermilk, skim-milk, and fats, and animal oils.

In the class of vegetable foods are found all of the cereals and vegetables, fruits, nuts, lentils, sugar of all kinds, molasses, syrup, starch, edible grains, etc.

Again foods as before shown, are classified according to their nutrient elements into four principal classes as follows:

### PROTEIN, FAT, CARBOHYDRATES, ASH OR MINERAL MATTER.

In considering these nutrients the amount of water they contain is also investigated as well as their fuel value. The amount of heat required to raise one pound of water 4 degrees.

On page 27 of Farmers' Bulletin (23) is found a statement of the composition of the edible portion of about 39 different animal foods, and of 24 vegetable foods. In looking this over, the reader will notice two important facts that are of much importance in considering the food question. The first is that in the list of animal foods only six different articles are reported as containing any carbohydrates, viz., milk, butter, full cream cheese, skim cheese, oleomargarine, and oysters. The other is, that in the list of vegetable foods, sugar and molasses contain neither protein or fats. Starch is not mentioned, but in Bulletin (28) page 64, corn starch and arrowroot starch are recorded as being entirely destitute of protein and fat. These facts would indicate that what Prof. Atwater says on the first page of his book on foods that "a man might live on meat alone, but it would be a very one-sided and imperfect diet," would apply with equal force to starch and sugar. Let me repeat here what was stated in a former article, that the nutrient materials in foods, includ-

ed and considered under the head of Protein, are those which contain nitrogen, are necessary for the growth and maintenance of muscular tissue, both in men and animals. The fats are necessary for the production of animal heat; the carbohydrates for the production of force and energy, and the ash or mineral products for the bones and most compact tissues of the system.

We hope in a further discussion of the subject to lay before the readers of the FARMER, tables that will give the composition of all classes of foods, and in connection therewith to give important information as to the effects of these foods on the health, life, longevity and happiness of the people.

### As To Homes.

EDITOR KANSAS FARMER:—I must say I think the most beautiful home a man can have is a country home. There is a sense of freedom that is not found elsewhere. The reason farmers and their families do not appreciate it is that they have never been without it. They do not realize the difference between full and plenty, and bare economy, or in other words living in a paper sack like the majority of town people. It is in every farmer's power to have a beautiful home, surrounded with fruits and flowers; full and plenty on all sides. It may take hard work, but it brings the reward in the end. Some think they must have a fine house, large barns, and all kinds of out-buildings before they begin to live or call it home; not so, home, in the true sense, and meaning, is just what we make it. I have seen small houses with only three or four rooms and very common out-buildings, but there was the appearance of home and happiness everywhere. Farm less ground and let it be well done, it is not how much you do, but how well. There is more in how you do a thing than what you do. We see many men work hard all the time, but never make any advancement, then again there are men that never seem to work hard at all, but get rich. Those are the men with brain and they know how to put it to use. Take care of the dimes for they make dollars, and the dollars will take care of themselves. Watch the small leaks for they soon get serious if allowed to exist. We do not need to be pennurious with our families, but waste is never a good idea any place either on the farm or in the house.

Mrs. H. L. WILLIAMS.

Louisburg, Kans.

### Summer Bathing, Health and Hygiene.

It isn't every woman that knows when to bathe—Ah! no—they would resent it, perhaps, if told so. I felt indignant when a professional skin helper told me my face was not clean, but I found out she was right, for after she got through with me my wash-rag showed signs of soil. We simply have to learn the hygienic healthful mode of face washing. Let me tell the friends of the woman's page a few lessons learned from a specialist. The root of a good complexion of course is cleanliness. If the pores have been subjected to an unusual amount of soot, dust, etc., the face should be washed gently at night with good soap and water, then rub on some oil or massage it gently after that, and wipe it all off with a soft linen rag. The face should never be washed with hot water as it contracts the pores, but use warm rain water with a little powdered borax added to it to soften it.

The Persian women, so noted for their exquisite complexions, use a good deal of pulverized borax in their bath water, to purify it and to cleanse thoroughly. They do not use ointments, but instead apply daily a coating of egg. When this is dry they wash it off with tepid water with a little borax in it. The white of an egg frees the skin from its impurities and leaves it smooth and soft. It is a good plan, when returning from any out-door exercise or walk to bathe the face to remove the dust. Always keep a box of powdered borax on your wash stand and add it to your water. You want the best and purest borax, not the adulterated. Health and hygiene depend greatly upon the method of bathing—the pores must be kept upon to be healthy. The summer bathing is of great importance and should be understood. S. H.

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**On Jellies**  
preserves and pickles, spread  
a thin coating of refined

## PARAFFINE WAX

Will keep them absolutely moisture and acid proof. Paraffine Wax is also useful in a dozen other ways about the house. Full directions in each pound package. Sold everywhere.  
STANDARD OIL CO.

### Houses of Glass.

M. Jules Henrivaux, who was until lately director of the great glass factory at St. Gobain, France, believes that this century is to be the age of glass, and it is his idea that the houses of the future will be built of that material. The materials from which glass is made are inexhaustible, he points out, and when the durability and cleanliness of the material is considered it is very plain that it will be difficult to find anything better. The foundations and walls of the houses of the future will be built of a new variety of glass, he says, which has recently been discovered. This new glass is called stone glass, and in a number of severe tests to which it has been submitted it has proven to be three times as strong as granite. Subjected to heat and cold it is less sensitive than steel, and when submitted to a shock, such as the blow of a hammer, it has withstood blows twenty-two times as powerful as those that would fracture the best marble. The Frenchman says the walls of the modern house of a decade hence will be constructed of a variety of glass something like this, and will be held together by angleirons, a hollow space being left in the center for the passage of pipes, wires, drains, etc. The stairways, the ceiling and wall decorations, and even the fireplace will be made of glass, he says, and the chairs, tables, and cooking utensils will be made of the same substance. The glass house will be absolutely clean and practically indestructible. The whole of its surface inside and out can be washed at any time, and instead of brightening up the structure with a paint brush every spring all that will be needed will be a sponge and a bucket of water.

### Biggest Bishop's Throne.

Dr. Temple began his career as a bishop on the biggest Episcopal throne in Europe. It is at the Exeter cathedral. Composed of the very best oak, with magnificent carving, executed by the most expert designers of the day, the throne soars upward in beautiful tapering pinnacles which rise up to the lofty roof of the sacred edifice. The throne is not only the biggest, but one of the oldest. It was saved from destruction by the Puritans by the ingenuity of the Cavaliers, who, when the Roundheads marched on Exeter, pulled down the throne and divided it into 365 pieces—one for every day of the year. The pieces were safely secured in many hiding places, and when peace was restored the pieces were put together again without the aid of a single nail.—St. James' Gazette.

### Are You Going

to San Francisco with the Epworth League? The Union Pacific will run Special Tourist Sleeping cars every day from July 6th to July 13th, Topeka to San Francisco without change. Rate \$5.00 for double berth. The round trip rate will be \$45.00 and tickets will be good till August 31st, 1901. Stop-overs may be secured at and west of Denver. For other information see your nearest Union Pacific Agent.

## PARLOR ORGANS At a Big Reduction

The world's largest music house, Lyon & Healy of Chicago, to sharply reduce stock is offering unprecedented values. Fine Lyon & Healy Organs formerly bringing \$85, now \$35; Organs formerly \$75, now \$42.50. Used organs from \$10 up. The freight on an organ is a very small matter. We ship organs everywhere. Our organs contain many new improvements and are by far the best. Write today for catalog.  
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Address, D. L. MUSSELMAN, Gem City Business College, Quincy, Ills.



## The Young Folks.

### THE TWO HIGHWAYMEN.

I long have had a quarrel set with Time  
Because he robb'd me. Every day of life  
Was wrested from me after bitter strife;  
I never yet could see the sun go down  
But I was angry in my heart, nor hear  
The leaves fall in the wind without a tear  
Over the dying summer. I have known  
No truce with Time nor Time's accomplice,  
Death.

The fair world is the witness of a crime  
Repeated every hour. For life and breath  
Are sweet to all who live; and bitter  
The voices of these robbers of the breath  
Sound in each ear and chill the pass: by  
What have we done to thee, thou mon-  
strous Time?  
What have we done to Death that we  
must die? —Wilfrid Seawen Blunt.

### GREATNESS.

There is but one great virtue to pursue,  
One quality to seek—unselfishness.  
In its four-syllabled environment  
Lie all the other virtues; it contains  
The world's redemption.

Put aside your creed.  
Lay text-books on the shelf! Let dog-  
mas go!  
Pray much or little, but from dawn to  
dusk  
And dusk to dawn think naught, say  
naught, do naught  
To harm or trouble any living thing.

Climb without crowding others; there is  
room  
For all God's creatures in the world he  
made.  
Ask nothing for yourself but usefulness,  
Since that embraces all the ways of peace.  
Though glory weave no laurels for your  
brow,  
He who is always kind is more than great.  
—Ella Wheeler Wilcox.

### THE MAN OF THE WEEK.

John A. Anderson.

(Born June 26, 1834; died in 1892.)

Kansas is a nervous State. Her peo-  
ple are alert and restless. Some of  
them are cranks; many are reformers;  
all are workers—themselves the best  
illustration of the "strenuous life."

They do things in Kansas. Kansas  
breeds fighters of all sorts—most of  
them good fighters. From the begin-  
ning her broad area has been a bat-  
tle-ground, where ideas rather than  
arms have clashed; for little blood has  
been spilled upon her soil since Quan-  
trell's cruel raid.

The climate of Kansas is nervous,  
variable, excitable, even hysterical. Its  
normal condition is abnormal. You are  
never sure what it will do, yet you  
have every reason to believe that it  
will do something remarkable. It may  
make a tremendous crop and an un-  
wieldy Republican majority at the same  
time; it may blow hot and destroy  
both. But all the while it is making  
men,—strong, active, virile men, rep-  
resentative of its every distinctive  
mood.

A typical Kansas man, though a  
native of Ohio, was John A. Anderson,  
preacher, college president, Congress-  
man—aggressive, resourceful, and full  
of accomplishment wherever he worked.  
When he was taken from his little vine-  
yard church in Junction and in-  
stalled as president of the Kansas  
State Agricultural College, that now  
famous institution was agricultural in  
name only. It was a classical college of  
the old sort, controlled by men who did  
not believe in industrial education or  
manual training. The new president  
believed in both; and, like the typical  
Kansan he insisted in making works  
follow close on the heels of faith. He  
promptly reorganized the college, re-  
duced the course of study from six to  
four years, and so changed the require-  
ments for admission as to connect the  
college directly with the common  
schools. He made it a real agricultural  
college suited to the needs of a great  
farming State.

Anderson's views, which were revolu-  
tionary enough to frighten college men  
twenty-seven years ago, are almost  
commonplace to-day; yet most of his  
educational maxims contain good work-  
ing doctrine,—the following, for ex-  
ample:

"It is impossible for most people to  
find time to study everything that it  
is important for some men to master.

"The subjects discarded, in whole or  
in part, by each separate class of stu-  
dents should be those that it is sup-  
posed will be of least importance to  
them.

"Of those retained, prominence  
should be given to each in proportion  
to the actual benefit expected to be  
derived from it."

President Anderson required his stu-  
dents to work as well as to study, to  
acquire skill of hand as well as of in-  
tellect. He believed that a college en-  
dowed under the Morrill act should

honestly use the endowment to "teach  
such branches of learning as are re-  
lated to agriculture and the mechanic  
arts, \* \* \* in order to promote the  
liberal and practical education of the  
industrial classes." He was wise  
enough to understand that an industrial  
college could not be conducted upon the  
plan of a classical college. The two  
appeal to different classes of students  
and have different objects. So he  
equipped "work-shops in iron and wood,  
a printing office, a kitchen laboratory,  
and a sewing room" for the daily use  
of the students. The Stevens Institute  
of Technology is said to be the only  
American institution that introduced  
daily shop work ahead of the Kansas  
State Agricultural College. The prac-  
tical side of agriculture was empha-  
sized and illustrated by regular work.

Anderson's devotion to the industrial  
ideal is well illustrated by the weekly  
paper which he established and called  
"The Industrialist," the first number of  
which (published April 25, 1875) ex-  
plained its mission to be (in part) "to  
discuss the educational system and meth-  
ods of Kansas from the standpoint of  
the rights and necessities of the in-  
dustrial classes." Its influence did not  
stop at the Kansas border, but extend-  
ed to the whole country. It is still pub-  
lished, and is one of the agencies that  
has helped to make the Kansas institu-  
tion useful and famous.

Having spent five years in making  
the Kansas State Agricultural College  
ready for its mission of usefulness,  
President Anderson resigned to take  
the seat in Congress to which he was  
elected in 1878. For twelve years he  
served his district in Congress with  
great acceptability, although, as Noble  
Prentiss has said, "he was not a good,  
strict, iron-bound party man." Indeed,  
his independence of spirit cost him the  
regular party nomination in 1886; but  
the people rose against the bosses, An-  
derson was nominated by a mass con-  
vention, and secured more votes than  
both of the regular party candidates.  
The people trusted him.

Congressman Anderson should be re-  
membered for at least two bills which  
he carried through Congress—one re-  
ducing letter postage from three to two  
cents, the other making the head of the  
Department of Agriculture a member  
of the president's cabinet.

D. W. WORKING,

Denver, Col.

### Bumblebees as Toppers.

The monotonous drone of the bum-  
blebee as its rapidly moving wings balance  
it in the air before the small round hole  
giving entrance to its nursery and nest  
in rail or post or weather-boarding is  
a lulling sound in spring and summer  
to all save the small boy. The bum-  
blebee is the boy's natural enemy. It ex-  
cites him to deeds of daring and  
slaughter, for the black-head's sting is  
active as the needle of a sewing-  
machine, while the white-head's zigzag  
bluster, harmless though he is, is ey-  
eblicking and leg-stimulating.

The first money I ever earned was  
by killing "black-heads" at a cent a  
dozen.

The board covering of barns and  
wooden stock shelters is often badly  
pierced and damaged by the black-  
headed female bumblebees. The small  
hole made by them gives entrance to  
a circular boring of larger diameter  
from four to six inches long. It runs  
lengthwise of the timber, and, being  
close to the surface, rain finds its way  
in, and decay of the timber follows. In  
consequence, the farmer is often put to  
the expense of renewal or repairs.  
Hence, the value to him of dead bum-  
blebees.

My father believed in making work  
pleasant and instructive to his boys:  
pulling weeds was botanizing; picking  
stones from the mowing fields a lesson  
in mineralogy; destroying caterpillars  
and hurtful insects instructive in en-  
tomology; put paddling bumblebees  
gave real, financial reward. I have  
made as much as ten cents a day!

The white-headed bumblebee does  
not bore or do anything else. He wears  
a small square spot of white upon his  
forehead as a badge of his sex. He is  
the gentleman of the family. Last  
spring I discovered that like many other  
idlers he got on speers and died in  
consequence. On and about my house  
were numerous wistarias—beautiful,  
graceful vines first introduced into this  
country from China by Professor Cas-  
par Wistar in 1818. The long purple  
panicles are familiar to all lovers of  
spring's choicest fancies.

One morning I heard the familiar  
hum that once to me meant wealth. It  
was even now seductive. I seized a bit  
of board, my youth-time valor returned,  
and my arm was nerved for slaying.  
I traced the sound to a stout wistaria

twined about a post like a monstrous  
snake, and spreading its many-branched  
top as a vast flower-covered umbrella.  
Above the pendulous racemes hummed  
several bumblebees. Upon the flowers  
were many more, probing to the honey-  
sacs with their long tongues, and grip-  
ping with desperate greediness the pur-  
ple chalices. The sight was strange to  
me, for the insects were in various  
stages of intoxication. Upon the  
ground were dozens (from early habit  
I reckon bumblebees by dozens) dead,  
dying, drunk, helpless; some waving  
their many legs and buzzing as they  
lay—fet up—their farewell song to  
life. They were all white-heads  
(males). There was not a black-head  
to be seen.

I watched the bacchanalian feast in  
astonishment. The wistaria was an in-  
sect grog-shop; the "white-heads" its  
chosen patrons. The tiny nectar gob-  
lets of the seductive flowers contained  
their death draughts.

In many places and often I sought  
and watched the wistaria and its crowd  
of humming revellers. Everywhere the  
story was the same—debauch, death.  
Strange to say, where the wistaria grew  
I never saw a female bumblebee. Per-  
haps they left their dissipated lords.  
Perhaps they shunned the neighbor-  
hood of the slums their lords frequented.  
Be that as it may, the planting of  
the wistaria will soon relieve the farm-  
er of the pest. But from killing the  
bumblebee loss may arise—the red clo-  
ver will not be so well fertilized.—From  
"Bumblebee Taverns," by Charles Mc-  
Ilvaine, in the July Chautauquan.

### The Filipino Wife.

"The Filipinos are much as the Span-  
iards have made them. The upper  
classes adhere closely to Spanish cus-  
toms, so barring certain foolish restric-  
tions and too much 'duenna' the women  
are treated with the utmost respect and  
consideration. Among the lower-class  
natives conditions are more interest-  
ing. Long contact with the Spaniard  
has removed whatever prejudice con-  
cerning women there might have been  
in the Malay breast—for among his  
race in general she is looked upon as  
decidedly inferior—and now we are  
able to observe very amicable family  
arrangements in which the woman is  
the partner of her husband, and appar-  
ently regarded as of equal importance,  
though no particular deference is paid  
to her. In this marital partnership the  
wife is often the active member, dis-  
playing great energy, especially in  
goadng her indolent spouse to effort.  
Sometimes one of these little women  
supports the whole household. Gener-  
ally speaking, she is the more ambi-  
tious of the two, and if she does not  
actually perform all the labor of sup-  
port, the fortunes of the family may be  
dependent on her wit and enterprise.  
It is not at all uncommon for a Filipino  
wife to apply to an American officer in  
charge of a department for a job for  
her husband. I do not mean to imply  
that the wife always takes the lead, but  
if she is capable of it, she is not held  
down by thongs of custom and preju-  
dice. She is an industrious, cleanly lit-  
tle body; and she and her husband  
show a devotion to their children  
which is one of the most lovable traits  
in the Filipino character.—Anna North-  
end Benjamin, in Ainslee's Magazine.

### Paintings at Osborne.

The royal bedchamber at Osborne, in  
which Queen Victoria died, is very  
large, and, from a modern point of  
view, is simply furnished. The plain  
pink walls are hung with a number of  
fine paintings, including Raphael's  
"Virgin and Child." There are also, as  
in all rooms which were much used by  
the queen, several good portraits of  
Prince Albert.

In the stately dining room at Os-  
borne hangs the famous Winterhalter  
group of the queen, Prince Albert and  
their five children. In that room, in-  
deed, are gathered together the most  
attractive of the portraits of the late  
queen's sons and daughters, which  
form a collection of much historic and  
artistic value.—N. Y. Tribune.

### Valuable Pompeian Statue.

The fine Greek statue in bronze re-  
cently discovered near Pompeii, has  
been placed in the Naples museum,  
where examination has shown it to

## BAD DIGESTION

Imperfect digestion is more  
serious and far-reaching in  
its effect than is generally  
understood. This state of  
health is like an open gate-  
way to disease because  
germs that may be in the  
air we breathe at once seize  
such an opportunity to  
attack the vital organs.  
They slowly undermine the  
strength and energy, and a  
collapse comes—usually at a  
time when a strong healthy  
body is most needed.

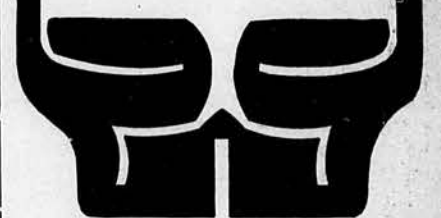
## PRICKLY ASH BITTERS

Is a fine regulating tonic  
which filters through the  
body, casting out injurious  
matter, stimulating the  
digestion and nourishing  
and strengthening every  
weakened part. It also puri-  
fies the blood, sharpens the  
appetite and creates energy.  
In this way it restores the  
system to perfect order.

For irregular bowel move-  
ments, chronic constipation,  
flatulence, belching, foul  
breath, and other troubles  
due to indigestion or ob-  
struction in the bowels,  
Prickly Ash Bitters is a  
speedy cure.

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be covered with a layer of fine silver.  
This peculiarity gives the statue unique  
value, as there is believed to be no  
other bronze statue in the world so cov-  
ered, though several of the more val-  
uable Greek masterpieces, like the bust  
of Berenice and the dancers of Her-  
culeanum, in the Naples museum, have  
their lips or their garments ornament-  
ed with silver. The fact that the  
bronze of the statue is completely cov-  
ered with the precious metal is consid-  
ered proof that the Pompeians them-  
selves valued it highly.—Chicago  
Chronicle.

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Electros must have metal base.  
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.  
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.  
All advertising intended for the current week should reach this office not later than Monday.  
Every advertiser will receive a copy of the paper free, during the publication of the advertisement.  
Address all orders:

**KANSAS FARMER CO.**  
116 West Sixth Ave., Topeka, Kans.

**NOTICE EXTRAORDINARY.  
BLOCKS OF TWO.**

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

June 1901 was 5° hotter than the average, and very much dryer.

One of the plans for heading off the Hessian fly is to plow and sow strips through the fields very early. The flies deposit their eggs in this early wheat. The remainder of the field is plowed early and kept cultivated to kill all volunteer wheat and to retain the moisture. After the flies have deposited their eggs in the early strips these are plowed very deep, care being taken to turn the wheat well under. The conditions favorable to the transformation of the flies are thus destroyed. These strips may be planted in some spring crop so that the use of the land is not lost.

While the Hessian fly has been known for many years as a great affliction to wheat-growers in the older States, it has not until recently attracted much attention in Kansas. There has been more complaint of its appearance this year than ever before, although only in scattered neighborhoods, and all familiar with the pest and its destructiveness realize the importance of taking steps to prevent its spread. Secretary Coburn, of the board of agriculture, says there is nothing so thoroughly effective in this direction as burning the stubble as soon as the wheat is removed from the field. He is of the opinion that if every one of the five million and more acres of wheat stubble which Kansas will have this year were carefully and thoroughly burned over within the next month it would do far more to destroy various harmful grain insects than any and all other means available. Fields so purged by fire this year would have much more likelihood of immunity from not only the Hessian fly but innumerable other injurious insects next season. Unless something like this is done systematically the wheat fields of Kansas,

like those of other less favored States, are likely to become the breeding grounds for pests that will be very annoying and very expensive, not only by their depredations upon wheat fields, but upon other crops as well.

**GOLD AND SILVER OUTPUT OF THE WORLD.**

The Engineering and Mining Journal shows that the United States was the greatest of gold and silver producers during the year 1900. In gold production Australia dropped from first to second place and the Transvaal, which beat this country's output in 1899, fell far to the rear, owing to the stoppage of mining operations by the war. The following table indicates the relative position of the countries named except the Transvaal, whose record last year puts it below some of the minor producers which are not mentioned:

Year	Fine ounces.	Value.
1900—		
United States.....	3,781,310	\$78,159,674
Australasia.....	3,554,286	73,467,110
Canada.....	1,359,593	27,916,762
Russia.....	1,117,054	23,090,862
Transvaal.....	348,760	7,208,069
1899—		
United States.....	3,391,196	\$70,096,021
Australasia.....	3,810,130	78,755,373
Canada.....	1,918,371	21,049,730
Russia.....	1,159,214	23,963,016
Transvaal.....	3,529,826	72,961,501

It will be observed that the mining losses in South Africa are enormous even on this showing, but it does not reveal their full extent. The Transvaal stood first in 1898 with a production of 3,777,609 ounces, valued at \$78,070,761, and it was calculated that its output in 1899 would be worth \$95,000,000, and its output in 1900, \$110,000,000. Of course, the gold is not perishable and will yet be mined, but the cessation of operations contributes largely to the industrial demoralization of the country. Comparing totals for three years the amount and value of the gold mined is:

Year	Fine ounces.	Value.
1898.....	13,900,465	\$287,327,833
1899.....	15,071,141	311,505,947
1900.....	12,381,464	255,924,654

The decrease is explained by the Transvaal, since there was an increase for all other countries valued at \$10,171,000. Last year the United States, Australia, Canada, and Russia gave 79.2 per cent of the total.

In silver this country's only big competitor was Mexico. The United States produced in 1900, 59,561,797 troy ounces, valued at \$36,576,900; Mexico, 55,804,420 ounces, valued at \$34,269,494. The world's production increased from 177,836,582 ounces, valued at \$105,900,116, in 1899 to 182,632,653 ounces, valued at \$112,205,742, in 1900. The average value per ounce increased from 58.26c in 1898, to 61.41c in 1900.

Among our own States and Territories Colorado led in both gold and silver production. The figures on gold for the principal producers are:

State	Fine ounces.	Value.
Colorado.....	1,391,486	\$28,762,036
California.....	767,136	15,650,000
Alaska.....	384,385	7,631,835
South Dakota.....	320,513	6,625,000
Montana.....	249,153	5,150,000
Utah.....	200,290	4,140,000

Utah shows the largest percentage of gain in recent years after Alaska. Utah also made a relatively large increase in its silver output. The record of the four principal producers is:

State	Troy ounces.	Value.
Colorado.....	20,336,712	\$12,488,775
Montana.....	17,300,000	10,623,930
Utah.....	9,669,183	5,876,435
Idaho.....	6,100,000	3,746,010

It will be noticed that Colorado, which was once the center of the silver propaganda, now produces gold to more than twice the value of its silver.

The production of gold has increased enormously of recent years. But great as is the value of the output of gold and silver, and important as this output is considered, it is not to be compared to the productions of the farms of the world. The farms of Kansas alone produce more value each year than all the gold and silver produced in all the States of the Union. Thus, the gold and silver mined in the United States during the year 1900 was valued at about \$115,000,000. Secretary Coburn places the value of farm products of Kansas during the same year at \$187,796,406. The Kansas mines of farm products are not likely to be suddenly exhausted, but, on the contrary, will continue increasing from decade to decade. Great is the gold and silver mining industry of the United States; greater is the farming industry of Kansas.

**GREAT EARNINGS.**

A reason for the great activity in railroad shares, and the advance in their selling prices, is readily seen when it is observed that without any considerable increase in mileage the gross earnings of the first five months of the year have risen from \$189,404,000 in 1896 to

\$294,627,000 in 1901, an increase of about 55 per cent. The net earnings show a yet more remarkable increase. For the first five months of 1896 the net earnings were \$60,818,000 and for the first five months of 1901 they were \$125,024,000, an increase of about 105 per cent.

Doubtless the economies resulting from recent consolidations have contributed to these larger profits. Some uneasiness is expressed by interested persons lest these great profits shall stir up discontent among the people. The wage and salary earners who do the work of the railroads are liable to think that capital ought to divide with them more liberally. Such conviction finds its remedy not in legislation, but by the summary methods of the demand and the strike. The great public served by these carriers learned many years ago that railroad charges are subject to regulation by law within the limits of fair profits on the investments. The doubling of net earnings in five years is liable to suggest to some that further reduction of rates is in order. Probably this possibility has been anticipated in recent deals whereby \$360,000,000 of railroad stocks have been replaced by \$550,000,000 of railroad bonds. The interest on bonds is classed by railroad managers as a "fixed charge." Courts have generally held that, while legislation, yet such regulation by legislation, yet such hregulation must allow the corporation to earn its fixed charges and a reasonable rate on the investment, otherwise the law is unconstitutional. Doubtless the time will come when the courts will look into the origin and nature of "fixed charges." They seem as liable to watering as are stocks.

**HUMUS VS. DROUGHT.**

A drive into the country a few days ago confirmed the reports that much of the corn in Shawnee County is greatly injured for want of rain. Some stands are uneven. In some fields the plants look as if they would grow if rain comes soon, while in others the injury has gone so far that a short crop seems certain. Some two miles east of Pauline a field was seen at a distance which had made a good growth, and appeared to be doing well. Inquiry brought out the fact that the field had been heavily manured last year and had been in Kaffir-corn.

On the farm of Mr. W. E. Rentfro, about 2 miles south of Topeka, a new was passed in which the corn appeared as properous as if the season had been ideal. This field was in corn last year. It was formerly a prairie pasture, but had been eaten out and was plowed and planted for the first time in 1900. Cultivation this season was as frequent as if the field had been full of weeds.

These two instances confirm the views which have been expressed by many good farmers that drought has few terrors for the farmer whose soil is well provided with humus. Manure and rotation with grass, clover, or alfalfa, supplemented with frequent surface cultivation, will carry corn through almost any season ever experienced in eastern Kansas.

For the fields which are now hanging in the balance between life and death the safest plan is to drill some crop between the rows. Some prefer cane, some Kaffir-corn, while others use soy-beans or cow-peas. Any of these will probably make feed, and feed promises to be synonymous with money to an unusual degree before another season.

**ALFALFA VS. RED CLOVER.**

Not very long ago it was thought that alfalfa, while a great crop for western Kansas, would never prove a success in the eastern end of the State. Some are of this opinion still. There are entire neighborhoods in eastern Kansas where the opinion is universal that alfalfa is, and always must be, a failure in such neighborhoods. On lands where the surface water is soft alfalfa may make but an insignificant growth, but on all soils which are impregnated with lime alfalfa should do well.

On last Friday the writer had an opportunity to compare alfalfa with red clover. On the farm of Mr. E. S. Arnold, near Pauline, in Shawnee County, a field, in which there were scattered bunches of alfalfa, was last year sown to red clover. The clover made a good catch. This season a fine crop of hay—mostly clover—was cut at the usual time. The second growth of clover and alfalfa are now on the ground. The clover is about 2 inches high and looks discouraged on account of the dry weather. The bunches of alfalfa

throughout the field are about 15 inches high and exhibit little sign of dry weather.

By late summer sowing a stand of alfalfa may be had almost as easily as a stand of clover, and without losing the use of the land for a season. The alfalfa will thereafter be a surer crop than clover, will yield 2 to 4 times as much hay per acre per season and will enrich the soil even more than would the red clover. Clover is good, but alfalfa is better. Clover will bring prosperity, alfalfa will bring affluence.

**NATIONAL LIVE STOCK ASSOCIATION.**

The fifth annual convention and the second annual exposition of the American National Live Stock Association will be held at Chicago, December 3-6, inclusive.

Says the president of the association: "This will be the most notable convention in the history of our organization and will command an attendance of 250,000 people. We have arranged for some of the ablest talkers in this country and abroad to discuss topics of interest to up-to-date stock raisers. The sessions will be held from 9:30 a. m. to 1:30 p. m., the adjournments being taken early because of the splendid exhibition of horses, cattle, sheep, and hogs ever brought together in this or any other country. One day of the convention will be devoted to matters affecting legislation."

**Shawnee Horticulturists.**

The next meeting of the Shawnee County Horticultural Society will be held at Vinewood Park, Thursday, July 11. This will be a picnic meeting and is expected to be one of the best attended of the year. The Vinewood Park Railway Company will run special trains at hours to accommodate people who desire to go from the city to the park. A train will be run at ten o'clock in the morning from the Topeka station at Tenth and Hancock and another at half past one in the afternoon. Other trains will be run between those hours whenever there are enough people at hand to make a train load. Returning, the train will leave the park at 4:30. Lunch will be served at twelve o'clock by the ladies of the society. The program will be taken up at two o'clock as follows:

"Gardening for Profit," E. P. Rude; "Picking and Packing Apples," Geo. Whitaker; "To What Extent Can Horticulture be Annexed to Practical Farming," Philip Lux.

**ONE HUNDRED BALANCED RATIONS FOR A MAN.**

MARY WAUGH SMITH.

A subscriber to the **KANSAS FARMER** has written asking for a hundred balanced rations for a man. All other farm animals, he says, have been well looked after, and now he would like to know what he is to eat for best results. We will endeavor in a series of articles to treat this subject in a way to be profitable to the readers of this paper. The first rations given will be for men at moderate work. Later, articles will treat of diet for the sick, balanced rations for brain workers, cheap vs. dear food, preparation of various foods for best results, and health governed by food.

In adjusting the food eaten for the demands of the body it is necessary to provide sufficient protein for the building and repair of the tissue, and sufficient heat producing food to develop energy, to warm the body, and accomplish work. For example, a man with light exercise, such as a book-keeper, will require about .22 pounds of protein and 2,980 calories of energy, while the blacksmith, at heavy muscular work, it is calculated, will require all of .33 pounds protein and 4,060 calories of energy each day. The body may be considered as a machine, and the food the repair material and fuel necessary to run it. Where much energy is required more fuel is necessary. Prof. W. O. Atwater, chemist in Wesleyan University, gives as a dietary standard for a man in the United States, at moderate work, .28 pounds protein and 3,500 calories of energy. A woman requires about .8 as much as a man.

Different people differ greatly in the amount of food that is utilized, therefore, it is impossible to give any ration that will be a balanced ration for everyone. There is much to be gained in eating for certain results, it is true, and it is especially well to eat enough without overeating. Half the doctors would be out of work if people ate what was needed, when it was needed, and then quit there.

The following dietaries give the

amount of food necessary for an average man at moderate work for one day. In obtaining the number of calories, protein and carbohydrates were figured on the basis of 1,860 calories to the pound, fats on the basis of 4,220 calories to the pound.

DAILY DIETARIES.

Food.	Oz. used.	Protein.	Calories.
Ham.....	8	.07	870
2 eggs.....	3	.03	135
Liver.....	8	.10	330
Potatoes.....	12	.01	240
Bread.....	9	.05	750
Butter.....	2½	...	565
Rice.....	1	...	100
Sugar.....	3	...	345
Milk, ½ pint.....	8	.02	165
Total.....	28	...	3,500

Food.	Oz. used.	Protein.	Calories.
Dried beef.....	3	.05	140
Leg of mutton.....	10	.09	580
Potatoes.....	8	.01	160
Canned corn.....	4	.01	130
Bread.....	10	.06	800
Butter.....	3	...	680
Oatmeal.....	3	.03	345
Milk.....	12	.03	244
Sugar.....	4	...	460
Total.....	28	...	3,540

Food.	Oz. used.	Protein.	Calories.
Pork chops.....	8	.07	665
Dried Cod.....	2	.03	40
Cheese.....	1½	.03	195
Sweet potatoes.....	8	.01	210
Beans.....	5	.07	505
Bread.....	8	.04	640
Butter.....	1½	...	340
Baked apples.....	16	.01	255
Sugar.....	3	...	345
Milk.....	8	.02	165
Total.....	28	...	3,360

Food.	Oz. used.	Protein.	Calories.
Surloin steak.....	8	.08	485
Mutton chops.....	5	.04	465
Sweet potatoes.....	16	.01	420
Beans.....	5	.07	505
Turnips.....	4	.002	35
Lettuce.....	2	.04	640
Bread.....	8	.04	340
Butter.....	1½	...	40
Berries.....	4	.002	345
Sugar.....	3	...	240
Milk.....	12	.03	240
Total.....	274	...	3,525

Food.	Oz. used.	Protein.	Calories.
Chicken.....	8	.08	160
Beef, neck.....	12	.12	660
Canned corn.....	4	.01	130
Mashed potatoes.....	3	.006	100
Beets.....	4	.003	145
Onions, boiled.....	3	.003	140
Bread.....	9	.05	720
Butter.....	2½	...	565
Trappee pudding.....	6	.001	100
Milk.....	4	.01	345
Sugar.....	3	...	82
Total.....	283	...	3,247

Cow-Peas as a Second Crop.

PRESS BULLETIN BY PROF. H. M. COTTRELL, KANSAS EXPERIMENT STATION.

Cow-pea hay is nearly equal to alfalfa in feeding value and contains nearly one-half more flesh-and-milk-making material than clover hay. It is rich in the mineral matter that is needed in forming bone, blood, flesh, and milk. These qualities make it especially valuable for feeding growing cattle, pigs, dairy cows, and fattening steers and hogs. The cow-pea enriches the land on which it grows the same as alfalfa, clover, and soy-beans. It makes hard soils mellow and aids in holding loose soils together and stands drought well. In Kansas, cow-peas can often be grown as a second crop after wheat and oats.

July 16, 1900, F. A. and F. C. Abbott, Manhattan, Kans., planted 15 acres of cow-peas on oat stubble on sandy river bottom. A crop of oats was grown on the land and harvested. After the oats were stacked the ground was listed, the lister opening the furrows in the oat stubble just as it was left at harvest. The furrows were run about three feet apart, and the cow-peas were drilled in the bottom of the furrows with an ordinary one-horse corn-drill, 4 bushels of seed being used to plant 15 acres. The drill did not cover the seed well and the ground was harrowed to get more dirt in the furrows. The Whipoorwill variety was used.

The beans were cultivated twice with an ordinary two-horse cultivator. This left the ground nearly level at the last cultivation. The season was very dry, but the beans made a heavy growth and at the time of cutting, October 4, stood two feet high and covered the space between the rows.

The Abbotts tried to cut the crop with a mower, but found this unsatisfactory as the mower could not reach the vines that were on the ground, and with part of the vines cut and part uncut it was difficult to gather the tangled mass. Finally, after consultation at the Kansas Experiment Station, the Miller Bean Harvester was tried and found to do the work just right. This machine is made by the Le Roy Plow Company, Le Roy, N. Y., and was designed for harvesting navy beans, but it was found just as successful in harvesting soy-beans and cow-peas.

With the Miller harvester, two rows

were cut at a time, the knives cutting off the plants just below the surface of the ground and the wings above the knives throwing the vines from the two rows together into a windrow. The vines were put up in small cocks, where they were left to cure until dry enough to stack. The yield of hay was estimated to be 1 ton per acre, possibly a little more.

June 23, 1900, the Kansas Experiment Station plowed ground from which wheat had been harvested and planted it to Whipoorwill cow-peas, using an ordinary press-wheel grain drill and letting the seed from every hole. The ground was dry and no rain fell for some time. Many of the cow-peas sprouted and died, and not over one-third of a stand was secured.

When the soil is sufficiently moist, we recommend surface planting; when dry we advise listing. The college has no seed for sale.

Grain Markets.

Conducted by James Butler, secretary of the Farmers' Co-operative Grain and Live Stock Association.

Grain Markets to 2 p. m., July 2, 1901.

The wheat situation seems to become more congested than ever. Every report indicates an enormous yield of winter wheat, with the most flattering prospects for spring wheat to force depression of price. Swartz & Dupee of Chicago, perhaps one of the best informed grain firms in America, estimate the exportable surplus of wheat from this country, based upon present prospects, as 325,000,000 bushels. This is over 100,000,000 bushels more than we ever did export, and unless the spring wheat situation materially changes for the worse there seems to be no hope for better prices, especially when the foreign situation from the best trade journal in Europe is considered, which we quote below:

"London, July 1.—The Mark Lane Express, in its weekly review of the crop situation, says to-day:

"The official report giving the yield of the Indian wheat crop as 30,926,000 quarters should mean that nearly six millions will be available for export, but as the granaries are completely depleted it is not likely that more than three millions will be exported."

"Summarizing the continental position the Mark Lane Express says it expects over the average wheat yield in Russia, Spain, Servia, an average yield in Italy, Austria-Hungary, Roumania, and the Netherlands, and below the average yield in Germany, Poland, and Scandinavia.

"The feature of the corn trade continues to be spirited competition of Roumania, Bulgaria, and Turkey with the United States and Argentina."

Corn prices have done fairly well this week; a good advance has been established, the dry weather being largely responsible for the advance and unless copious rains cover the corn belt within a few days much higher prices may be looked for.

The several cash markets closed stronger to-day—July 2—at the following quotations:

New York.—No. 2 red wheat, 73¼c; No. 2 corn, 49¼c.  
 Chicago.—No. 2 red wheat, 66¾c; No. 2 Kansas hard wheat, 67½c; No. 2 mixed corn, 45c; No. 2 oats, 29¼c.  
 Kansas City.—No. 2 hard wheat, 61½c; No. 2 white corn, 50c; No. 2 mixed corn, 48c; No. 2 oats, 30½c.  
 Topeka, Kans.—The Topeka mills are paying Kansas City prices for wheat, based on Kansas City freight.

Grain Trust Will Try Schemes.

The Grain Trust will try to boycott the Farmers' Co-operative Grain & Live Stock Association. It will tell our members that we can not sell their grain to best advantage. It will picture to them many calamities if they consign to us. It will try to get buyers, millers, and exporters to agree not to bid for our grain. Then, if it fails in all this, it will send men to your station to bid on your grain and may run the price above the market temporarily to create discord, and in its attempts to show to you there is no need for a State organization. It will dwell in the most glowing terms on our contract with you—and will attempt to convince you that your organization is robbing itself. It will try to convince you that the Farmers' organization is in the hands of ignorant, deluded agitators whom you can not trust.

Its purpose in all this is to prevent you from patronizing the State Association and starve it out of existence. If the local associations and farmers can

be deluded in this way regarding the State association they will proceed to do the local organizations in like manner until, they can push a few of them over the dump and then herald the news to the world of these failures and proceed with its cobwebs to catch the flies until there are no flies. With the State organization out of the way the local organizations will be easy prey for the trust and they will be forced to the wall in short order.

The grain trust reasons well the effect of failures—it means that it would take years to effect another organization over the grave of the one already organized and would give them an indefinite lease to practice extortion on the farmers and it would then continue to rob them as it has in the past. The hope of the trust at present is, that it can work on the local organizations—create jealousy and prejudice against the State association—buy their grain on track, or in the elevator—and thereby prevent the State association from securing enough business to keep it alive. While it is at this work it will pick out the weakest local associations and push them to the wall, publish their failure broadcast to the world and at the end of a year they predict they will have all the Co-operative associations out of the way.

Are you as an individual assisting them? Is your organization going to play into their hands? Farmers generally speaking will not be lured into the enemy's camp.

The American Elevator and Grain Trade Don't Like Co-operation.

Just how much of a pipe dream this recent co-operative movement in Kansas is, or may turn out to be, remains to be seen. In addition to the association named above, probably a dozen farmers' companies, perhaps more, have been organized this spring in Kansas, eight during the last half of May especially to cooperate with the association named. Through these associations it is expected to force the railroads to supply cars to scoopers more promptly than they have in the past year or so. It is also possible that some co-operative elevators may be built, but probably not many—the farmer hates to put up cold cash now for a probable profit some time in the indefinite future.—The American Elevator & Grain Trade, Chicago.

It is very plain that the only hope of the agents of the grain dealers and the grain trust is based on the hope that farmers will not give the movement their hearty support—will not back the enterprise with sufficient cash to make the business a success. If the farmers stand up like men and act wisely in their own interest, the grain dealers who have been reaping such a rich harvest, know that they can no longer garner wealth from other's toil. On the other hand it does not require a wise man to predict failure if the farmers refuse to support their own organization. If you are standing back neglecting to assist the farmers' co-operative movement you are doing just what the grain trust wants you to do.

How to Ship Your Grain.

Examine the car and see to it that it is swept and clean. Refuse cars that have carried hides, grease, kerosene, or any other substance leaving an odor. See that your car is well coopered, every crack closed and every hole nailed up; especially see to it that protruding nails around the base of the car outside and inside are driven down and that there are no leaks around the grain doors. See to it that the grain doors are well fastened down at bottom, for often the pressure of the grain when continually jarred in transit, springs the center of the grain doors until grain leaks out. Don't forget the cars get rough handling while in transit. No matter what market you ship to, your grain will be inspected by a public inspector. If you have any inferior or dirty grain do not put it on the bottom of a car, for it will surely be detected in unloading, and the grain would then be reinspected according to the lowest sample found in the car. By getting your neighbors to join with you, you can order cars and ship from the track where you have no elevator. You can load one car at a time and each assist the other in loading.

Good Things Accomplished.

The value of a State association of grain growers has already been demonstrated. At a meeting of the millers of Kansas at Topeka last week, A. P. Collins, of Salina, one of the directors of the State Grain Grower's Association, went before the millers and presented the market situation to them from the

producers' point of view, showing that the millers and the grain producers ought to be on friendly terms. As a result trade relations will be established between the two associations to the mutual profit of both. It could not have been accomplished without a State association.

Last week the co-operative elevator at Solomon took in 100 loads of wheat, and during the same time the trust elevator nearby got only two or three loads. During the week the farmers' elevator shipped 7 carloads of grain, 1,000 bushels to the car. This, too, is all old grain. When the new grain comes on the market the farmers' elevator will do an immense business.—Salina Herald.

The Grain Trust Active.

It is buying out individuals and tightening the grip.

Members of the trust are each looking for their "share" of the farmer's grain, as witness the following from McPherson:

McPherson, Kans., June 26.—In anticipation of the immense wheat crop of this county, the Peavy Grain Company of Minneapolis, Minn., has bought the old Berg elevator at this place and is having it repaired, and will fill it with grain as soon as possible. The Hall & Robinson Grain Company, of Kansas City, has bought the Kuns elevator and will also be ready to take care of its share of the crop.

McKinzie says: "The new concern (The Farmers' Co-operative Grain & Live Stock Association) was organized because the farmers thought the grain buyers were making too much money. This is not true. The concern was organized to enable farmers to get something near what their grain is worth in the markets of the world. The fact of the matter is, that had the great shipping interests been satisfied with reasonable profits no farmers' association would have been organized. Look at the twine trust in this State. The farmers of Kansas with other States had been ground by the cordage trust until the pressure was unbearable, and as a result the State stepped in, (with its prison labor to be sure), but it intervened, and as a result the saving on the twine this year is at least 50 per cent over two years ago. The trusts will learn their lesson sooner or later.—The Better Way.

The State organization of the Farmers' Co-operative Grain & Live Stock Association is of greater immediate importance than the local organizations. Farmers of means should keep this in mind while working for their local organization. An independent commission house at Kansas City is indispensable if we would benefit from the local organizations. In order to defeat this plan for an independent commission house, various grain dealers at Kansas City are sending out circulars containing flattering offers. There is something suspicious in this sudden show of friendship for the farmer. Beware! Beware!—Oakley Graphic.

Do you not know that the grain dealers are organized in this State for the express purpose of acting together, in the interest of themselves? Do you not know that from the result of their organization they have been enabled to charge you from 2 to 6 cents per bushel as a margin for handling your grain? Are you willing to pay this levy on grain? If not what do you propose to do about it?

The Farmers' Grain & Live Stock Association has facilities for selling grain and live stock equal to any of its competitors, and can take care of your business and secure for you the best market price. If you desire to ship write to the secretary at Topeka, Kans.

The grain dealers claim that the farmers have not sense enough to handle their own grain without the assistance of the regular grain dealers association of the State.

Not Yet Qualified.

Gussie Goff—It was great, old man, the way you kept on foolin' without swearing.

Cholly Tee—Humph! D'ye suppose I was going to make an exhibition of myself before those caddies with me awkward only half learned?—Puck.

If your brain won't work right and you miss the snap, vim and energy that was once yours, you should take Prickly Ash Bitters. It cleanses the system and invigorates both body and brain.

Horticulture.

Past, Present, and Prospective Horticultural Work.

(Continued from last week.)

AN EXAMPLE.

I remember once passing a farm, with a gentleman of wide observation and good powers of discrimination, and he pointed out a farm and said that he had always wanted that place, and that if he were to buy in that neighborhood that he would give ten dollars an acre more for that than any other farm in the vicinity. I asked why? His answer was that it pleased him and he had always admired the place. I then took a careful survey to try and determine, if I could, why he had placed such an estimate on that particular place. The house was no better if as good as many others in sight, the barn was no larger and only compared favorably with an average of the same neighborhood; the grove and orchard were neither larger nor better, for if any difference both were smaller, and the only difference I could see was that the trees for shelter and ornament were selected with more care and judgment; there was a proper proportion of trees, shrubs, and flowers, for there were flower beds. The distance from house to barn and out-buildings was about right, being near enough to be convenient and yet far enough to avoid annoyances or the danger of fire spreading should one of the buildings burn, that the rest might be saved. Then, as I calculated, the main difference was more care and better judgment in the arrangement, the greater taste and care in planting and keeping up, and certainly there had been no more money employed than on the average farm and yet the estimate of eight hundred dollars more than for any of the best in the locality was made because of appearances due to the little details that I have named. This farm was a home in the real sense of the word, and yet did inclination or necessity compel a sale there was the advantage of being able to obtain a better price and a reader sale. And, while we may expect never to sell, yet the time may soon come when it will be desirable or necessary, and so it will pay any one in preparing a home to so plan that if a sale is necessary that no more loss than possible shall be incurred and if possible that a premium will be paid by the purchaser for the work done. So many examples of the kind have come within my knowledge that many illustrations could be given, but it is unnecessary.

IMPROVE HOME SURROUNDINGS.

With the highest rate of intelligence in all the world, with the best means of any rural people on earth, with the most stable and popular government among men, with every incentive to improvement that any people can have, with nothing but climatic difficulties to overcome, why not begin to advocate better home surroundings. There has been a great cry raised in the last few years as to how to keep the boys and girls on the farm. The solution is to get them interested in the farm; make home and its surroundings so inviting that they will have no desire to leave, and, if they do leave the contrast will be so unfavorable that a longing will soon develop for a return to the scenes of childhood, where vigorous middle age and even old age will be passed under conditions favorable to longevity, virtue and happiness. There are no insurmountable obstacles in the way. Only energy and the employment of our knowledge and observations are necessary to insure success. But, as a people, we are inclined to procrastinate. It is better to plan and commence now, to pursue with energy, even though but little time or money can be devoted to the work than to put off until next year or next decade to begin. Besides those who are to be most benefited—the young—are with you to-day and may not be later on. If the partner of your life's joys and sorrows is with you still try to make home ideal before she passes to the other land, for we have the present, but we have no assurance for the future, so let us be up and doing and not longer wait to begin.

WHERE EFFORT IS UNNECESSARY.

Mention was made of climatic difficulties. Did you ever think how people do in countries where climatic difficulties are unknown? If not, then be assured that in those favored places but few, very few indeed, have means or inclination to plan and plant, or even

enjoy the things that nature, in such great profusion, would afford for well-directed effort. Where nature does so much the people do little. Nature in her bounty, in years of plenty affords plenty indeed, but when years of failure come then famine, pestilence and death stalk forth and devour without mercy, and then the poor people are without hope and suffer and die. So the very things that, as some suppose, are our great drawbacks, give a stimulus to greater effort, make us more provident and so, as a matter of fact, we are better provided with the necessaries and even the luxuries of life than those who dwell where it is perpetual summer and where nature is so lavish of her productions.

THE BEST HOMES ON EARTH.

Then let us take courage and persevere. Let us hope and believe that the future, the near future, holds in store remarkable results for the home maker. Let us believe and let us work to that end, that every home shall have its delightful home grounds; that every farm shall have an orchard, a vineyard, small fruits, vegetable garden, lawn, and flower garden; that the home will be provided with the things necessary to promote comfort, to give contentment and pleasure, and in these ideal homes better men and women will grow up to perfect manhood and womanhood and go out in life to benefit and bless those with whom they come in contact. We now have the best homes on earth, but there is room for improvement, not only in physical conditions but in moral development, so that when thinking of home building let us consider character-building, and then those who go out from these perfect homes will have the intelligence and the incentive to erect like homes, and from such homes must come the bone and sinew of the future rulers of this nation, the greatest nation in recorded history.

THE BEST PEOPLE ON EARTH.

We now have the best and wisest people on earth. It has been a great study with me to observe people and try to find out their mode of thought and action and it has come to me as a conviction that the reason our people are wiser and better than other people is because of the better home-life of our people. Here we have more after a living is provided than any other people; wealth is more evenly divided; intelligence and education are more common; here there is less of class and little or none of caste. In other countries there are barriers that block the way to advancement; here all are free and, under the law equal, and energy and intelligence are sure of a reasonable reward; here virtue and correct living afford the greatest enjoyment and are sure of reward; if none other, than the consciousness of well-meant efforts.

The future is to be what we and others like us make it, and with the great advantage this country has, in the present high standard of living, the greater earning capacity, the general diffusion of intelligence, the good education and the facilities for greater advancement and study; all combine to give hope, yea, certain promise of great results in the future.

In order to reach best results there must be good home conditions. The work of the horticulturalist will precede the work of the moralist and, even after religion shall step in to mould and modify the lives of those born and reared in those splendid homes we shall have in the future, much of the comfort and even much of the incentive will come from the surroundings and so, in my judgment it is essential that there shall be improvement and that a high standard shall be raised, reached and maintained. Then let the young be brought under the beneficent influences of those lovable beings in the home, the wife, the mother, the sister and the daughter, aided and supported by the husbands, fathers, brothers and sons, encouraged and benefited by society, church, and state, all working in harmony for the general welfare and happiness, not only of the young but of all humanity. Thus we will continue to be the wisest and the best people on earth, striving to aid and assist our fellow men, and, while, like charity, beginning at home, we should cultivate the feeling that all human beings have a claim on our kind offices, so that we may go out into the world doing good unto all. Much has been given us and of us much will be expected. No other people have been so favored and no other people have such wonderful power for good, and of all the occupations to benefit and ennoble, none surpass horticulture. Our motto should be more and better homes, and let us weary not in well doing.

- ARMSTRONG & McKEVY Pittsburgh.
BEYMER-BAUMAN Pittsburgh.
DAVIS-CHAMBERS Pittsburgh.
FAHNESTOCK Pittsburgh.
ANCHOR Pittsburgh.
EOKSTEIN Cincinnati.
ATLANTIC
BRADLEY
BROOKLYN New York.
JEWETT
ULSTER
UNION
SOUTHERN Chicago.
SHIPMAN
COLLIER
MISSOURI St. Louis.
RED SEAL
SOUTHERN
JOHN T. LEWIS & BROS CO Philadelphia.
MORLEY Cleveland.
SALEM Salem, Mass.
CORNELL Buffalo.
KENTUCKY Louisville.

DON'T jeopardize your insurance by burning off old, cracked and peeling paint.

Avoid the necessity for the dangerous paint burner by using only pure "old Dutch process" White Lead, the only paint which never cracks nor peels and can always be renewed without burning off. These brands are genuine.

By using National Lead Co.'s Pure White Lead Tinting Colors, any desired shade is readily obtained. Pamphlet giving valuable information and card showing samples of colors mailed FREE to all applicants.

National Lead Co., 100 William Street, New York.

Cabbage Worms.

EDITOR KANSAS FARMER:—What shall I do to keep the cabbage worms off of my cabbage? BEN G. CONIERSE. Gypsum, Saline Co., Kan.

Answer by Prof. Jesse B. Norton, Kansas Experiment Station.

The cabbage worm is a pest that will probably always be with us. Although there are three common species, their habits are practically the same, and the remedies for one will do equally well for the others. Careful work in the spring will reduce the numbers later in the season, but the butterflies from one neglected patch will fly to the surrounding fields and re-infest the ones that have been treated. Just after the worms appear in spring careful hand picking of the entire cabbage field reduces the first brood greatly, and affects the numbers of the later broods which do the most damage.

Powders and sprays of different kinds have been recommended by various writers, and some seem to be of sufficient value to pay for the time spent in putting them on.

Pyrethrum, and white hellebore, can be applied as powders, and in experiments conducted this year gave excellent results when applied together, using 1 part of pyrethrum to 2 of hellebore. This mixture acts quickly, killing the worms by contact, and also acting as a poison when eaten. The odor of the pyrethrum affects the worms at some distance from the powder. This mixture can be applied with a powder gun or any other device for

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

CIDER PRESS advertisement with image of a hydraulic press. Text: One-third more cider with the HYDRAULIC than with the old style press. Send for Catalogue. It's FREE. Davis-Johnson Co. Western Agents, HYDRAULIC PRESS MFG. CO. 41 W. Randolph St., CHICAGO.

The Challenge Fruit Press and Colander advertisement with image of a woman using a press. Text: This press is especially adapted to the working of fruits of all kinds for Fruit Butter, Jellies, Catsups, etc. It is also the best family Lard Press made and by its use the hands are not burned or stained. It does more work in an hour than can be done in one day with an ordinary colander. Agents wanted in every county. Send for terms and testimonials. Also how to secure one Free. Secure agency early. Alanson Sales Patented: June 7, 1898, Nov. 7, 1899. Kansas City, Kas

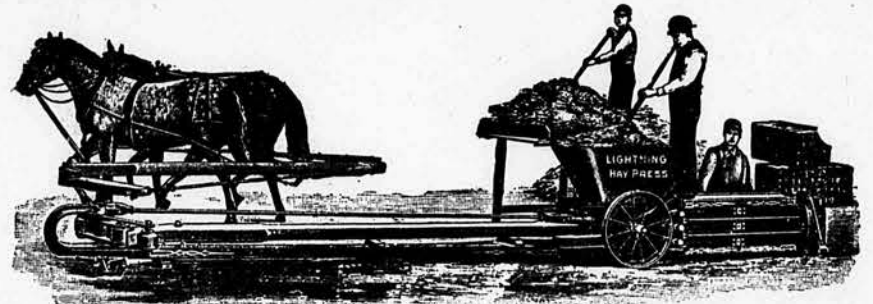
WE GUARANTEE TO SAVE YOU From 15 to 75 per cent. on any of the 10000 articles listed in our large catalogue of drugs, medicines, home remedies, extracts, paints, oils, trusses, etc. Send 10c for catalog, amount refunded on first order. The Only Mail Order Drug House in the World. Heller Chemical Co., Dept. 47, Chicago, Ills.

Profitable Methods of Handling Hay.

It will be surprising to very many of our readers to know the value and amount of the hay crops of this State. The figures for 1899 show a valuation for the hay crop of Kansas of \$18,045,678.00. The amount handled increases each season and improved machinery is a necessity to handle the crop profitably.

We frequently find that there is not enough attention given to the idea of baling hay. It is, of course, well known that for shipping purposes the crop must be put in this form, and if kept loose it can only be disposed of locally. It is a good plan, therefore, for the owner to have his material baled, so that he may be in a position to sell either locally or to ship to other markets, taking advantage of high prices that may be ruling.

Even if not shipped, there is a great saving by having the crop baled. The material by this means is reduced to one quarter its original bulk. It would, therefore, take up only about one fourth of the room, thus saving



the expense of storage. In addition to this, baled hay keeps better, is more easily handled, and is less liable to fire. It is considered that one man can feed a much larger number of cattle by using baled hay, which, in itself, is quite a saving. There is also less waste on such a basis. Owing to improved machinery, the cost of baling is now comparatively small. We consider these as matters that should have the attention of all parties raising hay, either for their own use or for shipment.

To parties who make hay baling a business, it is very necessary that they should use standard machinery, embodying durability and capacity. We call attention to the advertisement of the Lightning Hay Press, made by the Kansas City Hay Press Co., of Kansas City, Mo. These presses have been on the market for many years and are extensively used in all States where hay is a crop.

The long experience of the manufacturers enables them to make a very high grade of machinery, which they offer at reasonable prices, considering construction and capacity. We think it will pay our readers to correspond with them and obtain full particulars.

applying powder. It can be diluted with about five times its bulk of flour in order to make a more even application. In case no powder gun is to be had the mixture may be sprinkled over the plants by dusting it out through the meshes of a gunny sack.

Paris green can be applied as a powder or as a spray. As a powder dilute it with 5 to 10 times its bulk of flower, and apply as described above. As a spray, put it on at the rate of 1 pound to 100 gallons of water. This does not stick to the leaves well and should be put on with a very fine spray.

Kerosene emulsion can be used, but when put on too strong is apt to hurt the heads.

The plants should be treated every ten days or two weeks. The Paris green should not be applied after the heads get well started. The pyrethrum and hellebore mixture is not apt to have any injurious effects, and in any case will not be found on a well trimmed head.

**Transplanting Big Trees.**

A woman of means who owned a handsome country home on the Hudson, was very fond of two beautiful beech trees which stood near her residence. A few seasons ago she bought a house at Newport, and decided that thereafter she would spend her summers at that resort of fashion. Accordingly she sold her place on the Hudson; put in parting with it she could not bear to leave behind her favorite beeches. She consulted a firm that is engaged in the business of moving large trees, and they undertook the task of transplanting the two full grown beeches from eastern New York to Newport. The undertaking was carried out with great care; the trees were taken up, placed on scows, carried down the Hudson and up Long Island Sound to Newport, where they were set up before the woman's new residence. A quantity of the soil of their former home had been brought along to sustain them until they should become accustomed to their new surroundings, and the trees received every reasonable care and assistance. The experiment was a complete success. The moving of these two trees is said to have cost their owner thirty thousand dollars, and the feat is probably the long distance record for the transplanting of trees.—Earl Mayo in the June Woman's Home Companion.

**Grange Department.**

"For the good of our order, our country and mankind."

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. Bacheider, 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.

**The Farmers Need a Business Education.**

Education of farmers was the idea most prevalent with the organization of the Order of Patrons of Husbandry. It was supposed that men and women, by frequently meeting together and discussing questions pertaining to the farm and household, would be greatly benefited. Hence education was made the corner stone of this grand farmers' organization. Perhaps no single agency has accomplished so much for those engaged in agriculture as the grange, and the fact that each year witnesses a marked advance in its character, is one of the assuring signs of the times.

There is no occupation in which sharp competition and improved methods have made it so necessary to keep abreast or even ahead of the times as farming. Thus it becomes absolutely essential and important for the farmer

to improve every opportunity and means to broaden his views, that he may attain the highest order of intelligence to be applied successfully in advancing the science of agriculture.

What kind of an education should the farmer have? Whatever the opinion that may be entertained in regard to the farmer's education, all will agree that one of the most essential branches of that education shall be a thorough training in business affairs. It is equally necessary that he should be a man of business as well as a producer. It is one of the hopeful signs of the times that so many farmers' sons are thoroughly educating themselves in business affairs. This is a guarantee that the farmer of the future will take a higher standing, be more independent and self reliant.

There is every reason to believe that the plan of "nature teaching," as proposed by Cornell University, may prove a grand success and be of very great benefit to farmers' children. The element of education which is at present most lacking in our common schools is the training of the powers of observation. The children need above all things to be taught to observe carefully and correctly, and to state their observations in clear and terse language. The ordinary child, whether on the farm or in the town, actually sees comparatively little in the world about him.

The wonders of the trees and plants in park or meadow, of birds and insects flying about the house, float like shadowy visions before the eyes. "Seeing, he sees not." He needs a teacher who can open his eyes and fix his mind on the realities among which his daily life is passed.

This accurate observation of natural objects and facts is the only foundation on which scientific attainments can rest. The scientist is chiefly a man who sees better than his fellow men. But it is also a great help in practical life. Many farmers acquire much of this power by their own unaided efforts. And these are the very men who most regret that they did not have in early life the help of a trained teacher. The farmer's child lives where he has the best opportunities for such training. It would benefit him in the practice of his art and it would add an interest to his life which would do much to wean him from a desire to leave the farm for the turmoil and uncertain struggles of the town. With proper provision for the training of teachers in normal and other schools within a few years. And it is such teaching that the child mind craves. With it the school becomes a delightful place and the teacher an angel of light. And the leaflets which the College of Agriculture of Cornell University is issuing show how vitally this nature teaching may be made to affect agriculture, though it is not in itself the teaching of agriculture.

The grange has a tendency to erase partisan lines and to make its members believe that the principles which, if carried out, will result in the greatest good of the whole are the principles to be advocated and made the law of the land.

Some men become tongue-tied the minute they get on their feet and want to talk right out in meeting. Repeated attempts will cure the difficulty. The cure is worth a trial.

**Farm Notes.**

N. J. SHEPHERD, ELDON, MO.

Bad fences make breachy stock. Good grooming makes sleek, healthy horses.

Change of feed occasionally serves as an appetizer.

Grass allowed to get too ripe loses its nutriment.

Stock feeding to be profitable must be regular.

Irregular feeding disturbs and deranges the organs of digestion and assimilation.

In nearly all cases farming is a poor business when the farming is poor.

A diversity of crops distributes work, receipts and expenses more evenly through the years.

Generally a higher price can be secured for the hay and grain by reeving to the stock on the farm.

The difference between cost of production and net price received is what constitutes the farmers profit.

While it is hardly good economy to grow weeds for manure it is better to plow them under than to burn them.

Frequent and thorough cultivation is the secret of getting good cabbage. It is rarely that cabbage plants are cultivated too much.

In breeding the offspring resembles

the parent much more frequently than it does some remote ancestor.

Millet, to make the best quality of hay, should be cut as soon as the seed is formed well. It loses its nutritive value if allowed to get too ripe.

As fast as each line of work is finished the tools used should be gathered up, cleaned, and stored away under shelter.

Plow the ground for fall wheat as soon as possible now and then have cut and scattered over it all of the manure that can be gathered up.

Plan ahead to grow a patch of rye for winter pasturage and early spring feeding. For this purpose it is one of the very best crops that can be sown.

When hay is to be stacked out it is better to put up in large ricks as the damage will be much less in proportion than if put up in small stacks.

When oats are fed out to the stock on the farm there is usually not sufficient gained by threshing them to pay for the labor and expense. Feed in the straw.

The stock will thrive better if they can be given a change of pasturage every few days. So far as conditions will permit make the change from one pasture to another just after a good rain.

With corn especially it is best to continue the cultivation until the crop can be considered as made. In finishing the cultivation leave the soil lever and in good tith.

Many meadows, as well as pastures, are seriously injured, if not killed out entirely, by being pastured too closely during July and August. Both are too valuable where once secured to be wasted and a little care in good season may avoid considerable loss.

**THE DOLLARS AND CENTS OF IT.**

The Stock Breeders' Annual, a valuable bulletin of 40 pages, has just been published by the Kansas Farmer Company, of Topeka, Kansas. The first part consists of a discussion of the values of feeding stuffs, a table of composition and money values of all common feeding stuffs, and a discussion and a table of feeding standards. With this bulletin at hand any farmer who can "do a sum" in arithmetic can determine how to make balanced rations of the feeds he grows on his farm, or, if he has not the necessary materials, the book will show him what he can afford to pay in the market for such feeds as will enable him to make balanced rations suitable for every class of animals on the place. This part of the Annual was written by E. B. Cowgill, editor of the KANSAS FARMER.

It has been made a part of the instruction of the students in feeding at the Kansas Agricultural College,

**Heart Beats**

that are too fast or too slow, too strong or too weak, are not the kind that come from a healthy heart. Remember, every heart that pains, flutters, palpitates, skips beats, and every heart that causes fainting spells, shortness of breath or smothering, is weak or diseased, and cannot keep the blood circulating at its normal rate.

"My heart was very weak and kept skipping beats until it missed from one to three beats a minute. Well knowing what the result would be if this trouble was not stopped, I began taking Dr. Miles' Heart Cure, and two bottles brought the heart action to its normal condition."

D. D. HOLM,  
Huntington, Ind.

**Dr. Miles' Heart Cure**

builds up and strengthens the heart action, regulates the circulation and restores health. Sold by all druggists on a guarantee.

Dr. Miles Medical Co., Elkhart, Ind.

and has been copied by Secretary Coburn in one of his invaluable reports.

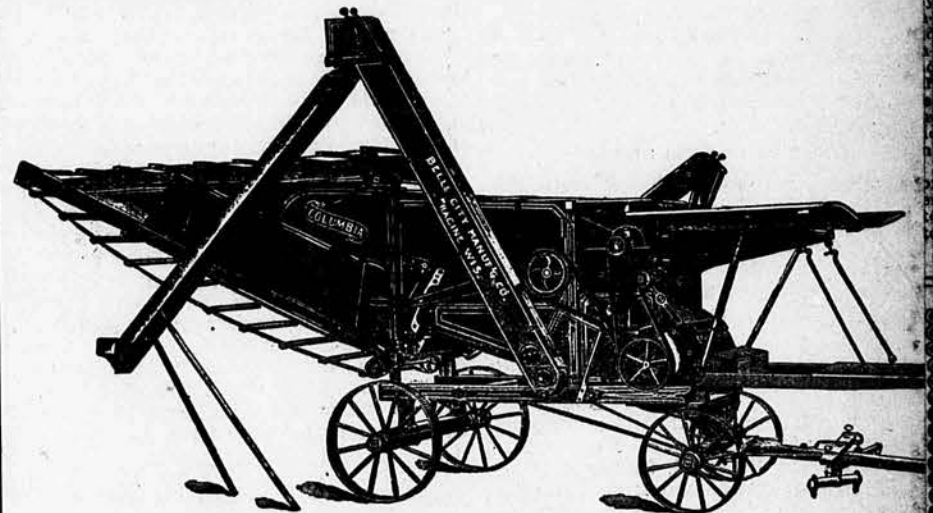
The second part of the bulletin contains the Kansas Improved Stock Breeders' Classified directory for 1901, compiled by H. A. Heath, Secretary. An edition of 10,000 copies has been printed. As long as they last any reader of this paper can obtain a copy for a two-cent stamp to pay for postage and mailing.

"What is a parvenu?"  
"That's what the man who got rich 10 years ago calls the man who got rich yesterday."

**Increase the Profit of Farming by Threshing Your Own Grain.**

The farmer who possesses his own threshing outfit reaps many benefits over the man who depends upon the professional thresher for the threshing of his crops. Beside saving the loss and delay attendant upon waiting the convenience of the traveling thresher there is a big gain in actual cash.

The Columbia Thresher, built by the Belle City Manufacturing Company, of Racine, Wis., is one of the most popular machines among farmers in all sections of the country.



It is a small thresher of large capacity and guaranteed to thresh, clean and separate all grain as satisfactorily as the large machines.

It is small and compact, can be run by any kind of power—horse, tread, steam or gas engine—and is light and portable, can be hauled anywhere that a wagon can be taken and with a little trouble. It requires but few men and the parts are so constructed as not to easily get out of order.

It is built of best materials, and, with judicious handling, will last almost indefinitely. The price is small and the lightness of the machine cuts down the freightage to a minimum. One or two seasons will more than pay the entire cost of the whole outfit.

The Columbia possesses many advantages over other machines, in that it is adapted to operate, threshing many grains that can not be handled on the large threshers, and it is extensively used in sections of the country where rice, alfalfa, Kafir-corn, peas, beans, millet, clover, etc., are grown.

All parties interested should write to the makers for their large and handsome catalogue fully describing this machine, as well as their full line of other farming implements. It is sent free to any address.

**WANTED EVERY FARMER AND TEAMSTER WHO INTENDS TO BUY A WAGON**

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

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

## The Poultry Yard.

### EGGS AND THEIR USES AS FOOD.

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

#### POSSIBLE DANGER FROM EATING EGGS.

Occasionally a person is found who is habitually made ill by eating eggs, just as there are those who can not eat strawberries or other foods without distress. Such cases are due to some personal idiosyncrasy, showing that in reality "one man's meat is another man's poison." A satisfactory explanation of such idiosyncrasy seems to be lacking.

Overindulgence in eggs, as is the case with other foods, may induce indigestion or other bad effects. Furthermore, under certain conditions eggs may be the cause of illness by communicating some bacterial disease or some parasite. It is possible for an egg to become infected with micro-organisms, either before it is laid or after. The shell is porous, and offers no greater resistance to micro-organisms which cause disease than it does to those which cause the egg to spoil or rot. When the infected egg is eaten raw the micro-organisms, if present, are communicated to man and may cause disease. If an egg remains in a dirty nest, defiled with the micro-organisms which cause typhoid fever, carried there on the hen's feet or feathers, it is not strange if some of these bacteria occasionally penetrate the shell and the egg thus becomes a possible source of infection. Perhaps one of the most common troubles due to bacterial infection of eggs is the more or less serious illness sometimes caused by eating those which are "stale." This often resembles ptomaine poisoning, which is caused, not by micro-organisms themselves, but by the poisonous products which they elaborate from materials on which they grow.

Occasionally the eggs of worms, etc., have been found inside hens' eggs, as indeed have grains, seeds, etc. Such bodies were doubtless accidentally occluded while the white and shell were being added to the yolk in the egg gland of the fowl.

Judged by the comparatively small number of cases of infection or poisoning due to eggs reported in medical literature, the danger of disease from this source is not very great. However, in view of this possibility, it is best to keep eggs as clean as possible and thus endeavor to prevent infection. Clean poultry houses, poultry runs, and nests are important, and eggs should always be stored and marketed under sanitary conditions. The subject of handling food in a cleanly manner is too seldom thought of, and what is said of eggs in this connection applies to many other foods with even more force.

#### IMPORTANCE OF THE EGG INDUSTRY.

The egg industry is of considerable commercial importance. The total number of eggs produced in the United States in 1890 was estimated to be 820,000,000 dozen, and these figures are quite often said to be too low. The United States formerly imported a large number of eggs and exported very few. The ratio has changed within the last ten years, and now the exports largely exceed the imports.

#### GROWTH OF THE EGG INDUSTRY.

In 1890 the total number of eggs exported was in round numbers 381,000 dozen, worth \$59,000; in 1899, 3,694,000 dozen, worth \$641,000. In 1890 this country imported 15,000,000 dozen, which were valued at \$2,000,000, and in 1899 only 225,000 dozen, valued at \$21,000.

Taking into account the five years up to and including 1898, 61 per cent of the exported eggs were sent to Cuba, 20 per cent to Canada, while the remainder was distributed among other countries. During the same period, 96 per cent of the eggs imported came from Canada, 4 per cent from China, and the remainder from various other countries.

These statistics of the egg trade are of interest, since they show the growth of the poultry industry, and indicate what it may become in the future. Some of the developments may be fairly attributed to the work of the government and the agricultural experiment stations. For many years a considerable number of the stations, especially those in Alabama, California, Indiana, Kentucky, Louisiana, Maine, Massachusetts, Michigan, New York, North Carolina, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, Utah, and West Virginia, have been experimenting upon methods of feeding and caring for poultry, the comparative value of different breeds, the possibility of increasing egg production by proper feeding, and the selection of laying stock, and similar problems. The station bulletins reporting the investigations have been circulated widely. These investigations are being continued and promise to be even more valuable in their results in the future than in the past. The Department of Agriculture has done much to encourage the poultry industry by collecting and distributing information,\* and in other ways.

Poultry raising is often carried on in conjunction with general farming, and may be profitably developed along such lines. When it is followed as an independent enterprise, its possibilities are also great. There is always a market for poultry and eggs for food, while the raising of fancy stock for breeding purposes is frequently worth consideration.

#### Summer Care of Poultry.

EDITOR KANSAS FARMER:—Late hatched chicks stand but little chance, and scarcely prove of any profit, especially if they are not separated from the early chicks and the old flock, and given extra attention. Late hatched chicks must have their runs well shaded during hot weather, and supplied with abundance of good fresh water. The greatest evil in poultry raising is that the farmer makes no provisions to keep his flocks separated, and young and old, good, bad, and indifferent all run together during the entire summer—and all year round for that matter. It would no doubt be regarded as foolish advice by most poultry raisers, to say that they should keep their poultry separated, to get the best results, but nevertheless, it is best just as it is to separate other flocks on the farm. It has been proven that it is not necessary to give them the run of the whole farm, but confine them to certain limits. Most varieties of mature fowls, when given free range, take too much exercise, and thus reduce their weight, also their egg supply. Hens confined in comfortable shady yards, fed, and watered twice a day, will never fail at any time of the season, to pay their way in eggs, and will, during the year, double the profits of those running at large: Growing chicks should have free range, as they require a great amount of exercise. In keeping the poultry separated, and confining all mature stock, we can the better keep down disease, and have a smaller per cent of loss.

During the hot summer months the water question is the most difficult to solve. In many cases poultry on the farm scarcely gets any water, and must suffer greatly during the long, hot days. Running streams are the ideal watering place for poultry, and next to this is the windmill, which is constantly running and bringing up a fresh flow of water. There seems to be but little improvement in the way of watering fountains for fowls, except that we use some of the stock fountains attached to water-tanks, principally used for watering hogs. These are very convenient for the fowls and may be used with a barrel in the same manner, but the water should be changed frequently, thus keeping it fresh and pure.

We should be more careful about feeding during the summer months, and feed only such food as will keep the fowls in the best condition. Green food, while advocated to a great extent for poultry, is not absolutely necessary in any great quantity, and we think it should be furnished in very limited quantities. It is so also with a meat diet. In my judgment, too much meat, and too much green food fed to fowls when confined, does more injury than good. We must learn to know what amount is necessary to get the best returns. Dry feed during hot weather is a more safe food than mashes or sloppy food. Small grain, such as wheat, oats, barley and Kaffir-corn, ground up and fed dry in troughs

\*Farmers' Bulletins 41, 51, and 64 of the Department are devoted exclusively to poultry topics. A number of Farmers' Bulletins of the series entitled "Experiment Station Work" contain short articles on poultry, poultry feeding, or similar topics. A bibliography of poultry literature has been published by the Department Library (Bul. 18). Bulletin 5 of the Division of Publications contains a list of references to articles on eggs and poultry in the Department publications. A number of the publications of the Bureau of Animal Industry contain articles on poultry diseases, egg production, and other topics, while many of the publications of the Section of Foreign Markets give statistics of the poultry and egg industry.

make a good summer food for mature fowls. For growing chicks I prefer whole grain. Ground oyster shells are splendid for confined fowls and grit must be always before them. With oyster shells and grit, draw the line on buying anything that costs more per bushel than good sound grain of any kind, for it is all absolutely useless, and the farmer of to-day, who does not believe in making yards for his fowls, is usually the one that blows in the most money for poultry tonics and powders. Give all roosting quarters ventilation without stint, and do not let the fowls be crowded for room. Give the chicks a chance to roost up just as soon as they show an inclination that way. Larned, Kans. A. H. DUFF.

#### The Egg-Producing Habit.

The pullet that begins to lay at the earliest age and continues to lay the longest is the ideal mother for a strain of layers. It does not matter so much what the breed may be, so the proper feed and care are given. A hit-and-miss plan of selecting breeders will never improve a breed. The man who would develop a strain of layers must know the individual members of his breeding pens so well that he knows for himself which ones are fittest on the nest. This he will soon learn if his powers of observation are at all good. It is because this is true that we must have poultry fanciers—men who will pay their whole attention to their stock. The average market poultryman has other things to do and other work that must be attended to. He must look to the fancier for breeders which will produce a large number of eggs for his foundation stock. But there is something beyond this. A laying strain must be started ahead of the eggs from which its members are hatched. The hens must be in the best possible condition before the eggs are laid. The eggs they produce will hatch out strong, vigorous chicks, and these should be forced to the limit in order to make them lay early. Here is the beginning of profitable poultry. Feed and care that force production to the utmost limit. Vigorous constitution means a capacity to produce a large number of eggs. Good feed and good care induce continued vigor. The artificial stimulus grows into a characteristic that becomes fixed and descends to the progeny generation after generation, and in the end a laying strain is established, and the value of such a strain is undisputed. Any one who breeds poultry may do something toward increasing the general average by attending to the details of care and feeding. Upon productiveness depends the profit that may be made from commercial poultry, to a large extent. These are not idle theories; they are facts that have been established by years of experience and observation. The study of them is a material factor in making improvements in our flocks.—Commercial Poultry.

#### Bees Hatching Hens' Eggs.

F. G. H. IN AMERICAN AGRICULTURIST.

An Illinois beekeeper has contrived a plan of hatching chicks by placing the eggs on top of the brood nest, directly over the cluster of bees, of his beehives. Out of 100 fertile eggs he claims every one hatched a good strong chick. At first thought this may seem a little startling, but the plan no doubt is feasible, when we consider that the normal temperature of a beehive is 100 degrees, which is nearly the right temperature required to incubate eggs. The time required to produce a worker bee from the egg is 21 days, the same as that of a chick. This certainly promises to be a step in advance. There can be no risk in roasting the eggs, as is often the case with an incubator, and on the

#### POULTRY BREEDERS' DIRECTORY.

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

HIGH-SCORING, PRIZE-WINNING, Cornish Indian Game, W. P. Rocks, Black Langhans. Eggs \$1 per 15. Mrs. J. C. Strong, Moran, Kans.

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

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



#### EGGS .. For .. Hatching.

From Pure-Bred, High-Scoring, Prize-Winning, WHITE AND PLYMOUTH ROCKS BARRED... 18 for \$1; 30 for \$2; 50 for \$3; \$5 per 100. Recipe for making and using Liquid Lice Killer, 25 cents. Write for descriptive circular. T. E. LEFTWICH, Larned, Kansas.

#### STANDARD POULTRY.

Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Buff Cochins, Light Brahmas, Black Langhans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Brown Leghorns, and Belgian Hares. All Our Breeding Pens of this season at Bottom Prices, also Spring Chicks. Prices now less than half of winter prices. Fine Exhibition and Breeding Stock of Rare Quality. Write Me Your Wants. Circular Free. A. H. DUFF, Larned, Kansas.

other hand the danger of the eggs being deserted by freaky hens will be done away with, but we must not forget that bees are sometimes freaky, too. A beehive would probably accommodate in the neighborhood of 4 dozen eggs at one time.

#### His Limitations.

Joxer—It is fortunate that Captain Lozzet never smiles from ear to ear. Gibely—Why? Joxer—One of his ears is in the Philippines.—Harper's Bazar.

#### Widening Out.

Yes, it does cost to advertise, in fact the same thing can be said of most any kind of effort. The time came and went when the merchant, or manufacturer could set down among his goods and wait for customers to come along, times and things are coming and passing rapidly. Competition on all lines are closer and closer, large profits and few sales would do, but will not do now. The successful ones now are the opportunists and the quick thinkers. To have something that people want and to let them know you have it is the secret of success. The most remarkable growth and the best evidence of judicious advertising we have in evidence is the Sure Hatch Incubator Co., Clay Center, Neb. Four years ago the inventor of their machines tried to advertise their goods by showing them. The inventor made a trip through four states with his hatching machine on a wagon doing the hatching act while traveling. He called at the Kansas Farmer office and showed us his machine hatching and breaking all records. After all this hard work on the part of the inventor, the sales did not realize him much, but since then he has been advertising and improving his machines. The Sure

Are many places where the heated term may be pleasantly spent.

A delightful climate, accommodations better than usually found at summer resorts, charges reasonable.

Pacific Coast resorts are easily, quickly and cheaply reached via the Santa Fe. Three through trains to principal California points. Unusually low rates this summer.

For particulars address

T. L. King, Agent The Atchison, Topeka & Santa Fe Ry., Topeka, Kansas.

Along  
the Coast=  
California.

Hatch Incubator Co., now spends thousands in advertising. They seem to make a machine that stands the test of poultry raisers. They have the machine the poultry raiser wants and they spend thousands in letting people know they have it. We understand from a reliable source, that this company has closed a year's business with over 11,000 sales. To meet their eastern trade more easy they have established a branch house at Columbus, Ohio, and making other preparations to increase their business. This has all come about by having what the people want and letting them know where to get it.

**WEEKLY WEATHER CROP BULLETIN.**

Weekly weather crop bulletin of the Kansas Weather Service, for the week ending July 4, 1901, prepared by T. B. Jennings, Station Director.

**GENERAL CONDITIONS.**

A very hot week, with practically no rain except in the northern counties, where showers occurred the latter part of the week. Hot winds occurred in the central and western counties.

**RESULTS.**

**EASTERN DIVISION.**

The wheat harvest is over, except in the extreme northern counties, where it is nearing completion. Threshing is progressing in the southern and central counties, and is beginning in the more northern, and is developing a good yield of fine quality. Corn is growing rapidly, and is beginning to tassel in several counties, but it is suffering from drought in Brown, Jackson, Atchison, Anderson, and Allen, and is being damaged by bugs in Riley. The oats harvest is generally over south of the Kaw river, and is beginning north of it; the straw is short and the crop generally poor. Pastures and meadows are suffering for rain. Apples are good in Lyon and Morris, but failing in Pottawatomie and Anderson.

Allen County.—Wheat is a better crop than at first expected; oats, flax, and early potatoes very poor; corn is suffering badly, though

needed; apples promise a good crop; peaches a fair crop.

Marshall.—Wheat harvest progressing rapidly; corn growing rapidly; timothy hay a good crop.

Montgomery.—Hot, sunshiny week injuring pastures, meadows, gardens, and fruit; corn dark green and growing rapidly, some fields adjoining wheat stubble being damaged by bugs; wheat stacking and threshing in progress, yield and quality good; oats harvest finished; flax cutting begun.

Morris.—Dry, hot week; corn still holding good color, but needing rain soon; early potato vines about all dead; wheat all cut, a good crop; second crop alfalfa in stack, lighter than first cutting; blackberries dried up; grapes and apples holding on well.

Nemaha.—Hard week on vegetables, potatoes and fruit; pastures beginning to suffer; corn in good condition and growing rapidly; wheat being cut, a full crop; some oats promising, others poor; millet good.

Osage.—Dry and hot, good rain needed; corn very dry; stock water giving out and pastures drying up.

Pottawatomie.—Hot and dry with a withering southwest wind; corn and sweet potatoes not suffering; second crop alfalfa secured but is light; threshing wheat begun, yield good, grade high; small fruit suffering; apples falling.

Riley.—Some hot wind; bugs have killed many fields of corn; oats harvested, about half a crop; corn needs rain.

Woodson.—Wheat being threshed, good crop; corn doing well but needing rain; fruit abundant; dashing rain needed for stock water.

**MIDDLE DIVISION.**

The wheat harvest is nearing completion, being finished in the south and well advanced in the north; threshing is progressing in the southern and central counties showing a good yield of high grade wheat, but in Rush the hot winds ripened the wheat too rapidly, causing some of it to shrivel. Corn has grown rapidly but it now needs rain, especially so as hot winds have prevailed some days. The second crop of alfalfa is being cut in Butler and is nearly ready to cut in many other counties but it is not as heavy as the first crop. Late cherries are ripe in Smith and early peaches in Sumner. Oat harvest is progressing in many counties but the crop is light. Pastures are drying up in some northern counties.

Barton.—Hot winds; wheat, barley and oats that were green have ripened in a few days and have to be cut; corn growing rapidly but needs rain. Hay-grass very short and will be a light crop; second crop of alfalfa rather short but is in blossom.

Butler.—Corn looking well for such dry weather; bugs damaging small grain; orchards looking well; cutting second crop of alfalfa, very light; pastures short, ponds nearly all dry.

**A CHANCE FOR YOU TO MAKE MONEY**

There is a great deal of money being made in California in

**OIL.**

Thousands of people who have invested small amounts in the oil business in Kern County oil stock have gotten rich. One man in Los Angeles within the last two years invested \$100 in oil stock, and within one year made honestly \$31,600 from it. His name is Richard Ellis, and any newspaper or bank in Los Angeles to whom you may write will tell you of him.

**THE ECLIPSE OIL & DEVELOPMENT COMPANY**  
of California has property in Kern County, and is now striking two wells.

**IT IS ONE OF THE BEST OIL PROPOSITIONS**

on the market. It is capitalized for only \$400,000, with shares of the par value of \$1.00 each. It has 240 acres in the heart of the proven district, with oil wells all around it. It offers a limited amount of its shares for sale to continue developments and sink additional wells. Two wells are already going down.

**WHILE IT LASTS THE STOCK IS OFFERED FOR FIFTY CENTS A SHARE.**

This is a chance to make a very large sum for a very small investment if you avail yourself of it quickly.

Those who get in early are the ones who make the money. All people who have made money took advantage of an opportunity like this. Send money order, certified check, or draft on New York, to the undersigned, and the stock will be promptly sent you; or write for prospectus to

**GEO. F. PARMELEE,**

**BANKER AND BROKER. Fiscal Agent, Room 1811, 51 Wall Street, NEW YORK.**

Washington.—Hot and dry followed by good rain Friday night; most of the wheat cut; oats will be ready next week; no damage to corn; too dry for potatoes.

**WESTERN DIVISION.**

Early wheat harvest is progressing in all parts, but in several counties the hot winds have ripened the wheat too rapidly. Corn is in fair to good condition over most of the division, where grown, but in Lane the early corn is firing, and in Norton it is showing effects of drought. The second crop of alfalfa is about ready to cut in many counties but it will not equal the first cutting. The prospect for the peach crop in Ford is good. The range grass is turning brown in Ness and Thomas. Barley harvest is progressing in Thomas and Wallace. Hot winds have been frequent and rain is sorely needed.

Clark.—A hot, dry week; rain much needed; grasshoppers doing considerable damage.

Decatur.—Hot winds, relieved by showers on 27th; wheat possibly half crop, oats less than half crop; wheat harvest begun; second cutting alfalfa about ready; corn still growing and of good color.

Finney.—Crops and range grass needing rain badly; hot winds daily.

Ford.—Corn holding out very well; second crop of alfalfa about ready to cut, good crop; pastures good; peach prospects very good.

Hodgeman.—Hot winds; harvest progressing rapidly, though interfered with by high winds; grain poor over large part of county; chinch-bugs destroying some corn-fields; feed not up yet; rain wanted.

Kearny.—Scorching hot winds; good soaking rain needed for all crops outside of irrigation; alfalfa and other crops under irrigation doing well.

Dane.—Hot, dry, and windy; crops needing rain; harvest in progress, yield fair.

Ness.—Hot winds all week turning grass brown and ripening the grain too rapidly; potatoes not irrigated, drying up; corn and forage crops standing it quite well; rain needed badly.

Norton.—Corn showing effects of drought; good rain in south half of county; harvesting begun; high, hot winds shelled rye out badly.

Rawlins.—No rain since 14th; three days hot winds; small grain has ripened and harvest in full progress, grasshoppers hurting small grain; corn and potatoes not suffering.

Scott.—Hot winds injuring late wheat.

Sheridan.—Hot winds damaged late wheat and oats; harvesting begun; corn all right yet; second crop of alfalfa ready to cut.

Thomas.—Wheat harvest has begun; early wheat fair though ripened too rapidly by drought and hot winds; late wheat badly damaged; barley and rye harvest begun; corn doing fairly well but is beginning to suffer; range grass turning brown.

Wallace.—Headers have begun in barley fields, crop poor; little wheat; corn is looking fairly well; grasshoppers numerous and doing much damage to fruits, gardens, and alfalfa; hot, dry, windy week.

**Free Blood Cure.**

We recommend Botanic Blood Balm (B. B. B.) for all blood troubles, such as ulcers, eating sores, scrofula,

eczema, itching humors, pimples, boils, carbuncles, blood poison, aching bones, festering sores, cancer, catarrh, rheumatism. Botanic Blood Balm cures all malignant blood or skin diseases, especially advised for old, deep-seated cases. It cures when all else fails. Heals every sore or pimple, stops all aches and pains by giving a healthy blood supply. Thoroughly tested for 30 years. Thousands cured. At drug stores, \$1 per large bottle. Our readers will receive a trial treatment free by writing Dr. Gillam, 85 Mitchell St., Atlanta, Ga. Describe trouble and free medical advice given. Medicine sent at once, prepaid.

**Limited.**

Mrs. Mulligan—Poor Pat has had a leg amputated. 'Twas an explosion. Mrs. O'Rourke—Dear, dear! An' he resigned to his fate? "His fate, is it? Sure, he only has one."—Philadelphia Record.

**Hot Weather. Impure Water. Hog Cholera.**

Insufficient and impure water increases the death rate among hogs during the extremely hot weather more than at any other time of the year. Farmers who did not purchase a hog waterer during the spring should do so now. They will thus save their hogs much suffering and want of water during the hot months to come. Every successful stock raiser knows that his stock should have pure water at all times. This can be done only by the use of a stock waterer. Not only is it a humane act to provide water at all times for stock, but a farmer is financially benefited in doing so, by increasing the weight of his hogs, lessening expense for farm help, and preventing hog cholera. The cost of a stock waterer is saved every day during hot weather. They are attachable to any tank, barrel or pipe and should be used in some way by every farmer. Many successful hog raisers now do not allow their hogs to wallow in mud holes, ponds and running streams, especially during extremely hot weather for the reason that when they become very hot, they plunge into water and cool off too quickly, contracting rheumatism. During the threshing and harvesting seasons a farmer may attach a fountain to a tank or a barrel filled with water and be satisfied that his hogs are supplied with water during a hot day when he is from home. We know that the "Improved Dewey," (no "Dewey") is the best stock waterer on the market, cheap, durable, perfect in construction and we recommend it to our readers. Notice the B. B. Mfg. Co.'s advertisement of the "Improved Dewey" durable stock waterer on another page. Call on your dealer, or write for prices (which are reduced) and circulars to the B. B. Mfg. Co., Davenport, Iowa.

**RAINFALL FOR WEEK ENDING JUNE 29, 1901.**



SCALE IN INCHES.

Less than 1/4. 1/4 to 1. 1 to 2. 2 to 3. Over 3. T, trace.

beginning to tassel; stock water scarce, pastures very poor, hay scarce.

Anderson.—Hot, windy week; meadows and pastures burning up; corn twisting; apples falling; wheat threshing begun.

Atchison.—Prevailing drought intensified by the extreme heat and sunshine, severe on vegetation; pastures turning brown; corn suffering; oats and early potatoes nearly a failure; wheat harvest about finished; threshing begun, yield promising.

Bourbon.—Most of the corn looks well, but some complaint of damage; pastures getting short, compelling some farmers to sell off cattle.

Brown.—Wheat about all in shock, hot winds hastened its ripening, heads short but fairly well filled; corn nearly at a stand still; pastures drying up; some fields earliest sown oats harvested, later sown practically a failure; haying in progress; light crop.

Chautauqua.—Clear and hot; corn is growing rapidly but will soon suffer for rain; earliest corn now tassel.

Cherokee.—Good week for farm work; ground in good condition with plenty of moisture; threshing wheat begun. Yield 18 to 26 bushels; corn doing finely.

Coffey.—The driest, hottest week of the season; wheat all cut, fine crop, weighing 61 to 63 pounds per bushel; oats cut, short straw, light weight; corn, flax, and grass needing rain badly; flax crop light.

Crawford.—Fine threshing weather; snock threshing progressing rapidly; oats in shock; timothy haying begun; corn growing rapidly; gardens drying up.

Doniphan.—Dry, hot week; harvest completed; berries and potatoes suffering for rain; corn doing well but needs rain; pastures and meadows poor.

Elk.—Hot week, continued sunshine; pastures drying up; stock water becoming scarce; well cultivated corn is not hurt yet; fodder crops needing rain badly; prairie hay will be light crop.

Franklin.—Crops needing rain badly. Greenwood.—Hot, windy week; corn has grown rapidly and much of it is too tall for further cultivation; second crop alfalfa about all up in fine condition; pastures and meadows needing rain.

Jackson.—Corn still firing for want of rain; pastures giving out; all crops suffering. Jefferson.—Corn is doing well considering dry weather; good rain Saturday morning, very beneficial.

Johnson.—Dry, hot week, three days with hot winds; wheat harvest about over.

Lyon.—Corn is in a critical condition, rain

Cloud.—Wheat harvest practically finished, hot weather ripening the grain too rapidly; corn needs rain; hot winds on 28th.

Dickinson.—Fine harvest weather; threshing has begun, quantity and quality good; chinch-bugs beginning to damage corn; rain needed.

Harper.—Wheat all cut, threshing from shock begun, averaging 25 bushels per acre testing 59 to 64 pounds per bushel; oats poor; corn needs rain badly.

Harvey.—Most of the wheat is cut, but remote from towns much of the sheaf lies as it left the binder for want of hands; the crop is much larger and of better quality than expected; well worked corn in fine condition.

Jewell.—Hot, dry, windy week; some corn damaged; pastures drying up; wind has blown off some fruit.

Kingman.—Harvest about finished, threshing begun, wheat yielding better in quantity and quality than hoped for; oats poor; corn growing rapidly.

Lincoln.—Windy, hot, dry week; everything suffering for rain; wheat harvest nearing completion; oats will be a poor crop.

McPherson.—Wheat cutting nearing completion, threshing begun, quality and yield good measuring up to 35 bushels and testing as high as 64 pounds; oats ripe and harvesting begun, straw short and yield light; corn needing rain, chinch-bugs working in it.

Reno.—Hot, dry, and windy; wheat harvest nearly finished, bound wheat being stacked, good crop; oats being cut, light crop; corn generally clean and standing drought well, badly damaged by chinch-bugs next to wheat-fields; second crop alfalfa in bloom but very short; rain needed.

Republic.—A little rain on 28th; corn holding its own pretty well; oats nearly all cut, very light.

Rice.—Everything needs rain; harvesting wheat all week; hot, dry, strong south wind nearly all week.

Rush.—Heat and drought prematurely ripened all the wheat, about half is now cut; wheat shriveled some by hot winds.

Russell.—Harvest about half over; hot, windy week making harvest work extremely hard.

Saline.—Hot, dry week, good harvest weather. Smith.—Dry week, hot winds; harvesting nearly done; corn standing it pretty well though some with; pasture drying up; potatoes poor, vines dead; second crop alfalfa ready to cut; late cherries a good crop.

Stafford.—All growing crops needing rain; harvest progressing well.

Sumner.—Hot and dry; wheat and oats all cut; oats a poor crop; threshing in full progress; wheat yielding 20 to 30 bushels testing 60 to 65 pounds; early peaches ripe.

# LESS WORK AND MORE MONEY IN THE DAIRY



**De Laval Cream Separators**  
 A boon to The Farmer's Wife  
 250,000 now in use  
 Earn \$10.- extra per cow each year  
 Highest Award at Paris  
 Write for catalogue

**THE DE LAVAL SEPARATOR CO.**  
 CHICAGO GENERAL OFFICE 74 Cortlandt Street NEW YORK  
 SAN FRANCISCO MONTREAL PHILADELPHIA

## 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.

### Improving Our Kansas Feeds.

In the discussion of feeds only average yield and composition can be given. No enterprising dairyman is going to be satisfied with averages, whether of yield or quality of product. Take alfalfa for instance; not infrequently we hear of a man getting from 6 to 8 tons per acre. It has been found that the leaves of this plant make better feed than wheat bran pound for pound. Again it has been found that alfalfa exposed to the rain loses almost one-half of its feeding value. These points should inspire us to set our goal considerably beyond 4 tons of average quality of hay per acre.

Kansas has become famous for her corn crops. The Illinois experiment station recently published a valuable bulletin showing how analysis of corn has revealed the fact that some samples of this valuable grain contains 17.6 per cent. of protein, while others contain 14.92 per cent. Professor Hopkins, of this station, says that if a person will make cross and longitudinal sections of several kernels from an ear of corn, he can determine with a fair degree of accuracy whether or not it is rich in protein. In a cross section of a kernel of corn cut about 1/4 from the tip, the white starchy matter will be greatly diminished or may disappear in corn rich in protein, but shows plain and large in corn poor in protein. A longitudinal section of the kernel will show the white starchy matter in the brown end when rich in protein but extends nearly to the tip in corn poor in protein. If this be true every Kansas dairyman will do well to study the subject and select his seed corn in accordance with the amount of protein it contains. If it were possible to raise the protein content of corn from 7 to 12 or 14 per cent. it would be a blessing to the dairy interests of Kansas that

could not be measured in dollars and cents.

The whole subject of seed-breeding is becoming a vastly important and an intensely interesting one. The principles that apply to the breeding of animals likewise apply to the breeding of plants. Considerable work has been done along this line in originating new and better varieties of vegetables and fruits, but comparatively little has been done in breeding up our common cereals. There is opportunity for improvement. It will pay us to watch with interests the experiments already started with our wheat, corn, Kaffir-corn, oats, and beans. Increasing in protein content of the above-mentioned crops will doubtless benefit the dairyman more than any other class of farmers and every intelligent up-to-date cow owner needs to keep himself posted and stand ready to make use of all beneficial results as soon as known. D. H. O.

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

#### ENSILAGE.

There is no more effective and economical way of utilizing a Kansas corn crop than by putting it in the silo. More feed per acre can be produced in this way than any other known method. When ensilage is well put up it can be kept in good shape for years. It can be stored in small space, is easily handled and is greatly relished by the cows. Ensilage takes the place of roots and can be produced for one-half the cost. It may also be used as a soiling crop in summer, with considerable saving of expense from cutting and hauling green feed every day. Considerable expense is attached to the building of a silo (from \$1 to \$2 per ton capacity) and the first cost of machinery with which to fill it, but after that the expense is light. The agricultural college has put up ensilage for 50 to 60 cents per ton as cost of labor. Mr. E. N. Cobb, of Manmouth, Ill., during the summer of 1900, put up 400 tons at a cost of 33 cents per ton for labor.

#### RATION NO. 22.

Ensilage may be fed in any quantity from 30 to 50 pounds. The following makes an excellent dairy ration: Corn silage 40 pounds, alfalfa 15 pounds, Kaffir-corn 3 pounds, and soy-beans 1/2 pound. The experience of the agricultural college, and others who have handled ensilage, shows that we may expect an average yield of at least 15 tons per acre. There is always some necessary loss caused by fermentation. This need not be over 10 per cent, leaving us 13.5 tons of edible silage when fed. Forty pounds per day would requir 3-10 acre per cow. The alfalfa calls for 2.5 acre, Kaffir-corn 1/4 acre, and soy-beans 1.7 acre. It will be noticed that the grain ration is very small, only 3.5 pounds per day. The average requirement is also small.

#### RATION NO. 23.

In clover districts the same amount of ensilage with 10 pounds of clover, 5 pounds of oats, and 2.5 pounds of soy-beans, make a fair ration. The area requirement will be somewhat increased, ensilage being 3-10 acre, clover 1/2 acre, oats 1.1 acres and soy-beans 7-10 acre.

## THERE IS NO BETTER INVESTMENT

**FOR THE DAIRY THAN THE IMPROVED UNITED STATES SEPARATOR**

Its substantial one-piece frame and enclosed gears running in oil insures the user of a long lived machine and few repair bills.

Its three-separators-in-one bowl makes it the greatest cream producer on the market, as has been proved many times in competition with other makes.

If interested, write for illustrated catalogues.

**VERMONT FARM MACHINE CO.**  
BELLOWS FALLS, VT.

#### RATION NO. 24.

With neither alfalfa nor clover it will be hard to get a first class ration without purchasing some of the grain. A very fair ration can be had by feeding 30 pounds of ensilage, 10 pounds of prairie hay, with about a 9 pound grain mixture of equal parts Kaffir-corn, oats, and cottonseed-meal. If oats are scarce and expensive, bran may be used in their place. Area: ensilage 1-5 acre, prairie hay, 7-10 acre, Kaffir-corn 1/4 acre, and oats 1/2 acre. D. H. O.

### Wanted a Good Dairy Cow. (Continued from last week.)

#### H. R. THATCHER.

What causes the difference in cows? Is it a mere accident? One hundred years ago the people of the isle of Jersey passed a law stating that no foreign cow should ever enter their island alive, and for hundreds of generations these people have been grading up their cattle until, in 1893, a representative of this breed won at the World's Fair. One thousand years ago the Dutch people began to improve their cattle, and through all these centuries, the ancestors of Pauline Paul have been famous for their dairy products.

Perhaps two hundred years ago, the ancestors of our scrub cattle were brought to America and they have been bred first for the beef and then for the dairy ever since. Their ancestors, no doubt, have had the freedom of the range, and have doubtless been sheltered by barb wire fences in January.

Is it a wonder then, that there is a difference in these animals? Gentlemen, Kansas wants some good dairy cows, some that are profitable, and where will she get them? Can we, as dairymen, afford to pay perhaps \$500 for cows like Brown Bessie, or Lilly Ella, or perhaps \$1000 for cows like Pauline Paul? Would there be any money in such business? Not from a dairy standpoint. But we have plenty of Zaconas, cows that will bring an annual profit of \$32.90 per head. We can get plenty of such cows, if we will put our herds under the Babcock test and a pair of scales for a year.

Cruikshank, Bates, and their followers, realizing that England was in great need of a better beef animal, concentrated their efforts upon the common cattle of England, so that today, as a product of their efforts, the Shortnorns are famous the world over as a beef animal, and fully 100 per cent better than the original.

Dairymen are there not Cruikshanks and Bateses among your number—men who fully realize the dairy needs of Kansas? May the day soon come when they will step forward and placing their herds under the Babcock test and a pair of scales for a year, put their cows names on records like these, and, with blood from these strains of cattle, commence the grading process in Kansas.

Fifty years from the time a large band of determined dairymen adopt this course Kansas will no longer need, but will have, thousands of good profitable dairy cows.

### How May We Improve Our Kansas Herds?

#### W. L. ENGLISH.

This article shall deal especially with the improvement of the dairy herds of Kansas, for it is to them that the farmer must turn when his crops have been failures, and his other sources of revenue have been reduced to a minimum.

There is no end to the advancement that may be made in the improvement of dairy stock. It is not a matter of a few years only, but the study of a lifetime, and no breeder should be satisfied with the advancement he has made, but always strive to reach something a little nearer his ideal than he has in any previous effort. A few years

ago, a craze for what was known as the "dual" or "general" purpose cow, struck the small farmers and dairymen. And even to-day men may be found who advocate the intermingling of the beef and dairy type, believing that they can thereby raise a cow that will not only give as much and as rich milk as the cow raised especially to produce milk, but can be turned, whenever desired, into a beef animal of the first quality. That this can not possibly be true has been proven beyond a doubt time and time again, and yet some people still cling to the old theory and breed accordingly.

There is no doubt then that it is a great mistake to attempt an improvement by a mixing of dairy or beef breeds of cattle. How then should this improvement be begun? There seems to be only one practical, common-sense way, and that is to choose the breed that suits you best, with reference to the use you intend to put it to, and begin the improvement of this breed by the purchase of a sire that will meet your requirements as nearly as possible, and then persistently weed out those members of your herd that do not come up to your standard. This process will, perhaps, take years, in fact will never cease, yet for the small farmer and dairyman it offers the best solution of a perplexing problem.

The use for which they are intended should largely determine the breed to be chosen. One's tastes should be consulted in regard to the choice of one of the different varieties of the same type. Once the choice is made, however, it should not be changed for any trifling consideration, and if good judgment and care is exercised, success is assured.

### Changing Milkers.

#### L. S. EDWARDS.

What effect does a change of milkers have on the yield of cows? This depends both on the cows and on the milkers. A comparison of the daily average yield of 9 cows was recently made at the Kansas agricultural college; the average yield both before and after a change of milkers showed that there was practically no difference in the amount of milk obtained by the two milkers. A second test of another 9 cows showed similar results. The butter fat test showed no marked fluctuation. In both cases only one out of the three regular milkers was changed. At election time, last November, all the regular milkers were absent for from three to seven milkings and the regular routine of work was of course more broken up than if only one milker had changed. The total yield for the herd was considerably less for this period and the yield in individual cases dropped nearly one-half in seven milkings. The more nervous the cows, the more they were affected. A continual change of milkers would mean more or less irregularity in the manner of handling the herd and is not advisable. Again, good milkers are scarce, and the change is likely to introduce a poorer for the better hand.

### Why the Creamery Pays.

#### RAY FELTON.

In the days of our forefathers, when creameries were unknown, the milk was set in cold water or the cellar, and the cream allowed to rise, and most of the cream used on the farm to-day is obtained by this method. What causes the cream to rise is a difference in specific gravity or weight of it, and the rest of the milk. In the cream separator, centrifugal force is used instead of gravitation. The force applied in the separator bowl, the manufacturing

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" and Catalogue 287 free. West Chester, Pa.

## Cow Sense.

The editor has just received a copy of catalogue illustrative and descriptive of the

### New Improved Empire Cream Separator

The author of this book refers to it as "A Treatise on the Application of Cow Sense to the conduct of the Dairy" which very briefly yet expressively describes it.

This catalogue is a departure from the general rule and is unique in every feature of its production. It contains a fund of information and "Common Sense" suggestions which cannot help but prove of profit and interest not only to the cow owner, but to every one in any way interested in the dairy or creamery industry. A copy is sent free upon request to the

**United States Butter Extractor Co.,**  
 BLOOMFIELD, N. J.  
 Western Offices—Fisher Building, Chicago, Ills.



companies claim to be several hundred times as great as the force of gravitation, and thus you see why the skim-milk from the separator contains a smaller per cent of butter fat than the skim-milk from which the cream has been allowed to rise, and this is one reason why it is more profitable to patronize a creamery, than to make the butter on the farm. Another thing to be considered is that the creamery man being skilled in the art of making butter is able to make a better article than as a rule is produced on the farm, and then he can ship it where it will command the highest price, while the farmer has to sell at local prices which is usually several cents below creamery prices.

#### On What Lines Will the Best Short-horns of the Future Be Bred?

(Continued from page 597.)

cessive fineness of bone, lack of scale, and indication of delicacy throughout the whole animal. It is evident that animals of this character can not be depended on to produce a healthy and robust progeny. If this is true, is it not time to call a halt, and as practical, common-sense men, having the best interests of the breed at heart, advise a return to safer methods and a more intelligent and liberal selection of the material for use in the herd? The most successful breeders of the past did not hesitate, when the occasion demanded, to introduce new blood into their herds. Thomas Bates believed he possessed the purest Shorthorns in existence in his Duchess tribe, and yet, after confining himself to the use of their blood through his sires for a number of generations, found the necessity of going outside of his herd for a fresh infusion through the bull, Belvedere.

The question we should ask ourselves to-day is, Are we exercising a proper degree of independence in our operations, or are we allowing the preference for this or that line of family to influence us against our better judgment and common sense? In selecting a sire, should we not choose him because he possesses in a superior degree the qualities that we desire to secure in the progeny, rather than be influenced altogether by the fact that he is of a particular strain of blood that happens at the time to be of the prevailing fashion, although he may be deficient in individual qualities? In other words, shall we select a sire for no other reason than that his ancestors were famous in the hands of a man who had the genius to make and keep them so while he lived, when, possibly, their descendants in other hands have not maintained the family reputation? For that is the sum and substance of the whole matter. It is unfortunate, I think, that too many breeders continue to worship at the shrine of their early love long after the source of inspiration has lost its power.

It is not that we should refuse to use a sire that is line bred, or even in-and-in bred, if he possesses the qualities that every one is looking for in the head of his herd. On the contrary, such an animal would in my estimation, be invaluable as a sire because the fact that his blood is concentrated only the more certainly insures the perpetuation of those good qualities in his offspring. But, on the other hand, if possessed of inferior or indifferent qualities, he will for the same reason be equally as potent in the transmission of those bad qualities; and therein lies the danger and the necessity for the exercise of the greatest care and judgment in selection. There have been many intensely bred animals that were noted as producers of excellent stock, not, I take it, because of the consanguinity of the sires and dams in the make-up of their pedigrees, but because of the superior individual qualities of all, or nearly all, the animals composing the line ancestry.

The successful breeder of the future will, in my humble judgment, be a firm believer in the value of pedigree, but he will insist that it be accompanied by unquestionable proof that the characteristics of the ancestors were such as to insure the perpetuation of the good qualities in the offspring. He will not refuse to introduce into the herd sires bred from close affinities, provided they possess in an unqualified degree the qualities already referred to, but he will resolutely reject all that do not measure up to that standard. On the other hand, I believe that the breeder of the future will not be hampered by the fact that the material that he selects is not line bred, but that he will unhesitatingly make use of miscellaneous bred animals, always conditioned upon the fact, however, that the converging strains are from the herds of men

known and acknowledged to have been distinguished and reputable as breeders in their several ways. And in so doing he will but follow the precedents left him by the greatest breeders of the past.

I have used the term "miscellaneous-bred" because it is the common way of expressing the mating of animals of different families or strains of blood; but to my mind it is a misnomer, and in its general application has been given too broad an interpretation altogether, conveying the impression of the crossing of distinct breeds, rather than of animals having a common origin and carrying more or less percentage of the same blood, either in the direct or through collateral lines. All our families of Shorthorns were of miscellaneous-bred origin, and after they had been subjected to a course of close breeding long enough to establish a type and become known as a distinct family were reinforced and renewed by the infusion of extraneous or new blood, as I have endeavored to show. Not one of the great families, by whomsoever bred, but was subjected to this treatment to a greater or less degree. The fact that the cross of new blood was made by the hand of the master breeder was all that was necessary to make it acceptable to the votaries of fashion. Yet when the supervising hand and brain are gone, and some disciple of the departed great one, seeing the necessity for further reinforcement, goes for a change of blood, although the wisdom of the course is seen in better individuality, better vigor and constitution, he is met at once with the charge of treason, and the market value of the offspring is lowered two-thirds.

To my view the future is bright with promise for every breeder of Shorthorns who is at all worthy of his great vocation. Civilization is extending its domain to every nook and corner of the habitable globe, offering new outlets and making new markets for the distribution of our surplus products. Not only is our own unoccupied territory and the territories of the republics to the south, but in the islands of the seas just now throwing off the sway of barbarism, are vast fields awaiting the occupancy of the future breeder. And just beyond, on the other side of the Yellow Sea, lies the great empire of China, with its four millions square miles of territory and its 400,000,000 people, once a sealed book to all except to followers of Confucius, but soon, if we read the signs of the times correctly, to receive the impress of a newer and better civilization, with all that the term implies. And when that regenerating process begins, you may be sure the Shorthorn will be found, as always in every situation of similar nature, foremost in the great work of improvement of his kind, proving himself in all respects worthy of his noble lineage and the best traditions.

#### The Kansas City Hog Show.

Frank D. Winn, secretary of the National Breeders Show, writes concerning the show as follows:

"Interest in the Kansas City show is increasing daily and every mail brings letters in regard to the show and sale. The inquiries come from all over the United States and there is not a hog State in the Union but what will have a strong representation at this show. Breeders are responding quite liberally to the special prizes, but there are some who are well able to give something, who have not responded and it is to be hoped that they will yet send in a subscription.

For several reasons, it has been impossible to get the prize list and catalogues out yet, but they will doubtless be ready for distribution in a short while and all applications sent in now, will be filed and printed matter forwarded as soon as it is ready.

I again request that those who desire to make a consignment to the sale, and who have not yet written me, to do so at once so that the number each can contribute may be determined as soon as possible.

Work on the large building in which the hog and cattle shows will be held, has already begun and it will be the largest and finest structure of its kind in the United States when completed. It will give me great pleasure to furnish any information desired at any time, regarding this exhibition."

#### Nebraska State Fair Now Has a Home.

EDITOR KANSAS FARMER:—The Nebraska State Fair, now for the first time in its history, can say it has a home. By legislative enactment, the fair is permanently located at Lincoln, the capital of the State. An appropriation was made to purchase grounds and

equip them. The old State fair grounds, adjoining the city on the north, have been purchased, and are being equipped. These grounds are reached direct by four great western railroad systems. Exhibits are unloaded at the man entrance gates. Passenger trains, both regular railroad and electric, run into the grounds. All accommodations are ample. Water supplies from the city water works are furnished on all parts of the grounds. Hotel accommodations the best, and no extortionate rates charged.

The management is confident no better point in the west can be found where fair exhibitors can be more fully and satisfactorily rewarded than at the Nebraska State fair. All possible efforts to render attendance with us both pleasant and profitable is pledged.

All are respectfully invited to become exhibitors with us.

All entries, except a few, stipulated otherwise, are free and open to the world.

For further information address the secretary. ROBT. W. FURNAS, Brownville, Neb. Secretary.

#### Requirements for Citizenship.

Until a few years ago Minnesota accorded the right of suffrage to civilized Indians certified by district courts to be fit for the exercise of the suffrage. In Florida a requirement of suffrage was enrolled in the local militia. Tennessee provided that persons of color who were competent witnesses in a court of justice against a white man might vote in that State.—N. Y. Sun.

#### How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that can not be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Props., Toledo, O. We the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O. WARDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75c per bottle. Sold by all druggists. Testimonials free. Hall's Family Pills are the best.

#### Are You Going

to San Francisco with the Epworth League? The Union Pacific will run Special Tourist Sleeping cars every day from July 6th to July 13th, Topeka to San Francisco without change. Rate \$5.00 for double berth. The round trip rate will be \$45.00 and tickets will be good till August 31st, 1901. Stop-overs may be secured at and west of Denver. For other information see your nearest Union Pacific Agent.

# YOUR MONEY BACK

Wetmore's Best is a navy tobacco. If you like navy tobacco and don't like Wetmore's Best, the dealer will return your money if he knows you bought it of him.

It's all in the Quality.

M. C. WETMORE TOBACCO COMPANY, St. Louis, Mo.

The largest independent factory in America.



#### 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.

#### ...MEN...

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

## DR. HENDERSON

101-103 W. 9th St., Kansas City, Mo.

A Regular Graduate in Medicine. Over 30 Years' Practice—22 in Kansas City. The Oldest in Age and Longest Located. Authorized by the State to treat CHRONIC, NERVOUS AND SPECIAL DISEASES.

Cures guaranteed or money refunded. All medicines furnished ready for use—no mercury or injurious medicines used. No detention from business. Patients at a distance treated by mail and express. Medicines sent everywhere, free from gaze or breakage. No medicines sent C. O. D., only by agreement. Charges low. Over 40,000 cases cured. Age and experience are important. State your case and send for terms. Consultation free and confidential, personally or by letter.

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can stop night losses, restore sexual power, nerve and brain power, enlarge and strengthen weak parts, and make you fit for marriage. Send for book.

Radically cured with a new and infallible Home Treatment. No instruments, no pain, no detention from business. Cure guaranteed. Book and list of questions free—sealed.

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Blood poisoning and all private diseases permanently cured.

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Permanently cured in a few days without pain or danger.

Book for both sexes—96 pages, 27 pictures, with full description of above diseases—the effects and cure—sent sealed in plain wrapper for 5c. stamps—free at office.

Eleven rooms and parlors, so arranged that patients need not see each other.

#### Free Museum of Anatomy for Men.

Office Hours: 8 a. m. to 8 p. m. Sundays 10 to 12.

MARKET REPORTS.

Kansas City, July 1.—Cattle—Receipts, 9,226; calves, 668. The market was slow and steady to 10 cents lower. Representative sales:

SHIPPING AND DRESSED BEEF STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include various grades of beef steers.

WESTERN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include western steers.

SOUTHWEST STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include southwest steers.

TEXAS AND INDIAN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Texas and Indian steers.

TEXAS AND INDIAN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include Texas and Indian cows.

WESTERN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include western cows.

NATIVE HEIFERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include native heifers.

NATIVE COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include native cows.

NATIVE FEEDERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include native feeders.

NATIVE STOCKERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include native stockers.

STOCK COWS AND HEIFERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include stock cows and heifers.

Hogs—Receipts, 4,439. The market was steady. Representative sales:

Table with columns: No., Ave. Price, No., Ave. Price, No., Ave. Price. Rows include hogs.

Sheep—Receipts, 2,093. The market was steady to weak. Representative sales:

Table with columns: No., Ave. Price, No., Ave. Price, No., Ave. Price. Rows include sheep.

Chicago Live Stock.

Chicago, July 1.—Cattle—Receipts, 23,000. Good to prime steers, \$5.20@6.25; stockers and feeders, \$2.75@4.75; Texas steers, \$4.25@5.35.

Hogs—Receipts, 36,000. Mixed and butchers, \$5.50@6.15; bulk of sales, \$5.95@6.00.

Sheep—Receipts, 25,000. Good to choice wethers, \$3.60@4.00; western sheep, \$3.60@4.00; native lambs, \$3.75@5.00.

St. Louis Live Stock.

St. Louis, July 1.—Cattle—Receipts, 3,800. Native steers, \$3.50@6.20; stockers and feeders, \$2.50@4.85; Texas and Indian steers, \$3.50@5.00.

Hogs—Receipts, 6,000. Pigs and lights, \$5.90@6.00; butchers, \$6.00@6.25.

Sheep—Receipts, 1,200. Native muttons, \$3.25@3.85; lambs, \$4.00@5.60.

Omaha Live Stock.

Omaha, July 1.—Cattle—Receipts, 2,000. Native beef steers, \$4.40@5.85; western steers, \$4.00@4.85; Texas steers, \$3.50@4.60; stockers and feeders, \$3.25@4.50.

Hogs—Receipts, 4,500. Heavy, \$5.90; bulk of sales, \$5.87@5.90.

Sheep—Receipts, 2,500. Common and stock sheep, \$3.00@3.50; lambs, \$4.00@5.50.

Kansas City Grain.

Kansas City, July 1.—Wheat—Sales by sample on track:

Hard—No. 2, 61@63 1/2c; No. 3, 61@63c. Soft—No. 2, 61 1/2@61 3/4c; No. 3, 60@61c.

Mixed Corn—No. 2, 48c; No. 3, 47c. White Corn—No. 2, 49c; No. 3, 48c.

Mixed Oats—No. 2, 31c; No. 3, 29 1/2@30 1/2c. White Oats—No. 2, 32c; No. 3, 31c.

Rye—No. 2, nominally 48c. Prairie Hay—\$4.00@10.00; timothy, \$5.00@12.00; alfalfa, \$5.00@9.00; clover, \$6.00@9.00; straw, \$3.00@3.50.

Chicago Cash Grain.

Chicago, July 1.—Wheat—No. 2 red, 67c; No. 3, 66 1/2c; No. 2 hard winter, 65 1/2c; No. 3, 65 1/2c; No. 1 northern spring, 67c; No. 2, 66c; No. 3, 63@65 1/2c. Corn—No. 2, 44 1/2@45c; No. 3, 43 1/2@44 1/2c. Oats—No. 2, 27 1/2@29c; No. 3, 28 1/2c.

Futures: Wheat—July, 64 1/2c; August, 65 1/2c; September, 66 1/2c. Corn—July, 44 1/2c; September, 46 1/2@46 3/4c. Oats—July, 27c; September, 27 1/2@27 3/4c.

St. Louis Cash Grain.

St. Louis, July 1.—Wheat—No. 2 red cash, elevator, 62 1/2c; track, 63@63 1/2c new, 63 1/2@66c old; No. 2 hard, 64 1/2@65c new.

Corn—No. 2 cash, 43c; track, 44@45c. Oats—No. 2 cash, 29c; track, 29 1/2@30 1/2c; No. 2 white, 31 1/2c.

Kansas City Produce.

Kansas City, July 1.—Eggs—Fresh, 3 1/2 doz.

Butter—Creamery, extra fancy separator, 17c; firsts, 15c; dairy, fancy, 15c; packing stock, 12 1/2c; cheese, northern full cream, 10c; Missouri and Kansas full cream, 9c.

Poultry—Hens, live, 6 1/2c; roosters, 15c each; broilers, 14 1/2c lb; ducks, spring, 6c; turkey hens, 6c; young toms, 4c; old toms, 4c; pigeons, \$1.00 doz. Choice

scalded dressed poultry 1c above these prices.

Potatoes—New, 75@80c bushel, sacked; home grown, 65@75c per bu.

Fruit—Strawberries, \$2.00@3.00 per crate; blackberries, \$1.25@1.75 crate; gooseberries, \$1.00 per crate; cherries, \$1.50@1.75 per crate; raspberries, black, \$1.25@1.75 per crate. New apples, \$1.00@1.10 per bushel crate; currants, per crate, \$1.50@1.75.

Vegetables—Tomatoes, Texas, \$1.25 per four-basket crate; navy beans, \$2.25@2.30 bushel. Cabbage, \$2.00@2.75 per cwt. Onions, new, 90c@1.00 bu; cucumbers, \$1.00@1.50 per bushel crate.

Melons—Texas cantaloupes, per bushel crate, \$1.50@2.00; watermelons, per dozen, \$2.50@4.00.

KEEVER GRAIN CO.

344 BOARD OF TRADE, KANSAS CITY, MO.

Will handle your cash grain or option orders, and guarantee satisfaction. Always at home to letters or callers.

Hay.

Robison-Wallace Commission Co.

Solicits your consignments. Write for bids on barley. Address Nineteenth and Wyoming streets, Kansas City, Mo.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it!

SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

CATTLE.

THIRTY HEAD of high-grade Herefords for sale, consisting of 8 head choice yearling heifers, sired by Roy Wilton 79035, 9 head high-grade Hereford cows, with calves by side, sired as above; also 5 head high-grade cows, with calf by same bull. E. F. Nevins, Blue Rapids, Kans.

HORSES AND MULES.

FOR SALE OR TRADE—To close out stock—3 black draft stallions, 2 standard-bred trotting stallions, and 1 Kentucky jack; all fine animals and sure foal getters. E. H. McFall, Hutchinson, Kans.

FOR SALE—Two hundred horses, all ages, draft stock, good bone and size. Address J. A. Scott, Deer Trail, Colo.

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

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

FARMS AND RANCHES.

FREE A book of statistics, information, and 200 E. Kans. farm descriptions. Write G. E. Winders Realty Co., Ottawa, Kans.

C. W. MILLER, Hays City, Kans., has just the good, cheap, farm or ranch that will please you. Write him at once for prices.

FOR SALE OR TRADE—160-acre farm—100 acres in cultivation; 6-room house, outbuildings, 8 miles from Florence, Kans., first-class spring water. Price \$16 per acre. For full particulars, write Jno. Fox, Jr., New Cambria, Kans.

FOR SALE—Thirty-two-acre farm only 3 1/2 miles from Topeka, all bottom land, 5 acres fine timber, pasture, living water, all well fenced, small new house. Price very cheap for location. Possession given in 30 days if desired. Present crop goes with farm. John G. Howard, 1107 West 8th Street, Topeka, Kans.

MISCELLANEOUS.

TO EXCHANGE—Fine pedigree Belgian hares, also some good unpedigreed stock, for good watch, bicycle, bone mill, or good Black Langshans. Give description and price of what you have. A. S. Parson, Garden City, Kans.

TO EXCHANGE—Have clean staple stock of dry goods, shoes, and furnishing goods about \$2,500, doing fair business. Wish to dispose of stock soon. Will take \$2,000—in land or improved property; must have \$500 cash; will invoice at wholesale cost. Address: 1411 East 12th Street, Kansas City, Mo.

WANTED—Man and wife of experience to live on stock and hay ranch; 1 to 5 extra men to care for. References given and required. Mathews Bros., Coolidge, Kans.

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

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

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

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

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

BINDER TWINE FARMERS wanted as agents. Stimson & Co., Kansas City, Mo.

ILBERMAN BROTHERS. WOOL ALL the advantages of long experience, financial standing, superior lofting and storage and intimate and close touch with the great wool markets of the country are secured by the people who consign their wool to us. Liberal advances made on consignments. Sacks free to our patrons. Remember West. Ours is the largest Wool House in the West. Send for a copy of our Wool Circular, which will keep you posted on the conditions of the market. SILBERMAN BROS., 122, 124, 126, 128 Michigan St., Chicago.

MISCELLANEOUS.

High Grade Agent Wanted.

An established and responsible manufacturing concern, of Omaha, wants an A. 1 man to take the agency for its product in several counties in this state. He must be of high integrity and standing, a good business man and a salesman. He must give the business all his time, be a hustler, and willing to work hard to build up a good business.

Men who are idle, who change about or who are not in earnest with a record for success behind them, cannot fill the position. It will be permanent and it will take time and money to break a man into it, therefore, it must be filled right. It will pay \$1500, or more, per year.

Give age, past experience, present business, three business references, and address, Box 25, Omaha, Neb.

The Stray List.

For Week Ending June 20.

Rush County—W. P. Hays, Clerk. MARE—Strayed away from A. T. Sizer, whose residence is section 26, township 19, range 20, Rush county, June 10, 1901, one light bay mare, 2 years old; white spot on forehead, white hind left foot, weight 700 or 800 pounds.

Cherokee County—S. W. Swinney, Clerk. MARES—Taken up by James Vick, in Lowell Tp., June 3, 1901, one brown mare, 15 hands high, shod all around, 12 years old, no brands, but has been worked; valued at \$30; also, one chestnut sorrel mare, 1 white hind foot, star in forehead, shod in front, sprain knot on left hind leg, has been worked; valued at \$40.

Rawlins County—A. V. Hill, Clerk. HORSE—Taken up by M. Beam, in Union Tp. (P. O. Atwood), May 13, 1901, one bay horse, marked C E; valued at \$15.

Rawlins County—A. V. Hill, Clerk. MARE—Taken up by Oliver Wilcox, in Logan Tp. (P. O. Atwood), May 28, 1901, one iron gray mare; valued at \$15.

Wilson County—C. W. Ishman, Clerk. CALF—Taken up by M. L. Somers, in Cedar Tp. (P. O. Altoona), May 6, 1901, one steer calf, red and white spotted; valued at \$14.

For Week Ending June 27.

Cherokee County—S. W. Swinney, Clerk. MARE—Taken up by C. McDonald, in Garden tp., June 17, 1901, one light bay mare, 10 years old, weight 900 pounds, dm star in forehead, left front foot and left hind foot white; valued at \$30.

Thomas County—Henry M. Thiel, Clerk. COW—Taken up by Frank Bedford, in Kingery tp., May 3, 1901, one light red cow, round hole through left ear, and split from there to the end, weight 800 pounds; valued at \$25.

Greenwood County—C. D. Pritchard, Clerk. MARE—Taken up by W. H. Combs, in Pleasant Grove tp., (P. O. Neal), June 12, 1901, one dark sorrel mare, 10 or 11 years old, large white spot on forehead, thoroughpin in left gambel joint, branded, supposed to be inverted G on left shoulder.

For Week Ending July 4.

Cherokee County—S. W. Swinney, Clerk. HORSE—Taken up by E. C. Hutchison, in Shawnee tp., June 15, 1901, one bay horse, 9 years old, 5 feet 2 inches high, weight 1,200 pounds; valued at \$25. Also one bay mare, 7 years old, 5 feet high, weight 950 pounds; valued at \$65.

FRUIT CANNING made easy and sure by using Coddington's Self Melting Self Sealing Wax Strings. Very convenient and economical. Inquire of your dealer or send me his name and 45 cents in stamps for 100 strings by mail. Mention this paper. C. C. FOUTS, Middletown, O.

Missouri Farms.

My list contains five hundred farm locations in Missouri, Kansas, and Oklahoma. Mild climate, good water, sure crops, good market. Write for what you want—size, and whether for fruit, grain, or stock.

LOTT, the Land Man,

NEW YORK LIFE, KANSAS CITY, MO.

NOTICE! Why let your Horses and Cattle Suffer... from the terrible ravages of FLIES

For 25 cents we will furnish you a receipt which is cheap, sure, and harmless. Used by thousands last season. Send at once. Box 52, Fond du Lac, Wis.

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at the newly furnished and decorated hotel. Steam heat and electric elevators. Formerly the Clifton House, but now the

WINDSOR-CLIFTON HOTEL,

Corner of Monroe Street and Wabash Avenue. Located most central to the wholesale and retail stores, theaters and public buildings. The prices range from 75 cents and upwards per day. European plan. Visitors to the city are welcome. SAMUEL GREGSTEN, Proprietor.

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The Rocky Mountain regions of Colorado reached best via the Union Pacific provide lavishly for the health of the invalid and the pleasure of the tourist. Amid these rugged steeps are to be found some of the most charming and restful spots on earth. Fairy lakes nestled amid sunny peaks, and climate that cheers and exhilarates. The

SUMMER EXCURSION RATES

put in effect by the Union Pacific enable you to reach these favored localities without unnecessary expenditure of time or money.

ONE FARE FOR THE ROUND TRIP plus \$2.00 from Missouri River, in effect June 18th to 30th; July 10th to August 31st inclusive.

The Union Pacific will also sell tickets on July 1st to 9th inclusive, September 1st to 10th inclusive, at \$15 for the round trip from Missouri River points.

Return limit October 31, 1901. Proportionately low rates from intermediate points.

Full information cheerfully furnished upon application.

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J. C. FULTON, Depot Agent.

Cooler than it is here== California.

The mercury rarely registers so high during a California summer as it does here.

Ninety degrees is usual, and this occurs for only a few hours on several days scattered through three or four months. At the seashore and up in the mountains there are constant and refreshing breezes.

Ride there across cool table-lands of New Mexico and Arizona.

Low rates to California this summer. Literature for the asking.

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may go through PAGE 25 wire 58 inch Fence, but no rabbit, chicken, pig, hog, horse nor bull can.  
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25 designs, all steel. Handsome, durable. -Cheaper than a wood fence. Special inducements to church and cemeteries. Catalogue free.  
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**A Davis Gas and Gasoline Engine**



Will run your Wood Saws, Well Drills, Corn Shellers, Grinding Mills, Threshing Machines, Creamerys, Etc.  
CHEAPER and easier than any other power. Write to-day for Catalogue.  
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**Hot Weather. Hog Cholera.**

**IMPROVED DEWEY DOUBLE STOCK WATERER.**



Hogs suffer for water during hot weather. Plenty of pure water prevents hog cholera. The "Improved Dewey" saves a hired man's wages, increases the weight of hogs, and saves time during the harvesting and refreshing season. Buy one now. They are very cheap this year. Do not buy the "Dewey" or other makes; demand the "Improved Dewey." Call on your dealer, or address **THE B-B MFG CO.,** Mention Kansas Farmer. Davenport, Iowa.



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

**INVEST \$25. OR MORE**  
In a GUARANTEED Oil Stock.  
\$25.00 will buy 100 shares now. The property is being rapidly developed and will soon advance.  
Hon. Bernard Marks of San Francisco, Cal., says about this company, "I consider this investment safe and thoroughly reliable." Make checks payable and address for full particulars,  
**BARNARD BROS., FINANCE CO.,**  
Suite 702, 703 Winthrop Bldg., BOSTON, MASS

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**THE SMITH CREAM SEPARATOR.**  
The only separator on the market that does not MIX the milk and water, and sold under a positive guarantee. More Cream, Better Butter, Milk fine, and no labor at all. Get a SMITH. Agents wanted. Mention Kansas Farmer.  
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**Grindstones.**  
Direct from maker to user 75-lb. stone, diameter 20 inches, \$2.80. 100-lb. stone, diameter 24 inches \$3.30. Either size stone mounted, \$1.25 extra. The prices include cost of delivery at nearest railroad station. Write for circular. **P. L. COFF,** 1 Oak Box 381, Marietta, Ohio.

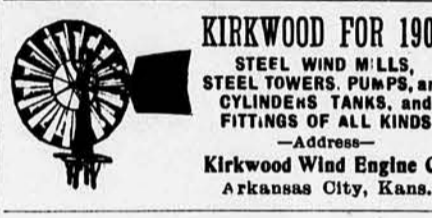
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Specialties: Chronic, and obscure Diseases. Heart and Lungs.

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IS WHAT YOU CAN SAVE  
We make all kinds of scales. Also B. B. Pumps and Windmills.  
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**ENSILAGE CUTTERS.**  
To cut Ensilage with pressure requires a strong and large capacity machine.  
**THE ROSS ENSILAGE CUTTERS**  
Have Proven Superior to all Others.  
**THE E. W. ROSS CO.,**  
SPRINGFIELD, O.  
Send for Catalogue No. 49, which describes the full line.

**WINTER WATER.**  
When the stock goes into winter quarters you will want to be sure of a reliable and constant supply of water & bored well is the safest and surest. Our Well Machinery does it best and cheapest. Drills 95 to 1500 ft deep. We make all appliances. Have stood the test of 13 years. We also have Gasoline Engines for all purposes. Send for free catalog.  
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Successors to Sioux City Engine & Iron Works



Do you want a **WIND MILL?**  
Do you want a **FEED MILL?** We have them the best made and at prices that CAN NOT BE EQUALLED. Write for further information, circulars, etc.  
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**KIRKWOOD FOR 1900**  
STEEL WIND MILLS, STEEL TOWERS, PUMPS, and CYLINDERS TANKS, and FITTINGS OF ALL KINDS  
—Address—  
**Kirkwood Wind Engine Co**  
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**DRILLING MACHINERY**  
FOR WATER, GAS and MINERAL PROSPECTING. Steam or Horse Power. We are the oldest and largest manufacturers of Drilling Machinery in this country. Our machines are faster, stronger and easier to operate than any other machine on the market. They are no experiment. Thousands are in successful operation. Special attention given repair work. Send for Free illustrated catalogue to **The Kelly, Taneyhill & Woodruff Co.,** Waterloo, Iowa.

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IS THE STANDARD  
STEAM PUMPS, AIR LIFTS, GASOLINE ENGINES  
WRITE FOR CIRCULAR  
**THE AMERICAN WELL WORKS**  
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**Pipe at Mfrs. Prices**  
New, Full Weight, Mill Lengths, Threaded With Couplings.  
1/2 in. Black at 2 3/4 per ft. Galvanized at 3 1/4 per ft.  
3/4 " " " 3 1/4 per ft. " " 4 1/4 per ft.  
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1 3/4 " " " 6 1/4 per ft. " " 7 1/4 per ft.  
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Delivered at R. R. Depot—here—terms cash with order. We carry over 1200 tons in stock. Prompt shipments.  
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Each Keg contains 100 lbs. of new mixed wire nails from about 3 to 40 penny size. Order a Sample Keg. Write for Free Catalogue No. 61 on building material and supplies.  
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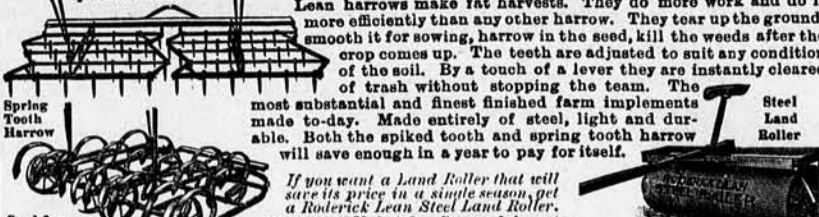
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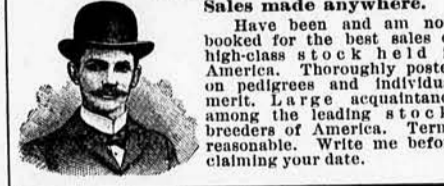
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