

# KANSAS FARMER

VOL. XXXIX.  
NO. 29.

TOPEKA, KANSAS, THURSDAY, JULY 13, 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,** Busby, 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. SCHULZ, Proprietor, - FRANKFORT, KANS.**

**POLAND-CHINAS.** 90 good spring pigs; 90 good fall pigs; only a few fall gilts bred but they are choice. Write for one. Don't delay.  
**DIETRICH & SPAULDING, Richmond, Kas.**

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

**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.**

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

**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 quoted 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 Bester and King Hadley. FOR SALE—An extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra-large, richly-bred sows. Inspection or correspondence invited.

### SWINE.

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

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.**

**DUROC-JERSEY SWINE—REGISTERED.**  
Write for prices on choice spring pigs; 100 to select from. Third annual sale date, October 7.  
**NEWTON BROTHERS, Whiting, Kansas.**

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

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

**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 7368, and others. A few male pigs of March and April farrow. 8 C. B. Leghorn eggs.

**MAPLE GROVE HERD OF Registered Poland-Chinas.**  
**HIRAM SMITH, Colwich, Sedgwick Co., Kans.**  
Headed by the grand boar Black Chief 42387, Ideal U. S. 48259, and assisted by Perfect I Am Vol. XXIII, grandson of Perfect I Know 19172, grandam the great sow Anderson's Model 43611, mated to a lot of choice selected sows of the most noted prize-winning families. A fine lot of fall pigs ready to ship. Inspection or correspondence invited.

**Prospect Park Herd of Thoroughbred Poland-China Hogs**  
Perfect We Know, a son of Chief I Know, the sweepstakes boar at the Omaha Exposition, at head of herd.  
**J. H. TAYLOR, RHINEHART, KANSAS.**  
Telephone address Pearl, Kans.  
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.**

**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. **1750 Fine Duroc-Jersey Pigs.**  
**F. F. FAILOR, Newton, Iowa.**

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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.**

### CATTLE.

**POLLED DURHAM CATTLE, AND CHEVIOT SHEEP.**  
Write for what you want. **A. E. HURLEIGH, Knox City, Knox Co., Mo.**

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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.**

**ALFALFA MEADOW STOCK FARM**  
1,800 acres. Pure-bred stock only. Herefords, Poland-Chinas, Light Brahmas and Belgian hares. Stock of all kinds for sale. Pedigreed hares, \$2.  
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Six Charming 4th at head of herd. Cruickshank top crosses on best American families. Young stock for sale.

**ROCKY HILL SHORTHORNS.**  
Herd headed by Sempstress Valentine 157069, son of St. Valentine 21014, and Mayor 129228, grandson of Imp. Salamis and Lord Mayor. Young bulls for sale.  
**J. F. TRUE & SON, Newman, Kans.**

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

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

**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.**

**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.  
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**BREEDER OF PERCHERON HORSES And HOLSTEIN FRIESIAN CATTLE.**  
Representing Josephine, Mechthilde and Parthena families. Poland-China hogs. Son of Missouri's Black Chief at head of herd. **B. F. R.** and **B. L. H.** chickens. Eggs in season, always guaranteed as represented.

**Silver Creek Herd SHORTHORN CATTLE.**  
**GWENDOLINE'S PRINCE 180913** in service, a son of the \$1,100 cow Gwendoline 5th. Best Scotch, Bates and American families represented. Also breed  
**High Class Duroc-Jersey Swine.**  
Can ship on Santa Fe, Frisco and Missouri Pacific railroads.  
**J. F. STODDER, Burden, Cowley Co., Kans.**

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

### CATTLE

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

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Kids' DUKE 96637 at head of herd. Young bulls and heifers 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.**

**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 16-acre suburban property in Des Moines, Iowa. Information promptly furnished by the owner.  
**J. R. HIGGINS, Keswick, Keokuk Co., Iowa.**

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

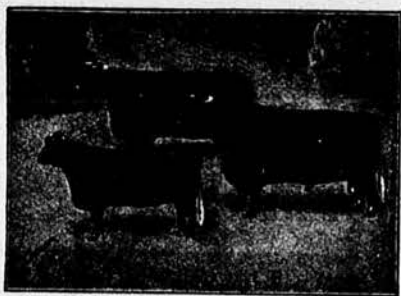
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Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion Habbo, and the Saddle stallion Rosewood, a 16-hand 1,100-pound son of Montrose in service. Visitors always welcome.  
Address **BLACKSHERE BROTHERS, Elmdale,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

**SUNFLOWER HERD SCOTCH AND SCOTCH-TOPPED SHORTHORN CATTLE, POLAND-CHINA SWINE**  
Herd Bull, Sir Knight 124403. Herd Boars, Black U. S. 3d 25582 S, and Sunflower Black Chief 23603. Representative stock for sale.  
ADDRESS  
**ANDREW PRINGLE, Rural Route 2, Eskridge, Kans.**

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**The Best, Pure-Bred SHORTHORN CATTLE.**  
Herd numbers 185, headed by ROYAL DOWRY 125698, a pure Cruickshank, assisted by Sharon Lavender 149002. FOR SALE JUST NOW 16 BULLS of serviceable age, and 12 bull calves. Farm 1 1/2 miles from town. Can ship on Mo. Pac., R. I., or Santa Fe. Foundation stock selected from three of the great herds of Ohio.



**CATTLE.**



**GLENDALE SHORTHORNS, OTTAWA, KANS.**  
 Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bull Scotland's Charm 127244, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Twenty bulls for sale.  
**C. F. WOLFE & SON, Proprietors.**

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**Guarantee Reads--**

Security Gail Cure will cure all galls from saddle or collar while horse is working.

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This is the truth. Try it now—your horses need it to-day.

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**PERCHERON HORSES**

**J. W. & J. C. ROBISON, Towanda, Kansas.**  
 Importers and Breeders. Largest Herd in the State. Inspection Invited.

**PERCHERON HORSES and ABERDEEN-ANGUS CATTLE.**

**GARRETT HURST, Breeder, Zyba, Sumner Co. Kans.** Young stock for sale of either sex. All registered.

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First edition Stewart's "DOMESTIC SHEEP" sold out. Second edition, revised and enlarged, now ready. 384 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.

**WROUGHT IRON PIPE**  
 For Steam, Gas and Water. Good as new. Tested, Re-painted, Re-threaded and couplings furnished. Ranging in length to 20 ft. All Sizes. Write for Prices. Write for Free Catalogue No. 61 of merchandise for HOME, FARM and FIELD, from Sheriffs and Receivers' Sales. Roofing, Plumbing Material, Hardware, Tool, Machinery, etc., at half price.  
**CHICAGO HOUSE WRECKING CO.**  
 W. 35th & Iron Sts., CHICAGO.

When writing 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 66304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93662, FRISCOE 93674, FULTON ADAMS 11th 83731.

HESIOD 29th 66304  
 Twenty-five miles south of Kansas City on Frisco, Fort Scott & Memphis, and K. C., P. & G. Railroads

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

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

**GEO. W. NULL, Odessa, Mo., LIVE STOCK AUCTIONEER.**

Have sold for, and am booking sales for leading stockmen everywhere. Write me before claiming dates. I also have Poland-China Swine, Bronze turkeys, B. F. Rock, and Light Brahma chickens. 150 birds, and a lot of pigs ready to ship. Write for Free Catalogue.

**WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.**



**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., Kans**



## Agricultural Matters.

### Conservation of Soil Moisture.

FROM PROF. F. H. KING'S "PHYSICS OF AGRICULTURE."\*

There are very few fields upon which crops of any kind, in any climate, can be brought to maturity with the maximum yields the soils are capable of producing without adopting means of saving the soil moisture. There are fields, it is true, where, at times, the moisture in the soil is too great, and drainage becomes necessary; but even under these conditions it will usually be found advisable to adopt measures for conserving the water not so removed.

### MODES OF CONTROLLING SOIL MOISTURE.

1. Aiming to control soil moisture three distinct lines of operation are followed, based upon as many different aims. These are:

- (1). To conserve the moisture already in the soil (a) by different modes, times and frequencies of tillage, (b) by the application of mulches, and (c) by establishing wind breaks.
- (2). To reduce the quantity of water in a soil (a) by frequent stirring, (b) by ridging or firming the surface, (c) by decreasing the water capacity, and (d) by surface or under drainage.
- (3). To increase the amount of water in a soil (a) by increasing its water capacity, (b) by strengthening the capillary movement upward and (c) by irrigation.

### LATE FALL PLOWING TO CONSERVE MOISTURE.

There is no method of developing so effective a soil mulch as that furnished by a tool, which, like the plow, completely cuts off a layer of surface soil and returns it loosely, bottom up, to place again.

When ground is plowed late in the fall, just before freezing, it then acts during the winter and early spring as a mulch, diminishing the loss of water by surface evaporation, and at the same time the roughened surface tends to hold the snows and to permit water and early spring rains to penetrate more deeply into the soil, leaving the ground more moist at seeding time than would be the case were it left unplowed. Determinations of the moisture in the spring, as late as May 14, have proved that late fall plowed ground may contain fully six pounds per square foot more water in the upper four feet than similar adjacent ground not plowed. This difference represents a rainfall of 1.15 inches and is a very important saving in climates of deficient water supply for crops.

### LATE TILLAGE FOR ORCHARDS AND SMALL FRUITS.

Late fall plowing and deep cultivation in orchards of fruit trees and in vineyards of small fruits, after the wood is fully matured and growth arrested by the cold weather, will do very much toward giving the soil better moisture relations the next spring, tending to secure such results as are cited above. In cases where injury from deep freezing is liable to occur the late plowing will lessen this danger because the loose soil blanket will help to retain the heat in the ground as well as the soil moisture.

In the late plowing and deep tillage, there is little danger of increasing the loss of plant food by leaching because the season is too late and the temperature of the soil too low to stimulate the formation of nitrates.

### EARLY FALL PLOWING TO SAVE SOIL MOISTURE.

In those cases where winter grain is to be sowed, the early plowing of the ground, or plowing as soon as the field has been freed from the preceding crop, is in the direction of economy of soil moisture. So, too, in sub-humid climates, even where winter grain is not to be sowed, it will often be desirable to plow as early as possible in order to retain soil moisture and to facilitate the entrance of the fall rains more deeply into the ground. The early plowing or disking in these cases may also be helpful in hastening nitrification in the soil.

It is the strong tendency of early fall plowing, in climates where there is plenty of soil moisture to develop nitrates and where there is much rain in the late fall and early spring, which has led to the sowing of "cover crops" having for their primary object the locking up of the soluble plant foods to prevent them from being lost by soil leaching; and the tendency of early fall plowing to diminish surface evaporation and thus, in wet climates, to increase percolation and the loss of

plant food may sometimes make this practice undesirable in such cases.

### EARLY SPRING PLOWING TO SAVE SOIL MOISTURE.

In all climates where there is a tendency of the soil to become too dry the earliest stirring in the spring, which is practicable without injuring the soil texture, is in the direction of economy in most cases because, at this season of the year, the effectiveness of tillage in conserving soil moisture is greater than at almost any other time. Where it is shown that a wet soil carries water to the surface much more rapidly and from a greater depth than a dry soil can. In the spring the soil at the surface is usually not only wet, but also well compacted, two of the most important conditions for the rapid movement of water to the surface, and it is because of these that early and deep spring tillage is so important as a means of saving soil moisture.

In one instance, where two immediately adjacent pieces of ground, in every way alike, were plowed in the spring, seven days apart, it was found that the earliest plowed ground contained, at the time the second piece was plowed, a little more moisture in the upper four feet than it had seven days before, while the ground, which had not been plowed had lost, in the same interval of time, an amount of moisture from the surface four feet equal to 1.75 inches, a full eighth of the rainfall of the growing season of that locality.

Nor was the saving of moisture the only advantage gained by the early plowing, for the soil plowed last had dried so extensively as to become very hard and lumpy, thus greatly increasing the labor necessary to fit it for planting.

### DISKING OR HARROWING WHERE THERE IS NOT TIME TO PLOW.

It often happens in the spring that hot dry winds come on when there is not opportunity to get the ground plowed in time to save the needed moisture and prevent the development of clods. In such cases the use of the disk harrow, or even the ordinary spike tooth harrow, will do very much to save the moisture and preserve the tilth of the soil, if only the fields are gone over with these. The disk harrow is one of the best of tools for early use in the spring to work the soil and develop the mulches.

### CORN AND POTATO GROUND, ORCHARDS AND GARDENS PLOWED EARLY IN THE SPRING.

Ground to be planted to corn or potatoes, as well as the orchard and garden, should generally be plowed quite early in the spring and a considerable time before it is intended to plant them. By doing this not only will moisture be saved, but the development of nitrates in the soil will be hastened and thus larger crops secured on this account.

It is only in the event of long, frequent, and heavy rains, following such early tillage, that loss can result from such a practice.

### EFFECTIVENESS OF SOIL MULCHES.

The effectiveness of soil mulches as means for diminishing evaporation varies (1) with the size of the soil grains, (2) with the coarseness of the crumb structure, (3) with the thickness of the mulch and (4) with the frequency with which the soil is stirred. Soils which maintain a strong capillary rise of water through them will, when converted into mulches, still permit the water to waste through their mulches faster than it will be lost through the mulches of soils which permit only slow capillary movements. That is, the sandy soils form more effective mulches than do the clayey ones, and this greater effectiveness of the sandy soils, as mulches, goes a long way toward making the smaller amount of water they are able to retain effective in crop production. In the table which follows are given the results of a series of trials with three types of soil. The cylinders in this series, however, stood out in the open air of the field.

Table showing the effectiveness of soil mulches of different kinds and different thicknesses.

|                             | No mulch, water lost per 100 days. | Mulch 1 inch deep, water lost per 100 days. | Mulch 2 inches deep, water lost per 100 days. | Mulch 3 inches deep, water lost per 100 days. | Mulch 4 inches deep, water lost per 100 days. |
|-----------------------------|------------------------------------|---|---|---|---|
| <b>Black marsh soil:</b>    |                                    |   |   |   |   |
| Tons per acre.....          | 588.0                              | 355.0                                       | 270.0   | 256.4   | 252.5   |
| Inches of water.....        | 5.193                              | 3.12  | 2.384   | 2.295   | 2.230   |
| Per cent saved by mulches.. |                                    | 39.54                                       | 54.08   | 56.39   | 57.06   |
| <b>Sandy loam:</b>          |                                    |   |   |   |   |
| Tons per acre.....          | 741.5                              | 373.7                                       | 339.3   | 287.5   | 315.4   |
| Inches of water.....        | 6.548                              | 3.300                                       | 2.906   | 2.539   | 2.785   |
| Per cent saved by mulches.. |                                    | 46.69                                       | 54.24   | 61.22   | 57.47   |
| <b>Virgin clay loam:</b>    |                                    |   |   |   |   |
| Tons per acre.....          | 2,414.                             | 1,260.                                      | 979.7   | 889.2   | 82.9  |
| Inches of water.....        | 21.31                              | 11.13                                       | 8.652   | 7.852   | 7.806   |
| Per cent saved by mulches.. |                                    | 47.76                                       | 59.38   | 63.13   | 63.34   |

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From this table will be seen that the soil mulches have exerted a very great influence in saving soil moisture.

It should be understood, however, that if the water reservoirs had been much farther below the surface of the soil, and below the mulch, the mulches would have been more effective as well as less water would have been lost from the unmulched cylinders.

### FREQUENCY OF CULTIVATION MAY MAKE MULCHES MORE EFFECTIVE.

When a fresh mulch is formed upon the surface of a well moistened soil the first effect of the stirring is to increase the rate of evaporation from the field, on account of the much larger surface of wet soil which is exposed to the air. This greater loss of water, however, is largely from the stirred soil. If dry winds and sunny weather follow the formation of the soil mulch it soon becomes so dry that but a relatively small amount of water can pass up through it. On the other hand, if a series of cloudy days follow, when the rate of evaporation must be small, even from firm wet soil, and if at the same time the soil below the mulch is quite moist, so much water may pass up into the mulch as to nearly saturate the lower portion of it and to cause the kernels to be drawn together and again to be compacted and reunited with the unstirred soil below. If this change does take place the mulch is rendered less effective and a second stirring is needed.

The relative effectiveness of mulches stirred twice per week, once per week, and once in two weeks, for a virgin clay loam, in cylinders 52 inches deep and 18 inches in diameter, is given in the table which follows:

Table showing the relative effectiveness of soil mulches of different depths and different frequencies of cultivation.

|  | Not cultivated, Per acre. | Once in 2 weeks, Per acre. | Once per week, Per acre. | Twice per week, Per acre. |
|--|---------------------------|----------------------------|--------------------------|---------------------------|
| <b>Cultivated one inch deep:</b>         |                           |                            |                          |                           |
| The loss in tons per 100 days was.....   | 724.1                     | 551.2                      | 545.0                    | 527.8                     |
| The loss in inches per 100 days was..... | 6.394                     | 4.867                      | 4.812                    | 4.662                     |
| The percentage of water saved was.....   |                           | 23.88                      | 24.73                    | 27.10                     |
| <b>Cultivated two inches deep:</b>       |                           |                            |                          |                           |
| The loss in tons per 100 days was.....   | 724.1                     | 609.2                      | 552.1                    | 515.4                     |
| The loss in inches per 100 days was..... | 6.394                     | 5.380                      | 4.875                    | 4.552                     |
| The percentage of water saved was.....   |                           | 15.88                      | 23.76                    | 28.81                     |
| <b>Cultivated three inches deep:</b>     |                           |                            |                          |                           |
| The loss in tons per 100 days was.....   | 724.1                     | 612.0                      | 531.5                    | 495.0                     |
| The loss in inches per 100 days was..... | 6.394                     | 5.280                      | 4.604                    | 4.371                     |
| The percentage of water saved was.....   |                           | 15.49                      | 26.60                    | 31.64                     |

It will be seen that with each of the three depths of cultivation the percentage of moisture saved, over that which was lost from the ground not cultivated, increased with the frequency of cultivation.

### TOO FREQUENT CULTIVATION UNDESIRABLE.

When a soil mulch is well loosened and thoroughly separated from the firm ground beneath, and especially after the mulch has become quite dry, little can be gained by stirring the soil. Indeed it must never be kept in mind that it costs to cultivate a field and when this is done without need the work is a dead loss. Further than this late in the season, when the surface of the ground has become relatively dry, positive harm may be done by unnecessary cultivation, because at this season many plants have put up, very close to the surface, great numbers of fine roots in order to avail themselves of the moisture from light showers and from the dew which may be condensed in the surface layer of soil on the coolest nights. To destroy these roots will, in most cases, cause a greater loss by root pruning than can be gained by saving moisture. It is

possible also, by too frequent tillage, to make the texture of the mulch so fine that its effectiveness is decreased.

### CULTIVATION SHOULD BE MOST FREQUENT IN THE SPRING.

In the early part of the season, when the aeration of the soil, the warming of it and the killing of weeds are other important objects to be attained, it is more important to cultivate frequently. This is the season of the year when the effectiveness of mulches decreases most rapidly, it is the season when there is least danger of destroying the roots of the crop, and it is the time when cultivation is needed to help develop plant food.

\*This is a work which should be in the hands of every farmer who desires to prosper in his business. It is a new work containing the results of the latest investigations. The publishers' price for the book is \$1.75. In order to give readers of the KANSAS FARMER a chance to obtain this valuable help as cheaply as possible, we have arranged to supply the book post paid at \$1.30 cash sent to this office.

### "The Future by the Past."

EDITOR KANSAS FARMER:—In his little book, published in 1888, J. C. H. Swann, in making his predictions on the weather for the future, said: "The year 1901 will be another drouth year, with terrible winter floods; spring backward, cold and dry, and dry it will continue—will have only local rains and few at that." He also predicted that "floods will be fearful in the Atlantic States, and in the West, and with the floods and spring rains will end the

rain-fall until September." Drouth, such as we have just passed through (1900) will be the lot of all. An exceedingly hot summer and bugs, bugs will be the cry of all. Weather prophets are regarded, to some extent, as cranks. In a private letter to your correspondent some years ago, Brother Swann complained bitterly because the newspapers ridiculed his theory of predicting the weather, and in memory of his efforts to do good to his fellow farmers I call the attention of your readers to his predictions and their general accuracy. His forecast for next year, 1902, should also be mentioned in this connection. He says:

"The year 1902 will be another year of diminished rainfall, yet it will be a prosperous year in Kansas. The rain fall will be timely and well distributed. Cold rains the last of April and during May." Cold rains during these two months are beneficial to wheat and small grain, also very discouraging to chinch-bugs and kindred pests. New let the farmers of Kansas take Coburn's report and verify Brother Swann's assertions, that there has never been a failure of the wheat crop on the even years. Replant the same 5,000,000 acres to wheat again this fall, or increase the acreage if possible, and reap in 1902, 100,000,000 bushels of wheat. Let Kansas make another record on the golden grain crop previous to the Louisiana Purchase Snow at St. Louis, and not be discouraged by the present dry spell. F. R. FRENCH. Lakin, Kansas.

The foregoing letter does the old weather prophet—now dead—more honor than he deserves. Mr. Swan was a candid, honest man, but there is



neither rhyme nor reason in his predictions. He assumed from his own observations that the seasons repeat in cycles of 20 years. Weather records do not verify such theory. Indeed they have not been kept with accuracy during a sufficient period to establish any theory of periodicity. Some weather prophets are just as sure of a 7 year cycle as was Mr. Swann of his 20 year cycle. The numbers 7 and 20 are not commensurable so that a 7 year cycle must soon get out of joint with a 20 year cycle.

It is not worth while to get excited on account of anybody's prediction as to the weather. It never does its worst, and seldom its best, but there will be seed-time and harvest while the earth remaineth, and the weather prophets new or old knew little as to the seasons whether they will be ordinary or extraordinary. Those who avoid the panicky tendencies which sometimes overtake many are the ones who come out best in the long run.

#### Do Not Stop Growing Winter Wheat.

J. H. SKINNER, INDIANA.

Concerning the cessation of winter wheat growing to get rid of the Hessian fly, will say that the opinion of the majority of farmers in this section is expressed by their action. Last year the crop was practically a total failure in Tippecanoe, most all of the wheat land being sown to oats or planted in corn. Where it was allowed to stand, it amounted to very little with the exception of a few fields. Farmers, as a rule, are not well informed as to the life history, habits, etc., of the Hessian fly. Many men believe that the failure was largely due to the severe changeable winter. But no matter to what they attribute the failure of 1900, it is true that a very small acreage was sown last fall. In some townships where hundreds of acres have been sown in previous years, very few acres were sown in the autumn of 1900.

Many farmers think the thing to do is to stop growing wheat for a few years. Some are growing rye in place of it. Others are turning their attention to corn and oats. In my opinion there is no need to give up wheat growing for even a year. (Nor would such a plan necessarily mean the destruction of the fly. The fly can and does work in other plants.)

(Many inquiries from various parts of Indiana as to what may be grown in place of wheat indicate a feeling which is more or less prevalent, that Indiana farmers must quit growing wheat for a few years, on account of the existence of large numbers of Hessian flies. That the fly has done and will do great damage is only too true, but it seems unfortunate that farmers should allow a small fly an eighth of an inch long to whip them out in this day of scientific investigation.)

There has been much careful and valuable work done by thoroughly capable men in order that the farmer may be informed and know how to combat this pest. The agricultural department at Washington has published a valuable bulletin on the Hessian fly. Prof. Webster has investigated the subject in both Indiana and Ohio. The experiment stations in both of these States have gotten out good bulletins. These works give the life history and habits of the insect and suggest many things that should aid farmers in combating it.

To successfully combat the fly, however, requires some effort on the part of the farmers. Many of them are not much concerned as to the time their neighbors sow wheat. But if they are to succeed in preventing its destruction, they must first of all cooperate. By one man sowing early in the season, or allowing a field to grow up in volunteer wheat, a whole community may have its crop destroyed. There are several things which will contribute to success in such an undertaking. In other words, there are several preventive measures which, if carefully followed, will certainly reduce the number of flies, and I believe with the aid of parasites and other natural enemies do away with it.

The battle must begin as soon as possible after harvest. The stubble should be burned off where it is to be cropped the next year. If sown to grass or clover, as is often the case, the stubble should be clipped close to the ground, raked off and burned. In this way thousands of flies in the flax-seed state are destroyed. The plowing for wheat should be done as early as possible and the land rolled down. If in wheat the previous year, the field should be kept free from volunteer wheat, as such would make a nesting place for the fly. The seedbed

should be very thoroughly prepared in order that the kernels will germinate quickly when placed in the ground, and that the young plants may have sufficient available food to produce rapid, thrifty growth, as it is essential that the wheat plant be well established before cold weather comes.

The last week in August or early in September a border of wheat a half rod wide should be sown on all sides of the field. When the wheat comes up this will make a trap where the eggs will be deposited. These may all be destroyed by plowing the border under deeply and rolling down, late in the fall, after the main crop has been sown. It may either be sown to wheat again or to oats in the spring. The main crop should not be sown until after the fly has deposited its eggs and died. That is usually late in September, and in years where there are no early frosts and continued warm weather it should be delayed until even as late as October 10.

Crop rotations may be arranged so that the wheat field for each succeeding year will be to the windward, and as far away from that of the previous season as is possible. As the fly does not migrate far and usually with the wind, such an arrangement of crops will aid greatly in avoiding infection. If these suggestions are followed, and there is no reason why they may not be, there will be no need to stop growing wheat on account of the Hessian fly.

## 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. (Sotham management.)

December 10, 11 and 12, 1901—Armour-Funkhouser, Herefords, Kansas City.

December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.

January 23 to 31, 1902, for Sotham's Annual Criterion Sale, at Kansas City.

March 25-27, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)

April 22-24, 1902—National Hereford Exchange, Kansas City, Mo. (Sotham management.)

May 27-29, 1902—National Hereford Exchange, Omaha, Nebr. (Sotham management.)

June 24-26, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)

#### Development of the Boar.

H. C. STRATOR, OF MONROE, BEFORE IOWA SWINE BREEDERS.

I would rather do the work than tell you how it should be done, as there is no laid down rule. Very often a change in condition requires different treatment. I will try to give you a rule that seldom fails. In the first place I would select a young boar with a quiet disposition, which nearly always denotes good feeding qualities. I would want him growthy and a good individual, with a good, large bone and a strong constitution, with as much style and finish as possible. I would want his sire, dam, grandsire and granddam to have good development—the development that I expected the young boar to have when fully matured, for like produces like, and that which is bred in the bone, with proper treatment, will come out through the flesh. After having selected the kind of young boar, I would give him kind treatment, as nothing will ruin a young boar quicker than ill treatment. I would give him a well-fenced lot, with good shelter. The lot should contain not less than one-fourth of an acre, and if larger all the better. This will furnish him with plenty of pasture and room to exercise. If the boar is of a quiet disposition his lot may be adjoining other hogs, but should be of a nervous disposition I would have his lot away from other hogs.

In regard to the feed and feeding: It makes not so much difference what the feed is and how it is fed. I would feed him regularly twice a day, with corn and oats and swill made of ground oats and shipstuff. He should have some salt and plenty of wood ashes, and under no condition be overfed, as it will do him more harm than good. For good development it requires good breeding and good feeding. Feed alone will not develop the nice little boar into a large, fine boar; neither will it increase the size and bone; but you can strengthen the bone. To increase the size and bone get a pig from a sire and dam that have size and bone. If feed would increase the size and bone why not feed the western broncho into an 1,800 pound draft horse or the Texas steer into a broad-backed, beefy Shorthorn?

The President—They say that the

boar is half of the herd. There ought to be some discussion on this paper, certainly. I think I can say for Mr. Strator that he has developed one that is, to me, one of the most wonderful hogs that we have had in the show ring for several years past. He has shown by what he can do that he knows what he is talking about.

Mr. F. F. Failor—I do not want to take up but little of your time on this subject, but I think it is a very important subject; very likely the most important subject before this meeting today, because the boar is half the herd if he is a good one, and he is more than half if he is a poor one. I would like to make a little outline of this and let the others do the talking. Take Sanders on cattle breeding, or any breeding publication, and you will find the maternal side of the house is the hot bed, and if the seed is right the produce will be right, and if not it will not be right. Amos Cruickshank never made a great hit in producing Shorthorn cattle until he used bulls of his own breeding. He produced the type he wanted. And, as Mr. Strator has said, if you want a type breed from the sire and dam that is of that type. Instill into the individual animal the type from both sides, use that type because you have intensified the quality of type, and use that on the maternal side. Cruickshank never produced a top sider until he produced the Champion of England, and he bred him in that way. He seldom used a bull that he did not breed the sire and dam and the bull himself. If he wanted to introduce new blood he would go out and get a female and cross her with one of his bulls, and if the produce was a female he would cross with another of his bulls, and if that calf was a bull he would then use that bull on his herd. I believe a man can take a certain type of hog, and if he is scientific enough and is a common sense judge of a hog and will notice the sire and dam, and notice that they are both good, he will get a good pig from that cross. He must know not only that the pig is bred right, but that he is right from the breeding all along the line. He may start with some sows that are indifferent in quality and of different types, but if he will use one kind of a boar and breed along that line of the same type, trying to improve a little as he goes along, and get a little better, his ideal becoming advanced all the time, he is going to get something better all the time.

Mr. Cotta—It is discussion you are after. We say the boar is half the herd if he is a good one, and more than half if he is not. There are a few phenomenal ones that have been not only half the herd but half the breed. Sometimes

they say, "Look at an animal's sire and dam and see that both are good." It is a fact that some of the most phenomenal sires we have had were produced from some of the commonest, most ordinary looking scrub sows you ever saw. What are you going to do about that? They must have good blood. Take the Poland-China that is producing the best in the world to-day; his dam is a little bit of a scrub. She was sent away to breed and when she came to the boar a neighbor said to the owner of the boar, "I would not disgrace my boar by letting him breed to that sow." They run up against such things once in a while.

Mr. Lambing—Mr. Cotta must have had a peculiar experience. I have been for years raising hogs, and this is the first time that I ever heard of a noted hog that did not have a noted mother. This is the first instance I have heard of on record where the dam did not cut any figure in the breeding boar.

The President—I have it in mind to ask Mr. Cotta if he did not think he had made his statement a little bit stronger than he intended?

Mr. Cotta—I was not criticising the sow as far as blood lines were concerned, but as an individual she was not very much. I guess everybody that ever saw the old girl will say as much. That sow had brothers and sisters that were State fair winners, and yet they had never produced anything as good as this common looking one had.

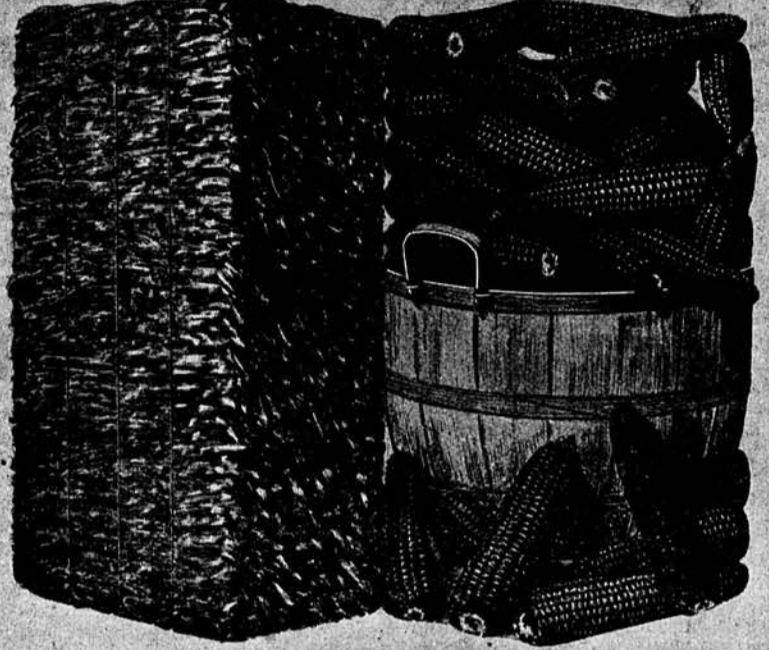
Mr. J. B. Patrick, of Dana—Is it not the case, or might it not be the case, that this inferior sow might be well bred, but lack the development that Mr. Strator was trying to bring out before the audience? The sow was well bred, but the man that fed her lacked the skill to develop her into the hog she ought to have been from the breeding she had in her. If she had not had the quality she could not have produced this extra good male. She must have had the quality but lacked the development.

## FARM WAGONS

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We have many of those hogs. We have them bred right, we have the quality to start with, but we fail to develop the animal into what it should be. That is where we get our good stock from what we call inferior stock. The blood is there and the quality is there but lacks development.

Mr. Van Houten—I think the gentleman emphasized his remarks in the right place, by saying that if you did not know what that sow would produce you would not want to have anything to do with her. I think that emphasis shows that the sow was an exception, and, being an exception he would not want to base a business calculation on that exception, and none of the rest of you would. The exception is so rare that I think every one would look to the individuality of the dam as well as the sire. I think the gentleman stated that fairly by putting his emphasis in the right place, and by stating that no one who did not know what she was would have anything to do with her. And, even when she came to be bred, the men passed their judgment on her as you would have passed it. The whole circumstance shows this was an exceptional case, and no one would want to base his judgment on the exception.

Mr. Lambing—We have a pioneer among us; we would like to hear from Mr. Swallow, on whether the good boars are produced from medium sows or good sows.

Mr. Swallow—They are produced from good boars and good sows; that is the way I figure it. It should be a medium sized boar with a medium sized sow. If either one has to be large take the large sow. I would take the medium sized boar with a kind of coarse sow if I wanted good produce. I think all our great sires, that have made great records, have been medium sized boars with good dams behind them.

Mr. Hitte—I have frequently found this case to exist in every part of the country, that I will have some old sow pointed out to me as the best and most useful sow on the place, and that sow is very apt to look the scrubbiest sow on the place. But that does not make her the sow of the best type. It is perhaps more accidental than otherwise that that sow has made the most money for the farmer. It had been pointed out that way a hundred times. Now in regard to this sow; perhaps the dam of this great boar that was spoken of, that looked like a mere scrub, may have been kept down in condition where she would be sure to breed, and in that case she would not look like the sow she would otherwise. There is a great variation in the looks of these brood sows, whether in show condition or not.

Mr. Lambing—She was raised and developed by the same man that raised and developed her sisters and brothers that were State fair winners.

Mr. Keil—I think probably that sow that was so peculiar was the runt among the litter. She had sucked the hind teat. But her breeding was exactly like her brothers and sisters.

A Member—It must have been. (Laughter.)

Mr. Keil—There is always a runt when we have large litters, but it is the same breeding, the same blood, the same sire.

Mr. Cotta—The point that I want to make is, do not discard a sow because she is a common looking old girl. She may raise the best pigs. I have in mind another large sow that has produced a phenomenal son, and she looks awful common. It is some of our commonest sows that produce our best pigs; we can not lay down any iron clad rule to go by. We will get up a stump every once in a while if we do.

Mr. McTavish—There has been a lot of talk about that exceptional sow, but there is none of us that would breed in that way. We have to follow nature's laws. Like begets like, and if we want improvement we must use our best stuff in order to get that improvement.

Mr. Cotta—I would like to ask you if you would refuse to purchase a good animal that was produced by a common one, on that same line of like begetting like?

Mr. McTavish—I will say that this is sometimes misunderstood. Men will go into a herd and pick out something that is a little thin, a little under flesh, that you might say she is a rough old girl, but if she was put up in flesh she would be just as good a show animal as any of them; and we use that sow for a breeder and keep her in that condition because we want to keep her doing business all the time, and by having her in that condition we are sure she is not going to get overly fat, and lose her breeding qualities. I think that is where lots of men make a mistake, in going into a herd and picking out some animal, and saying they are common ani-

mals but see what they produce, when the fact is they are picking out the best animal in the herd and they can not see it because she is under flesh.

Mr. Godby—A good brood sow that will raise a big litter will never stay fat, and a good cow that raises a good calf and gives lots of milk will never get fat.

Mr. Hitte—I would like to be certain what hog this was that was spoken of here. I would like to ask if that was the sow's first litter of pigs that this phenomenal boar came from, or was it later?

Mr. Cotta—No it was not her first litter, and it was not her last; I think she had produced three or four litters before and that many since.

Mr. Swallow—Is it not a cross with one certain boar that makes that great result?

Mr. Lambing—I do not know half a dozen boars living and dead since I have known the breed that have made great hits on many different sows. They have almost always made their hits on one sow, and especially in the Poland-China breed, and my experience is the same with other breeds. No boar ever lived that made a hit on a hundred sows.

A Member—How about Chief Tecumseh Second?

Mr. Lambing—That one made the best result on more sows than any other.

The President—We are talking about something that is quite important to hog production, and we want to make a record of it that will be of value to those who read the proceedings.

Mr. Wm. Hester, of Van Meter—I want to say a word. There is something in the laws of heredity that we can not always understand. It is not always the best looking sow that will produce the best pigs. I have been disappointed in selecting the best looking sow, perhaps because she took on fat a little better, while I would perhaps dispose of the inferior looking sister to some one else, and she would prove the better breeder. Why this is I do not understand. They have the same breeding, and we might think would have the same results, but I have not been able to get the best results from the best looking gilt. I remember buying a pig out of a litter. The best pig in that litter had white legs up almost to his shoulder, and I would not have him, and my neighbor bought him, and my pig bred more white legs than his did. The breeding was there just the same. I think we fail to recognize the quality in some of these sows, but it is there. They do not put on the flesh and do not look so well, but they may be the better sows. The laws of heredity have a great deal to do with it. If you have the breeding an inferior looking sow is not going to do you much damage after all.

Mr. Wm. Roberts, of Paton—We have some sows that get too fat, and consequently the thin sow gets the better pigs. I think if they were kept from getting so fat they would be as good producers as the others.

Mr. T. J. Kegley—It seems to me that we are doing ourselves an injury in this discussion, for the reason that while we started out to defend the theory of heredity we are now denouncing it. If like produces like why not pick out the very best sow, and, if she is put with the best boar, expect to get the very best returns? I would expect to get the better returns from the better sow. I do not think we ought to hold out the idea that the common sow is as good as the better looking sow, and I do not believe that is true, and I do not think the breeders believe it.

Mr. Godby—What points should the sow carry to be the best sow?

Mr. Kegley—That would necessitate a good many questions. In the first place, if we are to follow out the line of the paper that Mr. McFadden read, that this day and age demands an animal of quick maturity and plenty of finish, then we certainly would select a sow with that maturity, and with the quality showing that maturity. If this sow is the same breeding as your common sow, and yet shows this quick maturing quality, if she is nicked right she will produce better than the common sow, or else you are going back to the original type. I certainly would pay more money for the better appearing sow, the better show sow than the more common, plain sow.

Mr. Lambing—The gentleman asks what type of sow he shall select. Different breeders have different ideas of just exactly the type, and yet in the main the experienced breeders, if you would go to one and ask him to show you a half dozen of his best sows, in the herd large and small, and then go to another successful breeder and ask him to do the same thing, until you would go to twenty breeders, I will guarantee there will not be much difference in the



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type, if those men are experienced breeders. You can not tell a new man so that he will be able to go and pick those out. But this turning to the selection of an inferior animal on one side because it comes from a great litter, nicked with a certain male because it produces great results, I do not believe in. The rule that like begets like is not infallible. It does not always beget like, but it is the safest rule we can get. We will make enough mistakes in getting the best, and we will make more by mating the inferior ones even of the same litters. Experience has demonstrated that in some instances the runt sow pig of the litter or runt boar pig, perhaps, not a very bad runt, but the poorest one of the litter makes the best record. But that is not the rule, that is the exception. The rule is that like begets like in all classes of stock. The moment we deviate from that rule we are retrograding in the breeding line, as far as the breeding problem is concerned.

#### Cross-bred vs. Pure-bred—VI.

EDITOR KANSAS FARMER:—I will continue my quotation from Warfield on cattle breeding, first remarking that my only object in so doing, is to give the "young breeders" who listened to or read the remarks made on cattle breeding at the last breeders' meeting at Topeka, some sound and reliable literature on the subject. I would recommend all breeders, old or young, to immediately procure a copy of that work, and study it. The quotation made from Warfield in last letter is continued as follows:

"We find another notable example in Fanny Forester, one of the most superior animals I ever saw, and looked upon wherever she went, in a long and bright career, as a show cow, as a phenomenon of bovine beauty. She was as nearly perfect of her type, which was somewhat small, especially in contrast with some of the massive specimens of the Scotch breeders' handicraft now so esteemed as it was possible for her to be, and I believe met no serious rival in the show yard of her own age except Loudon Duchess 4th.

"Her pedigree shows most miscellaneous breeding, and a total neglect of any idea but getting good animals to breed together in the making of each successive cross. It is of course impossible to reach any general rule from so slender a base of particulars; nor was anything farther from my intention in citing them. They are, however, typical instances out of many that have come under my individual notice, and they may serve some good purpose as a counter-agent to the cases sometimes cited where a very fine beast has been produced by a system of in-and-in breeding. The narrow basis of generalizations of the boldest sorts upon single instances of close inbreeding is something only less surprising than the readiness with which such generalizations are received as logical, and just inferences from the facts, and adopted as safe foundations for practice and experiment. These cases are mere samples. It is not from them but from a careful and long continued observation of the practice of many breeders, as well as my own long and wide experience, that I conclude that they are typical, and are representative not merely of a class, but of a large class, and that that class while showing in itself varying degrees, exhibits at the same time a general unity, and is so large and so homogenous as to almost unavoidably lead us to accept it as the ordinary case, and to conclude that the tendency running through it is the rule; so that I do not think I am wide of the mark when I say that out of every ten celebrated prize-winners in recent years, nine have been miscellaneous bred.

"And it is further to be observed how prepotency runs with the vigor of the new blood which is introduced by out-crosses. One of the chief claims that have been made for the in-and-in method is the great influence that in-and-in bred cattle have in their prepotency over other cattle. But I have found that out-bred cattle often show as high a degree of prepotency as those

most deeply inbred. I have already instanced the case of Muscaton, very nearly the greatest breeding bull I have ever known and a great prize winner. Another instance of the same qualities is to be found in Baron Butterfly, whose extended pedigree is also given. [Mr. Warfield gives pedigree of 128 parts as composed of 38 Duchess, 25 Oxford, 16 Booth, 5 Bates Red Rose, 1 Wild Eyes, 1 Belvidere, 9 Whitaker, 5 Princess, 4 Mason, 4 Barmpton Rose, 2 Knightly, and 18 parts scattering.] This is surely pretty miscellaneous as will be more fully realized by a glance at the extended pedigree. The same can be said of all the bulls spoken of in the chapter on prepotency, as having exercised so great an influence in moulding my father's and my herd, on account of their prepotency.

"Oliver, Goldfinder, Renick, Young Cornet Halley, Cossack, as well as Muscaton and Baron Butterfly, were full of variety in the families represented by them. Among the bulls that have won very wide reputation of late years, few have attracted so much attention as Mr. Cruickshank's celebrated sire, Champion of England, and Mr. Linton's Sir Arthur Ingram and Lord Irwin, and the miscellaneous character of their pedigrees is of the most obvious kind."

Remarks—We all know the character of Mr. Cruickshank's Champion of England, whose name is an ornament to any pedigree, and not less so are the great bulls Lord Irwin and Sir Arthur Ingram, bred by Wm. Linton of Yorkshire, England. They were both at the top as prize winners, Lord Irwin having won \$10,000 in prizes, and the other not much behind him. They were both sired by pure Booth bulls, with some Cruickshank and Bates blood through their dams, which causes the "miscellaneous" character of their breeding. I trust I have copied enough from the works of Mr. Warfield, who is now the greatest living author on cattle breeding, to prove that the term "miscellaneous" as applied to pedigrees of cattle, is nothing to be alarmed at, and that miscellaneous bred herds need no "bolstering" on that account. The main thing to be considered is first, a good individual, then a good pedigree, the more miscellaneous the better.

D. P. NORTON.

#### Pig Pointers.

Hogs are still lifting mortgages. Stagnant pools are poor places for hog wallows.

To the hog raiser the most valuable bucket on the farm is the slop bucket.

The farmer who has a few good hogs to market these days is not complaining of hard times.

There is a vast difference between a grunt and a squeal. One is a chord, the other a discord.

If you can't keep pigs growing do not keep them at all. It is the nature of the pig to "live to eat."

Shady nooks and a good clover pas-

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

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Send \$1.25 for trial package, postage paid. Cans \$12.50 and \$6.50; packages \$2.50. State number, age, condition, food of hogs. Special advice free. 25 years experience. "Hogology" pamphlet and testimonials free.

**JOS. HAAS, V. S., Indianapolis, Ind.**



ture are what will produce pork of first quality at this time of year.

Alfalfa is a well-liked forage crop for hogs in the West. It will be popular in the East when it is better understood.

It is too dangerous to take the risk of driving fat hogs this time of year. You can save time and trouble by using a wagon.

Hogs are filthy generally because they are compelled to be so. No animal will keep itself cleaner than a hog will if given a chance.

You can take more interest in making a good corn crop if you have a good bunch of shoats to help turn it into cash as soon as it is ready.

Try treating your hogs a little better this year than you did last. It will not hurt the hogs and will not injure you to any great extent.

Ring the hogs if it is actually necessary but do it as humanely as possible. Get the best rings and the best appliances and do it just right.

Shade is an absolute necessity for the comfort of hogs in the heat of the summer. It is as important to furnish shade for them as it is food.

Never get so busy as to neglect your hogs. A stroll through the fields every few days might bring to your notice some disease or irregularity that might be costly if neglected.

Don't hesitate to ask your neighbor how he manages his hogs if he makes more of a success in this line of business than you do. He'll be glad to tell you if he is a gentleman, and you may get some pointers in this way that would take you years to find out.

It takes only a small capital and a short time to build up a respectable herd of pure-bred hogs. Make up your mind which kind you want to breed, write some of our advertisers for prices and get the thing started. In a year from now you may be right in it with any of them. Good management, careful study and a little hard work will put you in the front ranks before you know it.

Nothing will turn the refuse of the farm into money faster than good growthy pigs.

Try eating a corn diet only yourself for months at a time and you will understand why hogs do not do so well without a change.

If your hogs eat unwholesome food or drink foul water it is because they can get nothing better. It is your fault and not the hogs'.

Let the pigs pick up all the fruit that falls from the trees as fast as it drops. It will destroy the source of lots of pests to the fruit trees.

Try keeping an account with your hogs once, charging them with everything they eat and giving them credit with what they produce, and see whether they pay as well as or better than other live stock.

Disinfectants are cheap, reliable and always worth more than they cost to the hog raiser in warding off disease. Look up the advertisements and investigate them. You may keep your herd free from disease by an occasional application of some of the well-established disinfectants.

#### The Cotentin Cattle of Normandy.

DR. A. S. HEATH, NEW YORK CITY.

This is the noblest breed of cattle of France. It is one of the oldest breeds of Europe. Though the blood of the Cotentin is widespread all over Europe, yet the center of greatest production is confined within the area of the Departments of Eure, Manch, Calvados and Orne. This strain of blood of Normandy cattle is most noted for butter and beef excellence combined. They combine the qualities of the Jerseys, the Guernseys, and the Shorthorns. For the Cotentin is the progenitor of the two former, and furnished blood elements of the latter in its admirable beef superiority. The milking tendency in a portion of the Shorthorns is also directly traced to the Norman; for Normandy is and always has been, except in language, eminently English. Its agriculture is English, and English blood freely flows through the veins of its people. The Norman and English physique is characteristically alike.

In color, this breed of cattle is dark red and black, brindled on a white ground. Many have white faces, more or less mottled with brindle patches about the head. As in the older races of the Jerseys, there is found the cream-fawn with brindled patches on the shoulders and sides. At



Dina, 10 years old; milk record, 72 lbs.

PLATE I.

Sylvia, 11 years old; milk record, 68 1-2 lbs.

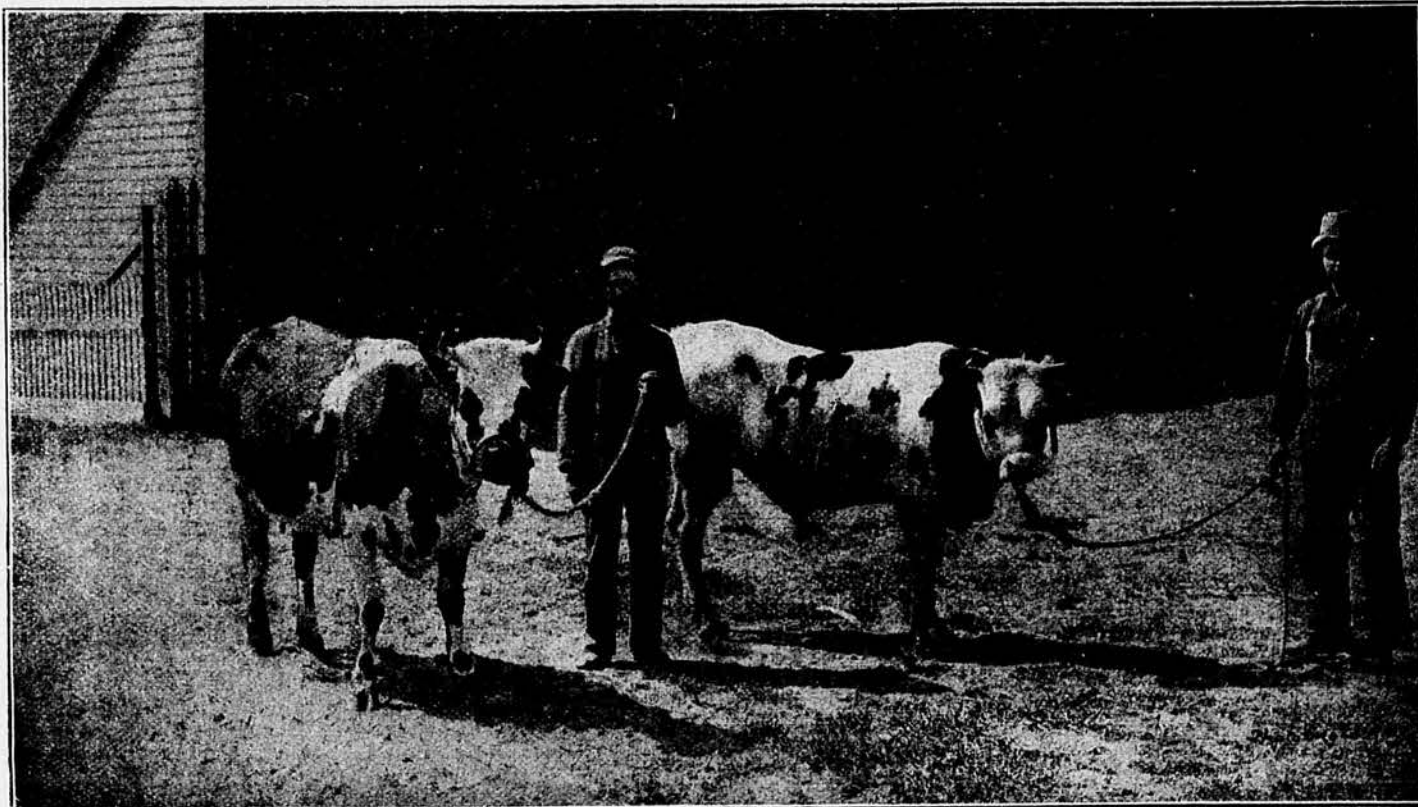


PLATE II.—Cotentin Cattle.



PLATE III.—Calves.

maturity the bulls range from 1,800 to 2,200 pounds. Fat oxen even weigh as high as 4,200 pounds. Cows at the same periods of maturity range from 1,400 to 1,800 pounds. They are mild, gentle and quiet as a race. They have iron constitutions and are relatively free from tuberculosis and other diseases.

The cows shown in illustrations herewith both took gold medals in Paris and De Vereux, France. The one with most white is Dina, with a record when flush in milk of 72 pounds in a day.

The other, Sylvia, gave 68½ pounds in a day. They were ten and eleven years old when the photos were taken.

The bull, and heifer yearling, shown in Plate II, weighed over 1,000 pounds. A pair of four-year-old steers, thin in flesh, weighed 3,000 pounds, and could have been soon fed to 4,000 pounds.

The calves of cows shown in Plate I, at six weeks old, weighed 220 and 227 pounds each. Calves often weigh 100 pounds at birth; one of Mr. Chopin's, 108 pounds.

Consul Williams, late of Rouen, in his report to the government, of the Department of State, says: "We meet with cows all over Normandy which give 35 quarts of milk in twenty-four hours, and they have been known to produce 50 quarts. In France, these cows are milked three times a day.

"The milk is rich in solids and fats, and the beef is of the best quality.

"After a thorough study of these cattle in France, and over ten years of familiarity with their great value in the eastern States, I have been far below the estimate a dt of these noble cat the estimate of these noble cattle."



One Hundred Balanced Rations for a Man.—III.

MARY WAUGH SMITH.

THE MAN WHO STUDIES.

Usually the student's life is not one of physical activity. The boy who has military drill and works his way through college is an exception, certainly, but taking boys and girls together, and the general student rather than the exceptional, the muscles are very little used. For this reason less nutriment is required than for the man at moderate work. Two thousand five hundred calories of energy is all that is needed and 5 per cent less protein is required than for the man at moderate work, or .23 pound protein per day.

Not only should less nutriment be taken, but it is to the student's advantage to have the proper amount of nourishment with as little bulk as possible. The cattle feeder knows that a large amount of roughness given an animal at a certain period of its growth will develop large digestive apparatus. The student who grows a "bow window" has a hard time in his classes generally. A certain amount of "roughness" is always desirable to aid the organs of digestion in acting. Bread, when moistened, swells and presses against the walls of the digestive organs causing the flow of the necessary juices. Overeating, however, should be avoided by the person who wishes his brain to be at its best.

Many people have the idea that the brain worker needs an abundance of phosphorus, because that happens to be found in the brain. Fish and eggs have always been supposed by these people, to be the best food that can be taken. No one has ever proved that this theory is well grounded. Fish and eggs, cooked properly, at a low temperature, furnish easily digested food and for this reason would be well in a diet designed for a student.

Study after a heavy meal is next to impossible. Blood that is needed to keep the brain clear is called to the stomach. Some consider it equally unwise to study in the morning before any food is taken. A former professor at the agricultural college who was forced to wear glasses attributed it to the fact that she had studied a great deal in the morning hours when she was really hungry and should have had some slight nourishment, the eyes being in close sympathy with the stomach.

The following menus give a ration for breakfast, dinner, and supper, in which the nourishment is divided about as it should be, dinner being the heaviest meal, while breakfast, coming before recitation hours and supper before the usual study hours should be light. The whole adds up .235 pounds protein, and 2,545 calories of energy.

BREAKFAST.

| Food.                       | Amt. taken. | Protein. | Calories. |
|-----------------------------|-------------|----------|-----------|
| Cereal, milk and sugar..... | 3           | .01      | 125       |
| Egg.....                    | 2           | .01      | 80        |
| Toast.....                  | 3           | .01      | 130       |
| Fish.....                   | 4           | .02      | 60        |
| Muffins.....                | 4           | .02      | 250       |
| Butter.....                 | 1/2         | ...      | 100       |
| Total.....                  | 07          | ...      | 745       |

DINNER.

|                 |     |      |     |
|-----------------|-----|------|-----|
| Pea soup.....   | 2   | .02  | 100 |
| Roast beef..... | 5   | .05  | 250 |
| Potatoes.....   | 5   | .005 | 100 |
| Celery.....     | 2   | .002 | 10  |
| Beets.....      | 2   | .001 | 20  |
| Bread.....      | 3   | .02  | 225 |
| Butter.....     | 1   | ...  | 200 |
| Total.....      | 098 | ...  | 905 |

SUPPER.

|                   |     |      |     |
|-------------------|-----|------|-----|
| Potato salad..... | 3   | .003 | 100 |
| Cold tongue.....  | 2   | .02  | 175 |
| 1 cup milk.....   | 2   | .01  | 160 |
| Bread.....        | 3   | .02  | 225 |
| Butter.....       | 1/2 | ...  | 100 |
| Fruit.....        | 4   | .002 | 30  |
| Cake.....         | 1   | .002 | 100 |
| Total.....        | 067 | ...  | 895 |

Government Report of Crop Conditions on July 1.

CORN.

Preliminary returns on the acreage of corn planted indicate a reduction of about 400,000 acres, or .5 per cent from the area planted last year. Of the 22 States having 1,000,000 acres or upward in corn in 1900, 12 show a decrease of about 1,300,000 acres, while in the remaining 10 an increase of about 900,000 acres is shown. Of the 23 States and Territories having less than 1,000,000 acres in corn in 1900 only 6 report smaller acreages than were planted last year. The average condition of the growing crop is 81.3 as compared with 89.5 on July 1, 1900, 86.5 at the corresponding date in 1899, and a ten-year average of 90.3. The condition in Nebraska is 88, in Illinois and Iowa 87, in Kansas 74, in Missouri 70, and Texas 64. In each of the 22 States first above referred to, except in Mississippi, Vir-

ginia and South Dakota, where the conditions represented by 88, 92 and 89, respectively, correspond with their ten-year averages, the condition is more or less below such averages.

WHEAT.

The condition of winter wheat improved during June, being 88.3 on July 1, as compared with 87.8 on June 1, 80.8 on July 1, 1900, 65.6 at the corresponding date in 1899, and a ten-year average of 80.2. All the important winter wheat States share in this improvement except Pennsylvania, Ohio, and Maryland, in which the condition declined during the month 3, 2, and 5 points respectively.

The average condition of spring wheat also improved during the month, being 95.6 on July 1, as compared with 92.0 one month ago, 55.2 on July 1, 1900, 91.7 at the corresponding date in 1899, and a ten-year average of 85.6. The condition in Nebraska is 89, Iowa 92, Minnesota 96, South Dakota and North Dakota 100.

The condition of spring and winter wheat combined on July 1 was 91.1, against 69.8 on July 1, 1900, and 76.2 at the corresponding date in 1899.

The amount of wheat remaining in the hands of farmers on July 1 is estimated at about 31,000,000 bushels, or the equivalent of 5.85 per cent of the crop of 1900.

OATS.

The average condition of the oat crop is 83.7 as compared with 85.3 one month ago, 85.5 on July 1, 1900, 90.0 at the corresponding date in 1899, and a ten-year average of 87.7. Of the States having one million acres and upward in oats, Wisconsin, Minnesota, and New York report conditions 1, 7, and 3 points above their ten-year averages, while Illinois, Nebraska, Indiana, Kansas, and Pennsylvania report 9, 1, 8, 31, and 9 points, respectively, below the mean of their July averages for the last ten years.

BARLEY.

The average condition of barley is 91.3 as against 91.0 one month ago, 76.3 on July 1, 1900, 92.0 at the corresponding date in 1899, and a ten-year average of 87.1. All the principal States, except Wisconsin and Kansas, in which there were declines of 1 and 21 points, respectively, and New York, in which the condition has remained stationary, show an improvement during the month and except in the two States first named and in Iowa, where the condition on July 1 corresponds with the ten-year average, their averages of condition are all above their respective ten-year averages.

RYE.

The average condition of winter rye is 93.6 as compared with 89.6 on July 1, 1900, 83.3 at the corresponding date in 1899, and a ten-year average of 89.2. Each of the principal rye-producing States shows an improved condition as compared with its ten-year average, except in New York, where the average condition on July 1 is 94, corresponding with the ten-year average in that State.

The average condition of spring rye is 93.3 as compared with 69.7 on July 1, 1900, 89.7 at the corresponding date in 1899, and a ten-year average of 87.3. The four leading spring rye States, Wisconsin, Iowa, Nebraska, and Minnesota, report 5, 6, 14, and 9 points above their respective ten-year averages.

POTATOES.

There is an indicated decrease of some 60,000 acres, or 2.3 per cent, in the acreage of potatoes. Of the 46 States and Territories reporting, 9 show increased and 33 decreased acreages, while in 4 the area is the same as that of last year.

The average condition of potatoes on July 1 was 87.4, as compared with 91.3 on July 1, 1900, 93.8 at the corresponding date in 1899, and a ten-year average of 93.1.

The sweet-potato reports are rather unfavorable, a majority of the more important producing States showing conditions more or less below their ten-year averages, although in a few instances such averages are exceeded slightly.

TOBACCO.

The condition of tobacco is one point above the ten-year average in Ohio, 4 in Virginia, and 7 in Maryland. On the other hand, it is 2 points below in Kentucky, 3 in Pennsylvania, 4 in North Carolina, and 12 in Wisconsin, while in Tennessee it corresponds with the ten-year average for that State.

HAY.

Reports of the hay crop are in the main unfavorable, there being a decline from the condition as reported on the 1st of last month in a majority of the more important hay-producing States.

The condition of pastures has suffered impairment during the month and in several important States is considerably below the ten-year averages. In some States, however, notably New York, Pennsylvania, California, South Dakota, Ohio, Michigan, and Minnesota, the condition is excellent, being 7, 7, 6, 9, 11, 5 and 6 points above their respective ten-year averages.

FRUITS.

While there has been a general decline in the condition of apples and peaches as compared with last month, almost every important peach-growing State has the promise of more than an average crop, but in the apple-producing States the crop will be generally poor. The condition of grapes is excellent.

WOOL.

The wool report indicates the average weight per fleece as being 6.15 pounds, as against 6.17 pounds in 1900.

Chinch-Bugs.—Remedies.

J. M. STEADMAN, ENTOMOLOGIST, MISSOURI EXPERIMENT STATION.

The chinch-bug disease, which the experiment station at Columbia, Mo., has been sending out, is effectual only when the weather is warm and moist. When it is hot and dry, this disease will not take at all, and it is useless to distribute it in the fields at this time. Furthermore, the disease may be found in the fields naturally, and when the proper climatic conditions occur, it will "take" and kill the bugs without the special introduction of diseased germs from the experiment station.

There are two things, under our control, which can be done to lessen the ravages of the bugs and to kill them, and that should be used when the weather is dry. In the first place, by plowing for a space of ten feet around the corn field, harrowing and dragging brush after the harrow, so as to make as much dust as possible, it will be found that when the young bugs begin to migrate from the wheat to the corn, they will not as a rule be able to cross this ten feet of dust. When the insects develop wings, they may fly over the plowed space (this will happen about once in ten times), and if they alight upon the first few rows of corn the second method may be used for destroying them.

Second, when the insects collect, as they frequently do, upon the first few rows of corn, the best way to kill them and prevent their spreading through the field is to spray immediately with kerosene emulsion. This will not injure the corn, and will kill the bugs readily. Kerosene emulsion is made as follows: Dissolve 1/2 pound of hard soap in 1 gallon of soft boiling water; add 2 gallons of kerosene or coal oil, and then by means of the force pump with the spray nozzle removed, churn this mixture for ten minutes by pumping it back into itself. Then add to this emulsion 19 gallons of water, stir thoroughly, and use as a spray. The important thing to be noted in the use of this kerosene emulsion is that it should be sprayed just as soon as possible and before the bugs have scattered through the corn, otherwise it will be impracticable to reach them by spraying. This spray kills only by contact, and hence one must actually touch the bugs with the spray in order to kill them.

Growing More Alfalfa.

Since its earliest introduction into Kansas agriculture alfalfa has been held in high esteem by those who know it best. Its growers have always claimed the first rank among forage plants for their favorite, and it now bids fair to more than fulfill their fondest hopes.

Alfalfa has steadily flourished where other crops have failed even entirely, and has yielded its two, three and four crops annually when others produced only a small or medium harvest. The story of its progress has been recorded and heralded from year to year by the Secretary of the State Board of Agriculture, who has compiled the returns for 1901 from more than 80 counties already reported by their township assessors and county clerks. The figures show an average increase of more than 7 per cent over the acreage of one year ago, for all of the 81 counties already heard from. Among those counties leading in alfalfa acreage and showing greatest per cent of gain for the year are: Jewell, 21,994 acres, gain 24 per cent; Butler, 15,669 acres, gain 21 per cent; Norton, 14,401 acres, gain 25 per cent; Finney, 12,545 acres, gain 9 per cent; Chase, 10,390 acres, gain 8 per cent; Republic, 10,389 acres, gain 27 per cent; Mitchell, 9,659 acres, gain 14 per cent; Wabaunsee, 8,978 acres, gain 22 per cent; Osborne, 8,371 acres,

gain 29 per cent; and Greenwood, 8,253 acres, with a gain of 9 per cent.

The counties above named constituting those growing alfalfa most largely, it would appear from the increased per cent this year devoted to that purpose, the people are ready and anxious to secure a more abundant supply of this famous feed, by sowing an increased acreage and thereby reaping greater product.

Other portions of the State, where the acreage is considerably smaller, are evincing remarkable interest in alfalfa-growing, as is demonstrated by the large increase over one year ago. Some notable examples with figures of increased acreage are: Hodgeman County, 243 per cent; Harper, 210 per cent; Neosho, 84 per cent; Miami, 80 per cent; Barber, 67 per cent; Clark, 50 per cent; Marshall, 44 per cent; Decatur, 42 per cent; Meade, 42 per cent; Ellsworth, 40 per cent; Smith, 39 per cent; Graham, 32 per cent; Sumner, 31 per cent; and Osborn, 29 per cent.

Spiny Amaranth.

EDITOR KANSAS FARMER:—Enclosed herewith I hand you a piece of weed which has recently made its appearance in our section of the country. I have a neighbor who saw it 2 feet tall in Illinois last fall. We would like to know how to get rid of it.  
Leeds, Kans. I. A. MCNOUN.

ANSWERED BY PROF. SMYTH.

EDITOR KANSAS FARMER:—The plant sent by your correspondent from Leeds is the spiny amaranth (*Amaranthus spinosus*). It is a troublesome weed in the South. It is frequent or common in the southeastern part of Kansas. It can be gotten rid of, like all amarantus and goosefoots, only by thorough cultivation. It can be kept down in waste lands by frequent mowing, so as to prevent its bearing seeds; but who will do that?

It is not objectionable in the North, as it does not seem to flourish there, and in the South it is objectionable mainly on account of its sharp spines, which are very numerous all over the plant and prevent its being eaten by cattle or horses except when it is young and tender.

Farmers' Institutes.

The Kansas State Agricultural College held over 100 farmers' institutes during the summer of 1900. These summer institutes were unusually successful. The attendance averaged 530 per institute. The college force is ready to take up the work in farmers' institutes this summer and has the funds for holding 150 meetings.

The college sends two speakers to each institute, paying all their expenses, and also prints the programs and posters for institutes without charge. The farmers holding the institute put up the posters, push the advertising, furnish a place for holding the meeting and present papers and addresses for half the program.

For full information in regard to working up a good meeting address, Farmers' Institutes, Agricultural College, Manhattan, Kans.

Cures Eczema and Itching Humors Through the Blood.—Costs Nothing to Try.

B. B. B. (Botanic Blood Balm), is a certain and sure cure for eczema, itching skin, humors, scabs, scales, watery blisters, pimples, aching bones or joints, boils, carbuncles, pricking pain in the skin, old, eating sores, ulcers, etc. Botanic Blood Balm cures the worst and most deep-seated cases by enriching, purifying and vitalizing the blood, thereby giving a healthy blood supply to the skin. Other remedies may relieve, but B. B. B. actually cures, heals every sore, and gives the rich glow of health to the skin, making the blood red and nourishing. Especially advised for old, obstinate cases. Druggists, \$1. Trial treatment free and prepaid by writing Dr. Gillam, 85 Mitchell St., Atlanta, Ga. Describe trouble and free medical advice given.

Method in His Action.

"Why do you tramp through the parlor in those bright red carpet slippers every time I have a caller?" demanded the minister's wife.

"My dear," he replied, "Christmas is coming, and I desire to impress the fact upon the feminine members of my congregation that I am well provided for in this respect."—Chicago Post.

Esther—My mother was renowned for her beauty. She was certainly the handsomest woman I have ever seen.  
Miss Cayenne—Ah, it was your father, then, who was not good looking.—Tit-Bits.



## The Home Circle.

### THE CLOVER.

Some sing of the lily and daisy and rose,  
Or the pansies and pinks that the summer  
time throws  
In the green grassy lap of the medder  
that lays  
Blinkin' up at the skies through the sun-  
shiny days;  
But what is the lily and all of the rest  
Of the flowers to a man with a heart in  
his breast,  
That has sipped brimmin' full of the  
honey and dew  
Of the sweet clover blossoms his boyhood  
knew?

I never set eyes on a clover field now,  
Or fool 'round a stable or climb in a mow,  
But my childhood comes back just as  
clear and as plain  
As the smell of the clover I'm sniffin'  
again;  
And I wander away in a barefooted dream  
Where I tangle my toes in the blossoms  
that gleam  
With the dew of the dawn of the morn-  
ing of love  
Ere it wept o'er the graves that I'm weep-  
ing above.

And so I love clover. It seems like a part  
Of the sacredst sorrows and joys of my  
heart;  
And whenever it blossoms, oh, there let  
me bow  
And thank the good Lord, as I'm thank-  
in' Him now,  
And pray to him still for the strength,  
when I die,  
To go out in the clover and tell it goodby.  
And lovingly nestle my face in its bloom,  
While my soul slips away on a breath of  
perfume.

—James Whitcomb Riley.

### THE MAN OF THE WEEK.

JOHN P. NORTON.

(Born July 19, 1822; died September 5,  
1852.)

The pioneer is always an interesting  
figure. He sees the beginnings of  
things. He walks and lives with op-  
portunity. He has chances to win and  
to accomplish. He is not hampered by  
the set ways of society. He has the li-  
berty of working in his own way, unin-  
dered by custom and precedent.

But the pioneer is helpless enough  
unless he is a man of originality and  
resource. He must have power to in-  
vent and skill to apply, or he is but the  
plaything of circumstance, not its mas-  
ter. Without insight and skill, without  
the gift of finding out and applying,  
without the genius which is power to do  
new things in new ways as easily as  
common men do old things in old ways  
—the pioneer is such in name only. The  
real pioneer is an inventor and a work-  
er. He finds out and he does. He is a  
leader among men, a benefactor of his  
race.

John Pitkin Norton was an American  
pioneer as a systematic student and  
teacher of science as applied to agri-  
culture. Fifty-one years ago he pub-  
lished the "Elements of Scientific Agri-  
culture," a book designed to show the  
"connection between science and prac-  
tical farming." His book describes him  
as "professor of scientific agriculture  
in Yale College," although he began his  
work as professor of agricultural chem-  
istry and vegetable and animal physi-  
ology.

By the election of Norton, Yale be-  
came "the first American institution to  
officially recognize the claims of agri-  
cultural science." Michigan Agricul-  
tural College, the first of its class,  
opened its doors in 1857—ten years af-  
ter Norton began his lectures in old  
Yale. When the first of the agricultural  
colleges needed teachers, Norton's stu-  
dents were ready to take up the work  
with enthusiasm and trained ability.

The first American professor of sci-  
entific agriculture, how did Mr. Norton  
acquire fitness for such a position? The  
story is simple—and worth knowing. He  
was born in Albany, New York, and  
early became a studious observer of na-  
ture. Minerals first attracted his at-  
tention, and he made a collection and  
analyzed his specimens. Here was the  
key to the composition of soils. He  
studied birds, and even delivered a lec-  
ture on the value of these feathered  
friends of the farmer. When only twen-  
ty-one years of age, he was farming  
on his own account. The next year  
found him studying the chemistry of  
agriculture at Yale. He had previous-  
ly studied chemistry, anatomy, and en-  
tomology. His studies and his inclina-  
tions were toward scientific agriculture,  
but he was destined to work as an in-  
dependent student and teacher of the  
science of agriculture. To perfect him-  
self in his chosen branch, Mr. Norton  
went to Edinburgh, where he spent two  
years in the laboratory of the Agricul-  
tural Chemical Association. This was  
an important period in his career. He  
visited and studied many of the best  
farms in England and Scotland, and  
wrote frequently for the Albany Cultivator. An essay of his on the analyses

of food plants was so highly esteemed  
that the Highland Agricultural Society  
gave him a prize of fifty sovereigns.

Well equipped for successful work,  
Mr. Norton returned to America in  
1846. His fame as a student of agricul-  
ture had preceded him, and he was  
immediately given the new professor-  
ship in Yale. But the famous and for-  
tunate young student was not satisfied  
with his attainments. Only a few years  
before Liebig had made his great dis-  
coveries in agricultural chemistry.  
Again Norton crossed the ocean to  
study—this time under the  
direction of the great Carman,  
the man who revolutionized, if  
he did not practically create,  
the science of agricultural chemistry.  
The next year he came back, and in the  
fall of 1847 began his lectures in Yale  
College. To quote the words of Dr. A.  
C. True, he "brought to his position a  
ripe knowledge and wisely directed en-  
thusiasm for agriculture, which he used  
with the greatest profit in its service."

At what seemed but the beginning of  
his career, after only five years of  
teaching and writing, Professor Norton  
died; yet he was fortunate in his car-  
eer and in the influence he had upon  
agricultural education in the United  
States. He had made a good beginning  
and had trained such men as Johnson  
and Brewer to take up the work where  
he laid it down. His ruling passion was  
strong even in death. Only a few hours  
before he died he willed to the college  
he had served without salary his valu-  
able collection of books and apparatus.

Professor Norton's "Elements" was a  
prize essay, revised to serve as a text-  
book. The New York Agricultural Soci-  
ety had awarded its author a premium  
of one hundred dollars for his work, and  
had ordered the printing of a thousand  
copies "to be awarded as premiums of  
the society." The preface declares that  
the book "is an attempt to supply a  
great and growing want in our coun-  
try; a want of some elementary work,  
that shall clearly and distinctly explain  
the great principles that are involved in  
the applications of science to agricul-  
ture."

D. W. WORKING.

Denver, Col.

### Baboons Mimic Soldiers.

A South African correspondent of  
the London Standard writes:

"On the march, in camp, or even dur-  
ing a fight, one can not help noticing  
how full South Africa is of animal, bird  
and insect life, and, with the breeding  
season here now, nature is at her best.  
The birds, especially, are very pretty  
with their gay feathers—the red car-  
dinals, bluejays and blue, starlings  
golden orioles and little finches like Java  
sparrows, with red beaks. All these fre-  
quent the few existing lanes and hedges  
—which, by the way, are only to be  
found in the towns or villages. The  
secretary birds are quite tame, as they  
have never been shot at; hawks and  
kites are plentiful, and the vultures  
crowd around all our camping grounds,  
attracted by the dead and dying horses.  
The game birds are not many—par-  
tridges, with a few pheasants, snipe,  
quail and kooran, and, perhaps, one  
might call the plover out here game.  
There are two kinds, the cappages and  
the drumages. Along the rivers are  
four or five varieties of spngfisher—  
the big black and white spotted one,  
the larger and lesser purple kind, and  
the one we have in England. Then come  
weaver birds, with their hanging nests,  
and numbers of other pretty birds.

"In the rivers which we have tried  
we got a yellow fish about one pound  
weight, something between a chubb and  
a roach, and an ugly-looking brute like  
a devil fish, with long spikes or feelers  
from his head. Land crabs we have  
caught and eaten, and iguanas, whose  
skins make capital tobacco pouches. Of  
snakes we do not see many. We  
frightened a very pretty green one,  
about two feet long, out of a bush by  
a pool in which we were going to  
bathe, and he swam like an eel across  
the water; and we have come across  
two big reptiles, about six to eight feet  
long, which we were told are harmless.  
Puff adders are supposed to be plenti-  
ful. Scorpions are both plentiful and  
obnoxious, and after rain they may be  
looked for with some success in beds  
and valises. Centipedes are seen every-  
where; also a large, hairy spider, light  
brown and red, who has a nasty, poison-  
ous way of biting, as have mosquitoes  
and flies. The latter, now that the hot  
weather is here, are almost a plague,  
and wake one up as soon as it gets  
light. The ants are most interesting,  
and all over the flat parts of the coun-  
try their huge hills, some of them six  
and eight feet high, are studded as  
thick as they can be. Some build their  
hills round trees and others make them

like a factory chimney, down which you  
can look. The white ants will eat your  
tunic or a helmet in a night.

"Of the big game, or rather the want  
of it, much has been written, and, com-  
pared with what the sport used to be, of  
course, there is not much to be had.  
But in some parts it is quite possible  
to get six to ten head in a day with  
luck, and three or four different kinds  
of bucks, and, if you like shooting them,  
you can bag jackals, hyenas and  
baboons. The later we have only come  
across near Zeerust, and close to an  
outpost we had there were several, who  
always left a sentry over our sentry,  
and he would bark and snarl with all  
his might if he was approached. The  
monkeys always throw out flanking  
guards and advance scouts, as well as  
rear guards, when they move together."

### Killed By A Dead Man.

So our dead lay and grinned at those  
other dead, and the fierce sun dried  
flesh and blood on Briton and Boer, for  
both remained unburied for a while;  
and so it came to pass that a Boer com-  
mando retook the lines where those  
who died for us were lying, and as they  
marched among our dead they saw a  
sergeant lying at full length shot  
through the brain; yet even in death the  
man looked like some fighting machine  
suddenly gone out of order. His rifle  
was pressed against his shoulder, his  
left hand grasped the barrel on the un-  
der side, the foreknives of the right  
hand pressed the trigger lightly, the  
barrel rested out upon a rock, and his  
deathdulled eye still glared along the  
sights, for dissolution had come to him  
just as he bent his head to fire at those  
who shot him, and now his hands had  
stiffened in the unbendable stiffness of  
eternal sleep. A Boer soldier saw the  
sergeant as he lay and with rude hands  
grasped the rifle by the barrel and tried  
to jerk it from the dead man's grip, but  
as he pulled he brought the rifle in line  
with his own breast and the unyielding  
finger on the trigger did the rest, the  
rifle spoke from the dead man's hand,  
and the bullet, passing through the  
Boer's heart, laid him beside the Briton.

Sounds like a journalistic lie, does it  
not? Read it in a novel and you would  
laugh, would you not? But it is the  
eternal truth, all the same, for the com-  
rade of the Boer who died that day,  
killed by a dead man, told me the tale  
himself, and he was one of those who  
planted the dead Dutchman on the slope  
of Spion kop.—A. G. Hales, in the Lon-  
don News.

### A Clean Sweep.

It was the noon hour and there were  
a dozen hands gathered in the tobacco  
warehouse—all very black. Various  
forms of petty gambling had been tried  
without fully satisfying their gaming  
instincts. Then Steve, who was big and  
fat, said:

"Boys, less make up er puss. Less  
all put in er nickel, and den let de pille  
go to de pusson what names de bes' eat-  
ings. Marse Jimmy'll be de judge."

This was agreed to, and soon there  
was a little heap of nickels on the box  
round which they were gathered.

"Now," said Steve, "well draw fer de  
fust go." The next moment he grinned  
with delight as he drew the marked  
slip from Marse Jimmy's hat. He paused  
for a space as he gave the weighty  
matter adequate consideration; then he  
said slowly:

"Um, yaes, de bes' eatings! Well, I  
says, possum, taters, watermillion!"

A small black hand shot forward and  
snatched up one of the coins.

"Whatcher doing, Charlie, you sneak-  
ing houn' dog?" roared Steve, in a rage.

"Shet up, you blam' fool nigger!" an-  
swered Charlie, defiantly. "Yo' think  
I's gwine stay in dis yere game when  
yo' done gone name all dey is?"—Har-  
per's Weekly.

### Earth Messages.

Messages may come through the very  
center of the globe as well as around  
it. The earth is never still. Tremors,  
pulsations, rises and falls of level are  
always in progress. After a prolonged  
investigation of these phenomena in  
Japan, Prof. John Milne has established  
an observatory at Newport, in the Isle  
of Wight. The days of violent move-  
ments are over for the present in that  
charming region, but the recording in-  
struments there show constant trem-  
blings. Four times on an average every  
minute the earth "shivers." Delicate  
apparatus for feeling the earth's pulse  
indicate the feeblest throb or beat. The

first tidings of an earthquake shock in  
Alaska, Mexico, Japan, or Java has  
reached Newport before the news came  
by telegraph. A violent outburst or  
quivering takes place, for instance, in  
Java. Immediately waves of vibration  
run through the world and round its  
surface, and at a large number of  
stations where these sensitive instru-  
ments are installed the movement is  
felt. Other things equal, the rapidity  
of vibrations depends on the rigidity of  
the medium through which they are  
transmitted. In sand a shock traveled  
825 feet per second; in solid granite,  
1,665. Professor Milne finds that trem-  
ors which have come through the very  
center of the earth reach him with such  
velocity as to prove that the earth's  
interior must be more rigid than a globe  
of solid iron. So distinct and trust-  
worthy are the indications that when  
a submarine cable has been broken the  
Professor has been able to say that the  
interruption was due to seismic dis-  
turbance and point to the very spot  
where it had happened.—London Tele-  
graph.

### Eve's Apple.

A fruit supposed to bear the marks of  
Eve's teeth is one of the many botani-  
cal curiosities of Ceylon. The tree on  
which it grows is known by the signi-  
ficant name of "the forbidden fruit,"  
or "Eve's apple tree." The blossom has  
a very pleasant scent, but the really  
remarkable feature of the tree, the one  
to which it owes its name, is the fruit.  
It is beautiful and hangs from the tree  
in a peculiar manner.

Orange on the outside and deep crim-  
son within, each fruit has the appear-  
ance of having had a piece bitten out  
of it. This fact, together with the  
poisonous quality, led the Mohamme-  
dians to represent it as the forbidden  
fruit of the Garden of Eden and to warn  
men against its obnoxious properties.  
The mark upon the fruit is attributed  
to Eve. Why the bite of Adam did  
not also leave its mark is not known,  
but as only one piece seems to be miss-  
ing its loss is ascribed to the woman.

### Died of a Broken Heart.

Dr. L. D. Seymour, a veterinarian of  
Wolcott, N. Y., is preparing a paper for  
the next session of the Veterinarian So-  
ciety of Western New York, which will  
tell of a horse that died of a broken  
heart. The animal was owned by Wil-  
liam Pease, of Galen, N. Y. It died, and  
Dr. Mont, of Rose, N. Y., a colleague of  
Dr. Seymour, was called to make an au-  
topsy. He found all the organs healthy  
with the exception of the heart, which  
was ruptured longitudinally. In looking  
for a cause for the rupture it came out  
that the horse, which was six years old,  
had suddenly been separated from its  
mate, a young mare, with which it had  
been raised and never separated since  
birth. From the day of separation the  
horse never ate anything, and the fourth  
day, after seeing its companion for a  
short time and being again taken away,  
fell dead.

### Corn Oil.

The corn grain has, in addition to its  
starch element, a tiny germ in which  
lies its life principle. This germ was  
formerly separated and thrown aside as  
waste. Lately it has been found that  
this germ is rich in oil which can be  
utilized. The germ is now separated  
from the starch and crushed. The  
oil gathered from it finds a ready mar-  
ket and within the last few years mil-  
lions of dollars' worth of this oil has  
been exported to Europe. After the oil  
is taken from the germ the gluten left  
in the cake is used for varnish and the  
residue is used for cattle food.

### Still Room for More.

"Brethren," said a man in meeting,  
"so many sinners are dying every day  
I have come to the conclusion that hell  
is full." He sat down, when an old  
deacon in the Amen corner raised the  
hymn, "There's a place reserved for  
you, brother—a place reserved for you."  
—Atlanta Constitution.

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## The Young Folks.

### THE FOOLISH OLD HEN.

Out of the barn one morning  
Old Whitey came strutting down;  
No common, inferior hen was she,  
But a Dorking of great renown.

And after her came ten chickens,  
Running with all their might;  
Nine had their mother's complexion fair,  
But one was as black as night.

Old Whitey looked over her shoulder,  
And clucked to each little pet,  
But suddenly angrily stretched her neck,  
And flew at the small brunette.

And all day she pecked at the chicken  
Whenever she saw it was near;  
And Dinah, the cook, at her kitchen door,  
Heard its pitiful peeps of fear.

"I'm blessed if dat stuck-up Dorkin'  
Don't hate yer for bein' black,  
But one culled pusson feel for anoder—  
We'll pay yer old mudder back."

So laughing, good natured Dinah  
Quick lifted the little wight,  
And shaking the dredging box carefully  
O'er him,  
Lo! presently black was white.

Then away ran the floury chicken,  
Looking like all the rest;  
And silly old Whitey contentedly clucked  
As he nestled beneath her breast.

Dinah nodded and laughed at the mother  
"Yer fooled, honey, sure, but den  
When folks ebry day take appearance fer  
truf,  
Why shouldn't a foolish old hen?"  
—Youth's Companion.

### The Little Drummer.

In 1812 there was in the Ninth Regiment of the Line a little drummer who was only ten years old. He was the child of the regiment, whose real name was Frolut, but to whom the soldiers had given the nickname of "Bilboquet." To those English readers who do not know the meaning of the word "bilboquet" I might explain that it is the French name of the game known to us as "cup-and-ball." The application of the word to the little drummer Frolut will be easy to understand. His body was so long, so thin and slight, surmounted as it was by a very large head, that he really looked not unlike the plaything whose name was given him by the soldiers. Except for this grotesque resemblance to a cup and ball his appearance was in no way remarkable.

The drum-major had taken a dislike to him and far more frequently than was necessary he was in the habit of beating the tattoo upon the boy's shoulders with his long cane, in order, as he said, to give him a practical idea of his trade.

Everybody laughed at poor Bilboquet. His comrades played no end of tricks upon him. They kicked him about without ceremony, and called him a "knock-kneed skulk" on account of his thin and ill-formed legs, and whenever he showed an inclination to complain they dubbed him "the Sniveler."

One day, the 12th of July, 1812, the general who commanded the brigade to which the regiment of Bilboquet belonged received from the Emperor the order to seize upon a position which was on the other side of an enormous ravine. This ravine was defended by a battery which mowed down entire ranks of soldiers, and in order to reach the place which the Emperor had designated it was absolutely necessary to silence this terrible battery. At this moment the regiment of Bilboquet was on the bank of the Dwina, for the story I am relating to you took place during the campaign in Russia.

Suddenly there arrived at the top of his speed an aide-de-camp, bringing the order to two companies of voltigeurs to charge the battery. It was a bold and difficult operation, and to effect it it was foreseen that more than three-quarters of the men engaged in the enterprise would be killed or wounded. Thus the voltigeurs, in spite of their bravery, looked at each other, shaking their heads and shrugging their shoulders.

"Soldiers!" cried the aide-de-camp, "it is the order of the Emperor!" and he galloped away.

"Why didn't you say so before, green-horn?" growled an old sergeant, fixing his bayonet at the end of his gun. "Well, well, I suppose we mustn't keep the Little Corporal waiting. When he tells you to go and get killed, he doesn't like any answering back."

Still there remained some hesitation among the troops of the company, and already the captain had twice given the order to the drum-major to take two drummers and advance in beating the charge. But the drum-major remained leaning upon his long cane, shaking his head and very little disposed to obey.

During this time Bilboquet, seated astride of his drum and his eyes fixed upon his chief, whistled a lively air and beat the charge with his fingers on the

side of his drum. For the third time the order to advance was given to the drum-major, who showed no disposition to obey; when, all at once, little Bilboquet rose, hung his drum at his side, seized his drumsticks and passing before the drum-major looked him up and down with scorn, returning in a single sentence all the abuse which his superior had so often inflicted upon him:

"Why don't you come along, you big skulk?"

The drum-major lifted his cane, but already Bilboquet was at the head of the two companies, beating the charge with enthusiasm.

At sight of this the soldiers rushed after him and ran toward the terrible battery. In another instant a broadside of fire burst from the enemy's cannon, and entire ranks of the brave voltigeurs fell, never to raise again. The smoke, driven by the wind, enshrouded them, the noise of the cannon stunned for a moment the brave fellows who were unhurt; but as the smoke finally lifted, the noise ceased for an instant, they saw, proudly standing 20 paces in front of them, the intrepid Bilboquet, still vigorously beating the charge. It was enough for them to hear his drum, whose beat seemed to taunt all the big cannon leveled against the advance of the little troop.

Forward, still forward, ran the voltigeurs, and still in front of them could be heard the tattoo of the drum calling upon them to follow. Then there was a second volley from the battery and a whirlwind of grapeshot again mowed down the two heroic companies. At this moment Bilboquet turned round and saw that there remained scarcely more than 50 of his comrades out of 200 who had commenced the charge. Instantly, as if transported by the fury of vengeance, he commenced beating his drum louder than ever—one might have imagined 20 drums all rattling together, and certainly the drum-major himself had never so boldly beaten a drum. With a final "Hurrah!" the soldiers rushed forward like an avalanche and entered the battery, Bilboquet the very first, shouting to the Russians:

"The bits of us left are all right! Here they are! So look out for yourselves!"

During all this time Napoleon was on a hillock surveying the performance of this heroic exploit. At every discharge of the battery he started with excitement upon his white horse. Then, when the soldiers at last carried the battery, he lowered his fieldglass, muttering to himself, "my brave boys!"

Immediately afterward, by order of Napoleon, an aide-de-camp rode to the battery and returned at the top of his speed.

"How many of them have reached it?" asked the Emperor.

"Forty," replied the aide-de-camp.

"There shall be 40 Crosses of the Legion of Honor for them tomorrow," said the Emperor, as he returned to his headquarters.

The next day the entire regiment formed a circle around the remnant of the two companies, the names of the 40 brave men who had taken the battery were called in succession, and to each was given the coveted Cross of the Legion of Honor. The ceremony was finished, when a childish voice from the ranks exclaimed with singular accent of surprise:

"How about me? Don't I get anything?"

The general who distributed the crosses turned and saw standing before him our little comrade, Bilboquet, his cheeks redened and his eyes filled with tears.

"You!" said the General. "What do you want?"

"Why, General," said Bilboquet in a tone of repressed anger, "I was one of them. I went forward and beat the charge, and I was the first to enter the battery."

"Never mind, my lad," replied the General. It seems you've been forgotten. Moreover, he added, you are still very young, but you shall have the Cross when you get a beard on your chin. In the meantime, here is something to console you."

With these words the General offered him a 20-franc piece, which Bilboquet looked at without attempting to take. There was a dead silence around him, and everyone looked at him attentively. He remained motionless before the General and great tears rolled down his cheeks. Those of his comrades who had most turned him into ridicule were softened, and perhaps they would have clamored that the Cross should be given to him, when all at once he raised his head, as if he had just taken a great resolution, and said:

"All right, General. Give me the 20 francs. The Cross will do next time."

And without further ceremony he put the money in his pocket and returned to the ranks, whistling with a deliberate and satisfied air.

Some time after this the French troops entered Smolensk, victorious and full of ardor. Bilboquet was among them, and on the very day they entered the town, strolling about the place, he saw a little shop kept by a man with a magnificent beard. The merchant approached the drummer and asked him humbly in bad French:

"What can I sell you, my little gentleman?"

"I want your beard," said Bilboquet, bluntly.

"My beard?" said the stupefied merchant. "You must be joking."

"I tell you I want your beard," replied Bilboquet, proudly, placing his hand on the hilt of his saber. "But don't imagine that I wish to steal it. Here is a napoleon in payment. I suppose you don't want more than that for it?"

The poor man tried to argue the question with the little drummer; but he was as obstinate as a blind horse, and presently the two were engaged in such a hot dispute that the attention of some passing soldiers was attracted. They gathered round to learn the cause of the quarrel, and the idea of the drummer boy seemed to them so dull that they compelled the Russian shopkeeper to give up his beard. One of them, a Gascon, and barber of the regiment, brought forth a razor from his pocket and commenced shaving the poor merchant, without either water or soap, and after scraping him for some time finally got off his beard, which he gave to Bilboquet, who carried it off triumphantly.

On returning to quarters he had his trophy sewn by the tailor to a bit of ass' skin from the top of a broken drum and put it in the bottom of his kit. The soldiers joked about it for several days, but it was not long before they had more serious matters to think about. The march of the army was resumed, and no one thought more about little Bilboquet and his beard when Napoleon arrived at Moscow.

Then terrible misfortunes took place. The intense cold and the devastation of the country deprived the French army of every resource. It suffered from famine, and soon was obliged to retreat through a country deserted and covered many feet deep with snow. Each man dragged himself along as best he could, and there remained very few regiments in sufficient order to obey their generals. In some, however, order was still maintained, and the regiment of Bilboquet was one of these. It formed part of the rear guard which prevented the Cossacks from butchering the miserable stragglers of the army.

One day they succeeded in crossing a small river, and, in order to retard the pursuit of the enemy they had attempted to blow up two arches of the wooden bridge they had just crossed; but the barrels of powder were so hastily placed that the explosion produced little effect. The arches, however, were shattered, but the framework of the bridge was still upheld by a stout beam which should the enemy arrive, would have enabled them to partially reconstruct the bridge.

The general in command, perceiving that the safety of the army absolutely depended upon the total destruction of the bridge, gave orders to some sappers to cut down the beam and thus destroy the remains of the framework; but at the moment when they were to undertake the work the enemy arrived on the other side of the river and commenced a fire so terrible that it seemed unlikely that any of the sappers would be able to reach the fatal beam alive. In fact, they were about to retreat, defending themselves as best they could, when all at once a soldier was seen to throw himself into the river, with an ax on his shoulder. At first he plunged under the water, but soon reappeared above the surface. By his beard it was seen that he was a sapper who was risking his life for the safety of his comrades and the army. The entire regiment attentively followed him with their eyes and saw him swim toward the bridge, while a hail of bullets struck the water all round him, but the brave sapper still continued to swim vigorously. At last, after unheard-of efforts, he reached the bridge, mounted upon the arch, and with a few strokes of his ax cut through the remains of the beam, which at a distance seemed enormous,

## Awaiting Settlers

Thousands of FREE Grant Homesteads (160 acres) in the Hard Wheat Belt of Manitoba, Assinibois, Alberta and Saskatchewan (Western Canada.)

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more profitable than elsewhere on the Continent. Marketing produce at highest prices is particularly easy. Low Figures asked for lands adjoining Free Homestead Lands. Write for pamphlets and copies of letters from settlers and delegates. Address F. Pedley, Superintendent of Immigration, Ottawa, Canada, or to

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but which in reality had been fortunately partly destroyed by the explosion. Immediately afterward the entire woodwork of the bridge fell with a great splash into the river and the brave sapper could no longer be seen.

But all at once his comrades spied him among the floating fragments swimming toward the bank. The soldiers sprang forward, filled with joy and admiration; hundreds of hands were stretched out to the swimmer by way of encouragement; the general himself approached the bank of the river and was greatly astonished to see Bilboquet come out of the water with an immense black beard hanging from his chin.

"What's all this?" he cried, "and what is the meaning of this beard?"

"Oh, general," replied the drummer, "it is only Bilboquet, to whom you said that he should have the cross of honor when he got a beard on his chin. This is a famous one, I think you'll admit. You see, general, I have done my best to obtain full value for the money, and, in fact, I spent the whole 20 francs you gave me to decorate my chin."

The general surprised at so much courage allied with wit and cunning, took Bilboquet by the hand, as if he had been a man, and gave him on the spot the Cross of the Legion of Honor which the general himself wore on his breast. And from that moment the old soldiers of the regiment saluted Bilboquet with friendship, and the drum-major never again beat the tattoo on the boy's shoulders.—From the French of F. Soulie.

### The Commercial Instinct.

Mamma—Tommy, do stop that noise. If you'll only be good I'll give you a penny.

Tommy—No; I want a nickel.  
Mamma—Why, you little rascal; you were quite satisfied to be good yesterday for a penny.

Tommy—I know; but that was a bargain day.—Philadelphia Press.

### 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.

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## KANSAS FARMER.

Established in 1863.

Published every Thursday by the  
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J. B. McAfee.....Vice-President  
D. C. Nellis.....Secretary and Treasurer

SUBSCRIPTION PRICE: - \$1.00 A YEAR

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

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Display advertising, 15 cents per line, agate (fourteen lines to the inch).  
Special reading notices, 25 cents per line.  
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.  
Annual cards in the Breeders' Directory, consisting of four lines or less, for \$15.00 per year, including a copy of the Kansas Farmer free.  
Electro-plates, 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.

Secretary Coburn announces that he is anxious to secure some good photographs suggestive of the great Kansas wheat crop, and that to do this he will pay five dollars for each of the best four wheat photos sent to him, at Topeka, by August 10th. These may be of wheat either in the bundle, shock or stack. They should be clear and sharp, and suitable to make photo-engravings from.

The probable scarcity and high price of corn at the same time that there is an unusually abundant crop of wheat, much of which may sell for a price as low or lower than corn, makes the questions as to the value and economy of wheat as a live-stock food of extraordinary interest. The only institution which has ever taken up and exhaustively discussed the feeding of wheat to farm animals is the Kansas Board of Agriculture. Secretary Coburn's report for September 1894 has about 200 pages devoted to this subject, treating it from every standpoint. Fortunately the board still has a small number of these pamphlets, and they may be obtained so long as the supply lasts, by those who send the necessary postage, which is five or six cents.

The regents of the Kansas State Agricultural College have made an important advance in its agricultural work. For the past twenty-eight years all the agricultural work of the college has been in charge of one professor who has had to divide his attention between crop raising, stock feeding, and dairying. At the recent meeting of the regents this work was divided. Prof. H. M. Cottrell was placed in charge of the work of animal husbandry and crop production, and will give his entire time to crop raising and the feeding of these crops in the production of meat. The regents plan to make the college a great feeding station for the development of Kansas feeds and Kansas stock. Prof. D. H. Otis was placed at the head of a newly created chair of dairy husbandry, and will devote his energies to pushing

the dairy interests of Kansas, besides being at the head of the farmers' institute work.

## FIGURE ON FEEDS.

There has never been a time when it was more important than now to figure on the feeding problem. True the panic into which some people have fallen on account of threatened extensive damage to growing crops, and some damage actually done, has caused unnecessary fluctuations in prices of both feeding stuffs and live stock. But these fluctuations are realities, however unsubstantial and inadequate their causes. To make feeding profitable, in any case, requires thought and investigation; but general experience is a fairly safe guide under normal conditions. The question now confronting every owner of stock is how to feed profitably under present changed conditions, or whether it is better to sacrifice the stock upon a full market. For such stock as is kept it will probably be profitable to make some changes from the ordinary feeds.

The abundance of the wheat crop already secured suggests wheat feeding to many as the probable "way out." What are the comparative feeding values of wheat and corn? Computations based on ordinary prices and standard determinations of the digestible nutrients of feeding stuffs show relative feeding values for wheat and corn such that wheat at 50 cents per bushel is about as cheap feed as corn at 40 cents. From these figures it is easy to compare other prices. Thus, if corn were 44 cents, then one might feed wheat at 55 cents; if corn were 48 cents, wheat might be fed at 60 cents. In general it may be said that wheat is worth for feeding about 1 1/4 times as much per bushel as corn. It will not be forgotten that this greater value of the bushel of wheat results partly from the greater weight of the bushel of this grain.

In feeding wheat, some things are to be observed. It, rather more than corn, is likely to be swallowed whole. This is especially liable to happen if animals come to their feed very hungry. In an experiment with feeding wheat to horses in 1874, the writer found that when given regularly all they would eat they ground and digested it well, and were able to do an enormous amount of work.

Extensive inquiries conducted by Secretary Coburn a few years ago brought out the fact that practical experience of feeders proved that for making pork wheat is considerably more valuable than corn.

For feeding cattle, the wheat should doubtless be crushed.

Owners of alfalfa will be interested in knowing that according to the figures of feeding values corn at 40 cents per bushel corresponds to alfalfa at \$14.24 per ton. The fact that cattle and horses must have some roughage, that roughage is scarce, and that alfalfa furnishes roughage, while furnishing large values in digestible nutrients, may justify even a higher comparative figure for alfalfa.

Wheat straw has a low nutritive value. It furnishes roughage, however, and a ton of it contains about one-fourth as much digestible nutrients as a ton of alfalfa. This gives about \$3.55 as the nutritive value of a ton of good wheat straw when alfalfa is \$14.24 a ton and corn 40 cents a bushel. It is evident that all straw should be carefully protected from damage by rains and from loss by fire. The fact that considerable quantities of concentrated feeds such as cotton seed-meal, linseed-meal and by-products of the glucose and starch factories are likely to be fed this season and that roughage must be fed with these for best results—even for safety in some cases—is likely to give to good, bright straw a value greater than that indicated from its digestible nutrients. It has often been said that Kansans waste enough to make Europeans rich. It will pay this year to save many feeds heretofore worth too little to compensate for the labor of caring for and feeding them. Good straw is worth protecting and may be worth baling and housing.

Prairie hay is a scarce article this season, and is already quoted in the markets away above its nutritive value. On account of its excellence as roughage for horses, prairie hay usually commands more than its nutritive elements warrant. No doubt it will be carefully saved. Present prices suggest that the usual wasteful methods of feeding prairie hay may well be modified this season.

Kansas millers are preparing to do their full share in grinding the big wheat crop. This will give large quantities of bran and shorts. These are excellent feeds. At present prices in Topeka bran is the cheapest feed obtain-

able. When corn is 40 cents a bushel bran is worth 76 cents a hundred, and shorts would not be unreasonable at 85 cents.

Such feeds as linseed-meal, cottonseed-meal, germ-oil-meal, gluten-meal, and gluten-feed are likely to have unusual attention. Their nutritive values as compared with corn at 40 cents a bushel are computed to be about as follows, using the later determinations of the values of the last three:

|   |        |
|---|--------|
| Corn per bushel.....                    | \$0.40 |
| Linseed-meal per 100 pounds.....        | 1.60   |
| Cottonseed-meal per 100 pounds.....     | 1.95   |
| Chicago gluten-meal per 100 pounds..... | 1.85   |
| Gluten feed per 100 pounds.....         | 1.40   |
| Germ oil-meal per 100 pounds.....       | 1.30   |

Should prices of corn range above 40 cents per bushel these feeds would be estimated at correspondingly higher prices. It will be seen that these are very concentrated feeds. Animals to which they are fed should have considerable roughage. Their physiological effects are varied. Linseed-meal is laxative. It may be fed with constipating dry roughage with good advantage. It is very rich in protein so that it goes well with cane-hay, Kaffir-corn, or corn stover, prairie hay, and straw. Cottonseed-meal is constipating, and must be fed sparingly unless accompanied with something laxative. It goes well with alfalfa hay in this respect, but these feeds are each rich in protein and should be fed with some carbonaceous substances. The last three are by-products of the manufacture of glucose, starch, and oil from corn. They are probably safe feeds, but are rich in protein, since this property of corn is the one for which the manufacturers have found no high-priced use. When animals learn to eat them they are reported to give good results. They are suitable to use with such roughage as straw, prairie hay, corn stover, etc.

Readers who have procured the Kansas Stock Breeders' Annual will find it a convenient aid in determining relative values of feeds. When using the tables of the Annual it should be remembered that values therein stated correspond with corn at 28 cents a bushel or 50 cents a 100 pounds. Values of all feeding stuffs should now be placed higher than they are given in the tables in about the proportion in which corn is now higher than 28 cents a bushel.

But the important points to emphasize now are: (1) Save every kind of feeding stuff, especially roughage which can not well be imported. (2) Don't be hasty in sacrificing the stock. If roughage can be produced at home commercial feeds may make it possible to retain the stock. (3) Sow every catch crop that has a chance of making feed this fall at a profit. (4) Study the feeding problem carefully, using all the aids that can be procured. If you have not the Stock Breeders' Annual send 2 cents, to pay for postage and mailing, to the KANSAS FARMER and get a copy. (5) The most valuable characteristic of every true Kansan is his grit. A hole in the corn and forage crops this year will be more than made up in the bountiful yields of the near future. Kansas has a big wheat crop, has harvested two alfalfa crops, and will have a third before the season closes. Kansas has money in bank and the proceeds of this season will enable us to maintain our position.

## Secretary Coburn on the Situation.

The following replies to inquiries as to the present situation in Kansas will be read with satisfaction and profit: "What do you think about the sensational reports which are now in circulation as to corn and forage crops?"

"As the situation presents itself to me there are entirely too many calamity stories of a sensational character being printed at home and wired abroad about Kansas, and the effect can not fail to be immensely and unjustifiably harmful.

"This sort of thing has gone to such lengths that strangers believe the State is about to be abandoned or largely depopulated, and even some of our own people are losing their poise and business sagacity to the extent of unnecessarily parting, at ruinous prices, with valuable breeding stock and similar accumulations upon which their prosperity would depend for the next decade, and that can not be replaced short of years of effort and economy. Compared with this a shortage in the hoped-for corn crop and the drying up of the pastures, although unfortunate, is of minor consequence."

"Is serious damage resulting from drought?"

"Being surrounded by a vast agricultural area where dry and hot weather has for weeks been working disaster to such crops as grass, corn, oats, and potatoes, Kansans could scarcely expect

theirs to be immune, and very naturally they are sharing to some extent in the unusual and unseasonable conditions so sorely afflicting their neighbors and causing them to unite in organizations to pray for the procrastinated rainfall. No one with any but a superficial knowledge of the situation pretends that the corn crop will not be grievously shortened, whatever the future weather may be. There will doubtless be some corn—nobody knows how much or how little, but only a fraction of the monster crop we planted for ninety days ago, and such as Kansas raises, ordinarily. We have 'lost' no corn crop this year, as we can not lose what we have not yet possessed. But Kansas, premier corn State though she is, and valuable as her great corn crops usually are, does not live by corn alone, and her prosperity is by no means wrapped up in the husks of even this wondrous plant. The making or losing of any crop has long since ceased to be more than an incident in her business career."

"How is the State situated as to old corn?"

"According to complete returns from 90 counties in the State over 27,000,000 bushels of old corn was on hand in March, or more than one-fifth of last year's total crop, and this showing doubtless will be considerably increased when the other fifteen counties are heard from, including such heavy and reliable corn-yielders as Atchison, Brown, Dickinson, Elk, Geary, Jackson, Montgomery, Reno, Shawnee and Woodson, all usually holding over a large surplus, and this year will probably find them no exception."

"Is Kansas likely to be 'hard up'?"

"With a plethora of money in banks eager for borrowers, old corn on hand, two excellent cuttings of alfalfa already harvested and a third well advanced; large areas planted to the great dry-weather-resisting Kaffir-corn, well-bred herds and flocks, and dairies, and having harvested in perfect condition the greatest crop of choice wheat ever grown anywhere, Kansas farmers are, or ought to be, comfortable, and many are certainly reposing on flowery beds of ease. It is difficult to imagine that they should register complaints when a kindly Providence has dealt so generously with them year in and year out."

"About what does the State normally produce?"

"Lest we forget how Nature has lavished her bounties upon the industrious Kansas husbandmen it is appropriate to suggest that in the past five years the value of their 860,000,000 bushels of corn has been \$187,000,000; of their 260,000,000 bushels of wheat, \$145,000,000; of live stock products marketed, \$280,000,000, and so on to the end of a long list of wealth-making products for which the State is famous to the ends of the earth."

"Are Kansas farmers more than other people subject to disasters?"

"No matter in what line of endeavor engaged all is not profit nor sunshine. The butcher, the baker, and candlestick-maker, the merchant, banker, miller, and mechanic, as well as others, all have their occasional seasons of adversity. If one year's or several years' business prove especially lucrative it would be ungrateful or childish at least, to whimper because the succeeding one was less so. Profits in every business undertaking are likely to vary with the seasons. The farmer is essentially a business man, and upon him largely humanity everywhere relies for their most substantial support. He is not immune from reverses, but he has endeavored to reduce the possible hardships of such times to a minimum by not entrusting his entire chance for success in any one crop."

"Are farmers in this State as dependent upon a single crop as formerly?"

"It is as necessary for the successful farmer to mix liberal allowances of brains with his methods as it is for those profitably engaged in any other vocation. Intelligent farmers are coming to more and more realize the truth of this, and as a result a prolonged period of unfavorable weather, which may diminish the possible product of any particular crop does not now so vitally affect their condition. In short, many within the past decade have wisely adopted different crops and methods, that along with others practically insure all such subsistence, whatever the season."

"How is the stock to be fed this season?"

"Hay and forage of most sorts now growing will be scarce and high, but there will be much corn fodder, and there is time yet for planting and harvesting unlimited areas of millets, sorghum, Kaffir and fodder corn, and rye, and the wise farmer will be giving these



much attention in the immediate future, besides husbanding the millions of tons of bright straw, now such a conspicuous feature of every landscape. Wheat is abundant and likely to be as cheap for grain-feed as corn, at current prices, and those who have used it most pronounce it superior to corn pound for pound for growth and for milk production.

"The panicky feeling as to feeds and stock water will subside as soon as the inevitable and overdue rains come, and then thousands of men, who usually are self-contained and level-headed, will be amazed at, if not ashamed of, the state of mind they have allowed themselves to be wrought up to by the weather of the past month.

"Those who will win out on the present condition of affairs are not the men who are stampeded into too hastily parting with the best of their young stock and breeding animals, but those who tenaciously hold on to them and, if possible, acquire and care for some of the good things that others are making haste to sacrifice.

"The last thirty days have indeed been a trying period in Kansas as well as elsewhere, and some of our people have had annoyance, loss, and cause for temporary discouragement, but still Kansas is in many ways the most favored of States, and none should lose heart. It is those who have known the State longest and best who love her most and have in her the largest measure of faith. It is upon these, too, that her best gifts are always bestowed."

#### "Spare the Clover and Alfalfa."

EDITOR KANSAS FARMER:—This dry weather is especially hard on clover and alfalfa. The pasturing and tramping of either is very injurious and should be avoided. Next spring clover seed will be very expensive and almost impossible to obtain, hence every reasonable effort should be made to retain that which we have. Arrangements should be made to sow a large acreage of alfalfa in the latter part of August or early in September, if the conditions are at all favorable.

BRADFORD MILLER.

Topeka, Kans.

From January 1 to July 4, 1901, there were shipped from Argentina 26,444,000 bushels of wheat and 14,904,000 bushels of corn; against 54,306,000 bushels of wheat and 11,082,000 bushels of corn during the corresponding part of 1900. It thus appears that during the first half of 1901 the exports of corn were over one-third greater than during the first half of 1900, but the exports of wheat were considerably less than half as great.

#### Short Stops.

It is truly wonderful what large catalogues from small garden seeds grow.

When a barber slices off a piece of skin while he tells you a story it may be said that the tale goes with the hide.

We mistrust the motives of that Pueblo milkman who puts on rubbers in order to keep the water out of his own system. Why didn't he put rubbers on his cows?

"Can you tell the difference between a tomato and the squaring of a circle?" asked the cute loafer of the busy grocery man. "No? Well, one you can and the other you can't." And as the long suffering grocery man drew a club from a place of concealment the loafer fled into the night.

Mrs. Chugwater.—Josiah, the paper says \$200,000 worth of oats changed hands in a few minutes. How could they do all that in so short a time? Mr. Chugwater.—The oats didn't really change hands. The cash changed pockets. A woman oughtn't to try to understand these things. They're away beyond her.

#### Willing to Please.

Suitor—Sir, I have come to ask your daughter in marriage.

Father (tearfully)—Would you take my only child away from me?

"Oh, not at all; not at all, my dear sir. I can move right in."—Detroit Free Press.

#### Great Gold Output.

The colony of Victoria, the smallest division of the continent of Australia, has produced, during the last half century, more gold than any other country in the world, with the exception of California.—N. Y. Post.

#### How She Proves It.

"Maggie says she's a daughter of the revolution."

"Can she prove it?"

"Sure. Her father runs a merry-go-round."—Philadelphia Evening Bulletin.

## Grain Markets.

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

#### Grain Markets to 2 p. m. July 15.

In our last report we suggested that prices on wheat were getting pretty low. Considering the possible loss of the corn and hay crops in the southwest we can not see how wheat can go much lower, especially as there are reports of dry weather in Europe and the spring wheat territory of the northwest. We do not believe farmers will lose money in holding on to their wheat.

Markets closed to-day as follows:  
Kansas City.—No. 2 red wheat, 63c; No. 2 hard wheat, 61½@62c; No. 2 mixed corn, 52@53c; No. 2 white corn, 53@54c.

Chicago.—No. 2 red wheat, 67 to 68c; No. 2 hard wheat, 67c; No. 2 corn, 49c; No. 2 oats, 31c.

Kansas City, Mo., July 12, 1901.

H. D. Clayton & Co., Tescott, Kans.

GENTLEMEN:—We have before us your favor of the 11th. We should be very glad to do business with you, but for the conditions already stated. Our previous business relations with you were very satisfactory and we have the utmost confidence in your ability and business integrity, but as we have written you, the grain business in this State has so shaped itself that the only thing for us to do is to abide by the conditions exacted by the association. We can not afford to have them blacklist us and we regret very much that until you buy through an elevator, we can not consistently handle your business.

We wish you success if you buy and ship, and think no doubt you will do well. Yours truly,

GOFFE, LUCAS & CARKENER.

P. F. L.

The above letter was sent to us from Tescott, and we have taken the liberty to publish it. It shows conclusively how the Grain Dealers' Association is attempting to boycott the farmers. Commission men who are obligated to the Grain Dealers' Association, will not give you a square deal. Let them alone.

#### Stand Together.

The great difficulty in organizing farmers in the past has been that they did not stand together like other business men. They did not seem to comprehend the necessity of unity of action. When there was a difference regarding details, such as come up in all organizations, the minority did not submit to the action of the majority. In this way past organizations have become demoralized and the object and purpose of the organization weakened, until the powers for good were strangled and disintegration followed.

Ambitious men with no particular business purpose, who do not know what they want, but are anxious to become popular, rush to the front, pick flaws, and begin the work of destruction. Such men never promote anything. Their natural and peculiar faculty is to tear down. Such men never originate anything. They are usually surface thinkers, with some natural ability to talk, and can always be detected by their jealousy against the promoters of any new enterprise. Their natural faculty is to obstruct, not construct; to depress, not stimulate. In substance they are found preaching "Why wasn't it done the other way?" They inculcate prejudice in the minds of honest men by the use of their venomous tongues.

They slyly say this officer or that officer is not liked in such and such neighborhoods, which is often true, because this obstructor, like a snake in the grass, has poisoned people's minds. Do not be led astray by men who are jealous of others. Such serpents are found in all movements of any magnitude. Keep your minds centered on the fundamental objects of our organization. Ignore the advice of the pessimist. "Stick to your aim." That is of conducting the sale of your own surplus products through your own agents. The Farmers' Co-operative Grain & Live Stock Association is growing stronger and gaining friends as the days roll by. Help your local organization—co-operate with each other.

If you believe that the farmers have a right to attend to their own business, if you believe the aim and object of our association is right, and you want us to succeed, then help us. The State association has already greatly assisted the farmers of the State. It has loosened the grasp of the grain trust on them; it has disseminated information that you would not have gotten in any other

way, and it has been the means of forming numerous local shipping associations in the State. There was not a co-operative grain shipping association operating in the State, so far as I know when we opened an office and began the propaganda work of disseminating literature among the people advocating the organization of local, State, and a national shipping association by the farmers, nearly two years ago. Now there are many operating in the State. The agitation by the State organization has produced the locals and is still producing them and will continue to do so. The locals can never solve the problem standing alone.

A man must be very near sighted who can not see the necessity of a stronger and more powerful State organization. Yea, in time a national organization. Get together and present a solid phalanx. Do not listen to any trumped up excuse which will prevent unity of action.

#### They Left it Out.

Before the organization of the Farmers' Co-operative Grain and Live Stock Association was formed, the following paragraph, which was no doubt a contract, appeared in the published list of commission men who advertised in the directory of the regular grain dealers sent out by the secretary of the Grain Dealers' Association of Kansas. The notice was as follows:

"We will not receive shipments nor drafts on same from any one not regularly engaged in the grain business." Nearly every commission firm in Kansas City, Topeka, Atchison, Wichita, and other grain centers were in the combine and tied up by the trust.

They are not so bold now. In their directory just printed they have omitted the above paragraph. They see now that such printed matter, if it should reach the farmers, would arouse them with indignation, and strengthen the farmers organization.

#### Farmers' Elevator is Busy.

The farmers' co-operative elevator at Solomon, has shipped 11 cars of wheat this week and the threshing on the larger wheat farms has only commenced. The price is kept higher than the regular dealers pay.

The Farmers Advance, June issue, published by the McCormick Machine Co., of Chicago, Ill., is the finest publication they have ever issued. The most attractive and leading article is entitled "Corn is King," and in view of the prospective shortage of this great cereal in the corn producing States this issue of this publication will be greatly appreciated by all who receive it. A copy will be sent free to any reader of the KANSAS FARMER who will request it.

Why should not the farmer place the cost mark on his goods the same as other business men do? The merchant, the manufacturer and other producers intelligently use the cost mark to advantage in their business and the farmers would do well to learn from them in this particular. The average cost price of staple farm products would be known and farmers as a class would not sell for less than cost.

The farm laborers of Indiana are forming a union. Organization is the means of self protection. All productive industries must organize to secure their rights. Let the good work go on. Co-operation should be the watchword of all who earn their living by honest industry. The other fellows have already combined.

The KANSAS FARMER, the Mail and Breeze, the Farmers Advocate, and the Salina Herald each publish departments in the interest of the Farmers' Co-operative Grain and Live Stock Association and should be liberally patronized by our people. Get up a club list of subscribers and forward it to your choice of these papers.

What we want and all we want is an equitable price for what we have to sell. We object to being at the mercy of the Board of Trade, and stock gamblers. We object to having the price of our products controlled, manipulated and fixed by any man or set of men for selfish ends. All we want is a square deal.

Do you want to know if your grain dealers belong to the Grain Dealers' Association? It is safe to say they do, but write to the editor of this department and he will give you a list of all who are star members in your county.

Farmers' shipping associations should send us reports of what they are do-

ing. The farmers are interested and would like to hear from them. Send us news items regarding your association.

Harvest is practically over in Kansas and farmers should now get together and take steps to form co-operative shipping associations. They should save every cent they can in handling their grain, and get the highest market price for the same. A good strong State organization can render you valuable service; it will increase its benefits to you as it grows older and stronger.

If the farmers were thoroughly organized so as to handle their own products in the market, would any one doubt their getting a square deal? They would place the cost mark on their goods the same as is done in other lines, and would get fair prices for all products sold.

W. P. Herrington, of Gove County, has been making a red hot fight in his paper against the grain trust and now has two libel suits pending against him. We presume the trust will pay the expense of prosecuting him. Every farmer in Gove County should stand by him.

F. W. Frasius, who has been selected to attend to our grain business is now in Kansas City looking after the interests of our members and friends who ship to that market. His postoffice address is F. W. Frasius, Lock Box No. 813, Kansas City, Mo.

#### WIT AND HUMOR.

##### Other Women Present.

Shoe Clerk—Are you being waited on, ma'am?

Fair Customer—No; I want a pair of walking shoes.

"What price and size, ma'am?" (Rather loudly)—"Threes!"

Threes?" (In a low tone)—"Yes, three dollars Size, 6 D."—Philadelphia Press.

##### The Cause of It.

Lecturer (peeking out at the gathering audience)—Ah, I see that my subject: "Where shall we go from hence?" is attracting a large attendance, but I wonder why are so many gentlemen of color present?

Manager—Um, ah, er, well, you see the printer made a mistake in your copy and advertised you to speak on "Where shall we go for hens?"

##### One Man's Wisdom.

New Clerk—That young lady in front wants to look at some rings exactly like she has on. Says she is thinking of purchasing a duplicate for her sister.

Old Jeweler—Huh! You needn't waste any time on her. The ring she has is an engagement ring, and she merely wants to find out what it cost.—Chicago News.

##### Sweet Things.

"What sweet dears they are," said Blanche to Mildred, referring to a squad of West Point cadets.

"No doubt they have all qualified at mess hall by eating a gallon or molasses," added Mildred, who had been reading the proceedings of the hazing investigation.—Detroit Free Press.

##### Disqualified.

Miss Swagger—I don't think Miss Warble ought to be permitted to sing in our choir.

Mr. Basso—Why, she has a lovely voice!

Miss Swagger—That may be; but she's wearing her last year's hat trimmed over.—Ohio State Journal.

##### A Wise Forethought.

"If we will all pull together, brethren," said the pastor of a church which was in financial distress, "we can do something."

Thereupon the wealthiest man in the congregation hastily drew his leg in out of the aisle.—Detroit Free Press.

##### His Only Asset.

Hawkins—Now, I like a man to be self-respecting and all that; but Crane stands altogether too much upon his dignity.

Yawney—I don't blame him; it's all he has to stand upon.—Brooklyn Eagle.

##### Inconsiderate Incredulity.

Daughter—"Father, I fear I hurt the count's feelings."

Father—"In what way?"

Daughter—"I thoughtlessly told him I didn't believe he owed as much as he said he did."—Smart Set.



**Horticulture.**

**Commercial Pear Culture.**

M. B. WHITE, ASSISTANT CHIEF, DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY IN YEAR BOOK OF THE DEPARTMENT OF AGRICULTURE.

(Continued from last week.)

**CULTIVATION.**

The history of the pear orchard in all questions of cultivation should be considered as divided into two periods: (1) The young orchard before it comes into bearing; (2) the bearing orchard. It is necessary for complete success in growing pears that the ground should be thoroughly plowed each spring and kept in a good state of cultivation until midsummer. In the young orchard this involves a great deal of expense with very little apparent return unless some other crop is grown in the orchard. By growing the right kind of crop, especially one which requires high fertilization, instead of drawing from the soil and impoverishing it, the result is the enriching of the soil; in other words, the crop becomes a veritable nurse crop. The only disadvantage comes in a dry season when there is not enough water in the soil for both the trees and the crop, even though ample plant food may have been artificially supplied. The nurse crop also frequently prevents the thorough midsummer cultivation, which is so necessary in a dry season.

Of the truck crops grown in the pear orchard, almost any of the low-growing garden crops may be cultivated, such as cantaloupes, sweet potatoes, Irish potatoes, and cucumbers, as well as cabbages, beans, peas, beets, turnips, etc. Crops which have to be dug late in the season with a plow or other implement, such as Irish potatoes and sweet potatoes, are probably less desirable than such crops as cabbages, peas, beans and similar crops.

During the first two or three years the truck crops can be planted in the first row 4 feet from the row of trees, and the tree row should receive the same cultivation or even more than the truck crop. After the third year, when the roots of the trees have begun to spread out through the soil and the tops cast a larger shade, the truck crops should not be planted quite so close. At five years of age it is usually best to abandon the outside row entirely, leaving a space of 8 feet. Most pear trees at six years of age begin to bear heavily and need all available soil moisture and plant food. Corn may be grown in the richer soils for the first year or two; but on the whole, any plant of as rank growth as Indian corn can not be considered a desirable crop. Wheat, rye, or cereals, which do not allow cultivation during the spring and early summer, are decidedly objectionable. Unless the soil in the pear orchard is overrich, which is not apt to be the case, it should always be the rule to apply more fertilizer to the nurse crop than the crop itself removes. The crops should be planted within 4 feet of the trees. This practice of growing other crops in the orchard is often condemned by writers and fruit growers on theoretical ground, but in a practical way, if the above conditions are properly complied with, there are no serious objections to it. The young trees themselves require some fertilizer, but this will be considered later. By skillful management, the growing of vegetables or other crops in the young orchard for four or five years preceding bearing may be made to pay the cost of the improvement of the soil. The cultivation of young trees themselves is not very different from the cultivation of any other tender plant, and, as everybody is familiar with corn culture, we may lay down this rule: Cultivate the pear tree just as you would a hill of corn if you were trying to grow a specially fine hill of corn. Great care must be used to keep from injuring the trees. Hired help who have not had experience in cultivating trees, even though they have had experience in cultivating corn and other crops, are not apt to realize the injury that a touch of the singletree or parts of the harness may inflict on the tree. When growth starts in the spring, the young trees, if struck in this way, are likely to be very seriously damaged. To avoid this, a careful and experienced man should be employed to plow the first furrow around the trees. The single-tree should be extremely short, as short as possible for the horse to conveniently work in. Unless some special device is used for fastening the

should be protected by wrapping a piece of old sacking around it, so that in case a tree is struck it may not be seriously injured. Even with the utmost care, however, the young shoots are frequently broken off when they are from 3 to 6 inches in length by a mere touch.

In the plowing of the ground in the spring for the young orchard, it must be borne in mind that the dwarf pears do not thrive as well if the earth is plowed away from them as when back-furrowed around them. The quince root is of such a character that it prefers the excess of moisture, and the latter method serves to retain moisture, while the former has a somewhat drying effect. It is therefore usually best in the dwarf-pear orchard to continue plowing year after year toward the trees, and depend upon the cultivation and cross harrowing to level the land again. If the tendency to ridge becomes too pronounced, it may be obviated by plowing two or three furrows toward the tree row, and then back-furrowing in the middle of the strip, leaving two small dead furrows near the tree rows instead of one in the middle. These small dead furrows will be more easily filled by the cross harrowing. In the case of standards and Orientals, if the soil becomes rigid, it will do no harm to plow away from the trees to level the land.

One point should always be borne in mind in the cultivation of the pear orchard as compared with that of peaches, apples and other fruits; this is, that the pear tree makes its growth very early in the season. Most of the annual twig growth on the trees, at least after the age of three years, is made within four to six weeks of the blooming time, and very little of it is made during mid-season and thereafter. Special attention, therefore, should be paid to the early cultivation of the pear orchard. Later in the season cover crops may be grown, or, if comparatively free from weeds, the orchard may be allowed to take care of itself. In case of young trees, plowing should usually be finished before the buds have swelled sufficiently to be easily injured by the horse when brushing past them. When the buds are dormant the injury is very slight; if, however, the buds are an inch or so long, many of them may be brushed off. It is often wise to plow the first two or three furrows with the one-horse plow while the trees are dormant, and then later, even though the buds may have pushed out, to finish the plowing in the middles with the two-horse plow. The cultivator should, if possible follow the plow just before the buds have pushed out appreciably. The one-horse five-tooth cultivator is suitable for this purpose. This will mellow the ground and put it in a finely pulverized condition, which at that season of the year will enable it to retain its moisture for a fortnight or more. If possible, the trees should be allowed to bloom and to start their twig growth before the cultivator, with its accompanying danger to the buds, is again used. By cultivating the trees on a dry day, when the foliage and twigs are somewhat limp, the minimum amount of injury will be done. At least four or five cultivations at intervals of about ten days to two weeks should be given to the young pear orchard. In the meantime the other crops planted between the trees may require cultivation, but the cultivation of the pear orchard should proceed independently in case these crops are not ready for it.

In the bearing orchard the plowing in spring is, of course, the same, but the absence of other crops between the trees renders the cultivation much simpler and more economical. Having plowed the orchard, the cultivator, spring-tooth harrow, or some other form of harrow should be passed over at such a time that it would be most effective. The land can then be left until after the trees have bloomed, when a second harrowing, preferably in the opposite direction from the first, should be given. The ground should then be harrowed over about once in ten days, five or six times, keeping the soil in a finely pulverized state. If heavy rains occur, pounding the ground and compacting the surface, the crust which forms on drying out should be promptly broken before the soil becomes too hard.

It will hardly be possible to mention the many implements useful in the cultivation of the pear orchard. The disk harrow, the cut-away harrow, and the spading harrow are very useful types, and in certain conditions of the soil are very effective. The spring-tooth, the ordinary spike-tooth, the Acme, and even the weeder, are very good implements. The weeder, however, is not as desirable in the pear orchard as it is

- ARMSTRONG & McKELVY Pittsburgh.
- BEYMER-BAUMAN Pittsburgh.
- DAVIS-CHAMBERS Pittsburgh.
- FAHNESTOCK Pittsburgh.
- ANCHOR Cincinnati.
- ECKSTEIN Cincinnati.
- ATLANTIC New York.
- BRADLEY New York.
- BROOKLYN New York.
- JEWETT New York.
- ULSTER New York.
- UNION Chicago.
- SOUTHERN Chicago.
- SHIPMAN Chicago.
- COLLIER St. Louis.
- MISSOURI St. Louis.
- RED SEAL St. Louis.
- SOUTHERN St. Louis.
- JOHN T. LEWIS & BROS CO Philadelphia.
- MOBLEY Cleveland.
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among peach trees, for the reason that the pear is deep-rooted, and can better withstand and profit by deep cultivation than the peach. As to the depth of plowing, the writer is inclined to favor rather deep plowing for the pear orchard. If the trees are set with the point at which they were budded 2 inches below the surface the first two or three furrows may be made about as deeply as a one-horse plow can go, namely, 4 to 5 inches. After the third furrow the two-horse plow can be used, and as a rule the land should be plowed as deeply as it will stand; in other words, as deeply as the soil will permit without turning up too much of the clay subsoil. It is usually wise, unless great care has been taken in previous preparation, to plow the middles of the pear orchard very deeply, turning an inch of sub-soil to the surface each time. In this way the soil will be deepened; 8 to 10 inches is none too deep and less than 6 inches should not be considered deep enough. As the trees spread out and the root systems occupy the soil, the plowing may be an inch or two shallower than in the young orchard, but with this exception the depth should always be maintained. It is a great mistake to plow the orchard shallow for a number of years and then plow it deeply, for many of the roots will have developed at shallow depths, and the subsequent deep plowing will tear up and destroy them.

**FERTILIZATION.**

Few soils really adapted to pear culture are fertile enough to support the bearing pear orchard without some assistance in the way of manures and fertilizers. If the soil is tolerably fertile, that is, capable of growing 40 bushels of corn per acre, the young orchard may need no assistance whatever until it has borne a heavy crop, after which, as a rule, some additional plant food will be desirable, if not absolutely necessary. As above suggested, however, young trees usually need to be fertilized individually during the first two to four years after planting out. For this purpose any good, complete fertilizer may be used, one containing 10 per cent. of potash from muriate of potash, 7 to 8 per cent of phosphoric acid from acid phosphate or dissolved bone, and 4 per cent of nitrogen (half from nitrate of soda or dried blood and half from tankage, bone, or some other slowly available form or organic nitrogen). Before the trees have pushed out into growth the first spring after planting, a large handful (about one-third of a pound) should be thrown immediately around the tree and hoed or cultivated into the soil. When the tree begins to absorb soil water and push out its new leaves, it will at once feel the stimulus of this fertilizer, and as a result the leaves will come out large and of a dark-green color, and the twig growth will be robust and vigorous even though the trees are on poor ground.

The second year it is best to put the fertilizer in the bottom of the furrow after the first trip with the plow has been made on each side of the tree row. A handful of fertilizer should be strewn in each furrow for a distance of 3 or 4 feet each way from the tree. The second furrow is then plowed, the dirt being thrown on top of the fertilizer. If stable manure is to be applied, it may be put in the bottom of the furrow and covered up in the same way. It is a good plan to fertilize all the trees the second year with about 1 pound of commercial fertilizer to each tree, and then

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to give a special manuring with two to four shovelfuls of good stable manure to the weak trees and those growing in the poorest soil. If it is desired to continue fertilizing the trees individually during the third and fourth years, it may be done in the manner described, but the fertilizer may be placed in the second or third furrow from the tree instead of the first one. In succeeding applications it is better to fertilize the whole area of the ground rather than the individual tree, especially in the case of standards and Orientals.

In the fertilization of the orchard some general system of building up the soil as a whole should be adopted, and the three following methods are worthy of consideration:

The first method, which has already been discussed under "Cultivation," consists in applying fertilizers to truck crops grown as nurse crops in the orchard. The residual effect of the stable manure and fertilizers applied to the nurse crops is very beneficial to the soil and, therefore, to the trees in the orchard.

The second method consists in the use of green manures and the mineral fertilizers, potash and phosphoric acid. A very good proportion is three parts of acid phosphate and one part of muriate of potash. This mixture is applied at the rate of 400 to 800 pounds per acre, and will supply all of these ingredients necessary for large crops. The green manures, that is, crimson clover, cow-peas, etc., are depended on to furnish the nitrogen and the necessary organic matter to keep the soil in a high state of fertility. In the pear orchard the problem of growing the green manures is not a difficult one, for the reason that the tree-growth is made early in the season and the long growing period, from midsummer to autumn is available for growing leguminous crops. If crimson clover is grown, it should be plowed under rather early in the spring to get the best results.

The third method, the simplest of all, consists in the direct feeding of the trees and the soil with fertilizers and manure. If the trees do not respond in



a satisfactory manner to good cultivation and pruning, that is, if they do not throw out from 12 inches of growth on the dwarfs to 3 feet on the Orientals; and if they show the ordinary symptoms of starvation, that is, small fruit and small foliage, plant food should be applied to them until they grow out of this condition. In this respect the dwarf pear is much more exacting than either the ordinary standards or the Orientals. It requires high manuring and fertilizing, and the fertilizers must be applied very close to the tree, as the quince roots do not spread out like those of the pear.

Many old fashioned fruit growers prefer to use wood ashes, stable manure, and ground bone for the fertilization of dwarf and other pear trees, and there is no question that these materials are very desirable, if not the best in use. As a rule, however, potash can be bought much cheaper in the form of muriate, and phosphoric acid in the form of acid phosphate, so that it is more economical to purchase these forms, and they are probably just as good.

It is an excellent practice to fertilize the bearing dwarf pear orchard in the manner above described for the young orchard. Three to six large forkfuls of stable manure may be applied in the furrow in the spring or thrown around the trees in winter, and from 1 to 5 pounds of complete fertilizer of the formula above suggested be applied early in spring and cultivated or harrowed into the soil. Standards and Orientals will, of course, respond to good fertilization and cultivation, but as their root system is very widespread and deep, they do not feel the necessity of additional plant food as keenly as dwarfs, and do not respond to its application so readily.

In the use of potash and phosphatic fertilizers there is little danger of injury from an excessive amount, but nitrogenous fertilizers must be used with great care. Stable manure should be applied only in early spring, never in midsummer, and a light dressing, not to exceed six large forkfuls, is the maximum amount that may be used safely on each young tree, although trees bearing heavily will stand more. Care must also be exercised in the use of nitrate of soda, cotton-seed meal, blood, tankage and other nitrogenous fertilizers, as it is rarely safe to apply more than 200 pounds per acre of any one of these materials. Bone, bone tankage, or other slow-acting and insoluble nitrogenous substances may be applied in the fall and winter if preferred and in larger amounts. To avoid waste, nitrate of soda and other soluble forms should not be applied until about the time growth starts. The danger in applying nitrogenous fertilizers and stable manure in excessive amounts or late in the season arises from the fact that the trees are stimulated to make a late and immature growth of the cambium and twigs, and are thus rendered susceptible to injury from winter killing and pear blight.

The methods of fertilizing above described are intended to push the pear tree into as vigorous growth as possible and cause it to bear the largest possible crops of the best developed fruits. It is well known to most growers, however, that pear trees forced with stable manure and fertilizers and by good cultivation become very susceptible to blight, and when attacked are most severely injured by it. As a result of this, growers are continually restrained in their efforts in fertilizing their pear orchards, and generally aim to keep their trees in a semi-starved condition. As to the wisdom of this policy, we are not prepared to decide definitely, and each grower must be left to decide the matter for himself; but it may be said that while a moderate restraint in the fertilization may be considered proper as a rule, it is better to take some risk at least, so that if crops are produced the fruit will be of such quantity and quality as to be profitable.

**Treatment for the Plant Louse.**

EDITOR KANSAS FARMER:—The melon plant louse, *aphis gossypii*, is a common pest on melon and cucumber vines throughout this region. Since it does not appear in great numbers every year, systematic preventive and remedial measures are apt to be neglected by melon growers until the louse threatens to destroy their whole crop. Clean cultivation, and the removal and burning of all rubbish on or near the field in the fall, aid greatly in keeping the louse under control by destroying the eggs. The young plants should be watched carefully for signs of lice and as soon as their presence is noted in the field prompt treatment should follow.

If the lice are found only on a few plants in one locality in the field, it will probably pay to gather these carefully and burn them. Spraying with kerosene emulsion diluted with 10 to 15 parts water, or with whale-oil soap, 1 pound dissolved in 4 gallons of water, is the most common method. It is necessary that the under side of the leaves be thoroughly sprayed. A stronger spray than that recommended is apt to seriously injure the plants. When the vines are small they can be easily and more surely treated with carbon bi-sulphide gas. It is necessary to have the hill covered with an air-tight box, stiff paper cone, or other similar device. One or two teaspoons of the liquid carbon bi-sulphide should be used for each cubic foot of air space under the cover. The liquid should be poured into a flat saucer or small dish placed between the plants of the hill, and the cover immediately turned over and pressed into the ground around the hill to keep the gas from escaping. Leave covered for an hour. Under certain conditions, as a porous soil, a heavier dose may be necessary to kill the lice, and in very hot weather a shorter time may be necessary to keep from killing the plants. The gas is quite explosive and should be kept away from any fire or light.

In experiments at this station the gas treatment gave better results than kerosene emulsion but took more time and trouble.

Spraying with ice cold water is said to kill the melon louse without injuring the plants. Paris green and similar poisons are useless since this pest does not eat the leaves but simply sucks the juice.

JESSE B. NORTON, Asst. Entomologist, Kansas Experiment Station.

**Money in Apples.**

PRESS BULLETIN VERMONT EXPERIMENT STATION.

Some weeks ago the Vermont Experiment Station was responsible for the circulation of some figures showing profits made in apple growing. Briefly, these figures showed that Mrs. Laura E. Allen, of South Hero, Vt., had cleared \$100 an acre from 14 acres of orchard in 1899, and that the crop of 1900 brought a net profit of \$183 an acre.

These figures seem not to have been satisfactory to an inquiring and cautious public. Some persons who know nothing about the apple business thought it was a fish story pure and simple—others who are growing apples themselves protested that they had done better, and that the case therefore had been unfairly presented. Several communications were received on the subject by the horticulturist of the experiment station, who is now happy to add the following statistics to those already published:

Mr. Lucian Allen, also of South Hero, has 300 bearing apple trees, covering between 5 and 6 acres of land. From these he sold in New York 257 barrels of the crop of 1900, for which he received a gross return of \$875.25, or an average price of \$3.40 a barrel. Freight, cartage, and commissions ate up \$174.75 of this sum, leaving a net cash return of \$700.50. These figures are taken directly from the returns of the commission man (and the commission man seldom returns more money than the fruit brings). In addition to the \$700.50 received for apples sold in New York, Mr. Allen sold a considerable quantity at home, from which he realized an additional \$198.50. This makes a total of \$899 for the years crop, or \$150 to \$180 an acre.

Another Vermont apple grower, who objects to having his name used, but whose accounts have been examined and found correct, has made still more remarkable sales. Last year his total sales (not net) were \$3,543.25 from 10½ acres. One single block of trees, covering 4½ acres gave a net return of \$1,272, or over \$282 an acre clear profit on the farming. The figures from this orchard are not now available for previous crops; but to the writers personal and disinterested knowledge the returns have been almost equally good—sometimes full better—every year for several years past. During at least ten years there has not been a single crop failure in this orchard.

And there are plenty more figures like these.

**Some Important Fruit Diseases.**

PRESS BULLETIN OKLAHOMA EXPERIMENT STATION.

During a recent visit to some of the leading fruit-growing regions of Logan and Kingfisher counties, some interesting facts concerning some important fruit diseases were secured.

**GRAPES.**

Among these diseases none equal in

importance the "black rot" of the grape which now threatens the grape industry in these regions. This black rot makes its first appearance on the fruit as small brownish-black spots—these spots rapidly grow in size and become black. The grape finally shrivels up but remains attached to the stem. The "Niagara" seems to be most frequently attacked while the "Concord" is quite free from the disease in the vineyards visited. The "Dyze," a reddish sweet grape, and the "Golden Pocklington" are also somewhat diseased in certain vineyards.

This "black rot" can easily be controlled by means of spraying with the usual Bordeaux mixture. The first application of this fungicide must be made before the vines begin their growth in the spring and should be followed at intervals of about ten days or two weeks for about three more sprayings. The last spraying may well be with the ammoniacal copper carbonate since this is not so apt to injure the fruit as is the Bordeaux mixture.

Another grape disease affecting the young shoots is now being studied with a view of securing some practical remedial or preventive treatment.

**APPLES.**

The apples and pears are suffering from the so-called "blight" in many of the orchards visited. This blight is caused by one of the parasitic bacteria which winters over in the young twigs. Early in the spring the germs make their escape and infect the flower buds and young leaves. The leaves rapidly turn black and the peculiar odor of rotten apples given off by the crushed leaves and young shoots is a characteristic easily noticed. These blighted shoots should be promptly removed and burned. In no case should they be allowed to remain on the trees or be removed and thrown on the ground about the trees. No spraying is effective in combatting this dreaded "blight" but the suggestion just offered, if carefully and promptly followed, will eventually rid the orchard of this disease.

The "apple rust" has made its appearance in considerable abundance in some orchards. This rust appears upon the upper surface of the leaves as small yellowish spots. These enlarge and finally break through the surface of the leaf—at this time the numerous spores are easily scattered by the wind. This "apple rust" is but one stage of the fungus and appears only on apple trees. The other stage of this fungus is what is commonly called the "cedar apple" and occurs only on the cedar tree. Here the fungus spores produced on the apple tree germinate and produce the characteristic reddish colored swellings called "cedar apples." During the damp weather of spring and early summer a number of yellowish gelatinous protuberances may be seen on these "apples." In these yellowish bodies another sort of spore is produced. These spores will not germinate on the cedar tree but when transferred by the wind to an apple tree germinate and produce the yellow spots referred to above as the "apple rust."

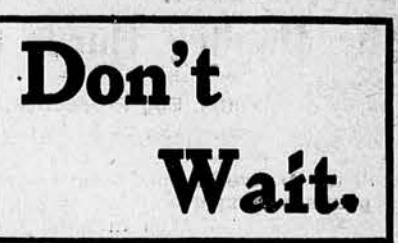
In one large orchard the trees were found badly infected with this rust. About one hundred yards north of this orchard was a fine avenue of cedar trees. These cedars were literally covered with hundreds of the cedar apples. It is plain from what has been said that these cedars constitute a fertile source of infection. All these cedar apples should be removed at once to prevent the further spread of the rust among neighboring apple orchards, and further all rusted leaves should be collected as they fall from the trees and be burned. In this way only, can these rusted apple trees be saved—neglect of these precautions may lead to the complete destruction not only of the cedar trees but of the more valuable orchards.

A new leaf-spot fungus is doing much damage in some apple orchards and will be thoroughly investigated by the station with a view to suggesting practical remedial measures. Specimens of any of the above mentioned diseases are very much desired and should be sent by mail to the experiment station at Stillwater, Okla.

**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.



The greatest danger from heart disease is in neglect. Palpitation or fluttering, pain in the left side, shortness of breath, smothering, fainting or sinking spells, are unerring signs of a weak heart—a heart that demands attention. Don't wait until it is too late. Don't neglect your heart until fatal disease has fastened itself upon you. Begin now to get relief.

"My wife had some difficulty with her heart a few years ago, and it became a matter of serious concern. Knowing the virtues of your Heart Cure from my office experience, she began using the remedy, and two bottles effectually relieved the trouble."  
Dr. J. C. HOVOK, Dental Surgeon, Addison, N. Y.

**Dr. Miles' Heart Cure**

never fails to benefit weak or diseased hearts, when taken in time. Don't wait, but begin its use at once. Sold by druggists on guarantee.

Dr. Miles' Medical Co., Elkhart, Ind.

- Hoopes, secretary; Clay Center; October 8-11.
- Coffey County Fair Association—A. L. Hitchens, secretary, Burlington; September 10-13.
- Cowley 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—B. 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. E. McGrew, secretary, Holton; September 24-27.
- Jefferson County Agricultural and Mechanical Association—Edwin Snyder, secretary, Oskaloosa; September 3-6.
- Jewell County Agricultural Fair Association—C. F. 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.
- Sedgwick County—Wichita State Fair Association—H. G. Toler, secretary, Wichita; October 1-4.
- Stafford County Fair Association—John W. Lill, secretary, St. John; August 23-30.
- Sumner County—Mulvane Agricultural Society—John A. Reed, secretary, Mulvane; September 27-28.
- Wilson County—Fredonia Agricultural Association—J. T. Cooper, secretary, Fredonia; August 20-23.

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



## The Poultry Yard.

### How to Secure Winter Egg Production.

G. J. LOVEL, WINNIPEG, MAN., IN NORTHWEST FARMER.

I shall try to give in short form some of the points my experience would suggest as necessary to keep in mind in order to profitably produce those highly prized articles, "winter eggs."

Success is more easily obtained with pullets than with hens. A flock of hens may get through molting early and by proper care be induced to lay at the right time, but the chances of success are likely to be better with pullets.

Select your best layers and set eggs only from them, having, if possible, a male bird also from heavy laying stock, though this is probably not so important. House, treat, and feed this flock so eggs laid will produce strong, healthy chicks.

Hatch the chickens as early in the season as possible. Asiatics, as Brahmas, Cochins, etc., in February or March; American classes, as Rocks, Wyandottes, Javas, etc., in March or April; and the lighter breeds, as Leghorns, Andalusians, Hamburgs, etc., in May. Of course these are only approximate dates for average fowls. Asiatics will sometimes lay when four or five months old and Leghorns take nine or ten months to mature. It is also possible to hasten or retard maturity by the feed and care given, but as a rule the above dates will be found about right.

Keep the chicks separate from the adult stock, especially if confined, or if that can't be done, at least secure a separate feeding place for them. This can be easily done by making a coop or enclosure which will admit chicks and exclude the adult fowls. If chicks can not secure insects or worms, feed meat, cut bone, or other animal food; fresh, preferred, as well as green food and grain. There is no danger, but rather great advantage in feeding meat if the chicks can get green food as in a state of nature. Skim-milk is also a most valuable addition to rations.

Where chicks are raised in brooders, or have no outside run, cover the floors with chaff, or other litter, and make them scratch for the greater part of their food. They will start scratching soon as ready to eat and apparently enjoy it.

Provide dust baths and grit.

Guard against lice, both those that live on the bodies and the spider lice that breed on the perches and walls. The earlier pullets and cockerels are separated the better, but, if not possible to do this before, they should be put into separate flocks not later than October 1st in this climate.

It will be found a great advantage to shut cockerels up in a small space, as they are less quarrelsome when alone and the food consumed goes to increasing marketable weight. Pullets should be separated from hens and put into winter quarters as near October 1st as possible, as a change of locality when ready to start laying will often put them back several weeks.

Give plenty of litter for scratching in. Keep them busy.

Hang up cabbage, mangel or sugar beet where they can reach it and give plenty of meat or other animal food. By the middle of November they should be busily singing and cackling round their pens with combs "as the red, red rose," like young matrons reveling in all the joy of their first house-keeping. A sight of such a flock is enough to enthrall any lover of poultry. Just about this time your neighbor is likely to envy you a little and wish he had one likewise, but his feelings are still stronger when he sees the financial reward later. This is not reached without some little effort, but when you see a man for the great part of the winter averaging ten or twelve dollars a week from eggs laid by less than one hundred pullets one is inclined to think the man's work and intelligence are well paid. At ruling Canadian winter prices (30 cents per dozen or over) this estimate is well within the mark and has been surpassed by actual results.

There does not seem to be danger of over supply. The demand more than keeps up with the supply. The ordinary store egg is rather a nauseating article, but a genuine new laid egg is enjoyed by almost any one and people willingly pay a high price to get it.

Treatment of Roup and Cholera.

Cold, catarrh, diphtheria and roup are all classed by many people as the same, but they are not. A cold that comes in a day or a night, that is caused by dampness or a cold draft through the house, may be cured by cleansing head,

nostrils and eyes with warm vinegar and water, and removing the cause; but so long as the damp condition remains, no permanent cure can be assured.

The treatment of real roup is difficult and often quite unsatisfactory. Washes made out of borax and water, or carbolic acid and water are used, and in extreme cases sulphate of copper is used, in solution, to inject into the nostrils and to wash out the throat and eyes. This is rather severe and painful, and should be used with care. One ounce of the sulphate of copper to 20 ounces of water is strong enough. Peroxide of hydrogen is also used. When roup is present, wash out head, nostrils, eyes and throat twice a day with one of these washes; dry the face and eyes, and anoint with vaseline; keep the sick fowls in a warm, dry place, and feed stimulating food. Roup, as one authority says, is really catarrh; it includes many forms of disease, among them being those of a tuberculous nature. In the latter case there is no known cure. On general principles, it is well when a contagious disease appears in the flock to get rid of the flock if the disease does not soon disappear, and it may be waste of time, labor and money to battle with it. The handling of sick birds to force remedies down their throats is disagreeable and even dangerous. Some hens are not worth such work.

If you really have cholera among your flock, there is not much hope of saving them. First be sure you have fowl cholera; if so, kill all that are sick and burn them. Clean up your quarters where the fowls are kept, mix some capsicum, ginger and a little alum in the food of those you have left (one ounce each of capsicum and ginger and a half an ounce of powdered alum); mix well, 1 teaspoon for 24 fowls or half-grown chicks; half as much for young chicks. Give only good wholesome food, and no slops or wet food. All mixed food must be as dry as possible.

Your fowls, or chicks, may only have diarrhea that has come from damp and cold, or from bad, sour, sloppy food; if so, give the same remedy, only not so much, and remove the cause of your trouble.—Country Gentleman.

### Poultry on the Farm.

Professor Gilbert, of Ottawa, Canada, in answer to the question, "Why is Poultry Valuable to the Farmer?" gives the following reasons:

1. Because he ought, by their means, to convert a great deal of the waste of his farm into money in the shape of eggs and chickens for market.
2. Because, with intelligent management, they ought to be all-year revenue producers, with the exception of perhaps two months during the moulting season.
3. Because poultry will yield him a quicker return for the capital invested than any of the other departments of agriculture.
4. Because the manure from the poultry house will make a valuable compost for use in either vegetable garden or orchard. The birds themselves if allowed to run in plum or apple orchard, will destroy all injurious insect life.
5. Because, while cereals and fruits can only be successfully grown in certain sections, poultry can be raised for table use or layers of eggs in all parts of the country.
6. Because poultry raising is an employment in which the farmer's wife and daughters can engage, and leave him free to attend to other departments.
7. Because it will bring him the best results in the shape of new-laid eggs during the winter season, when the farmer has most time on his hands.
8. Because, to start poultry raising on the farm requires little or no capital. By good management poultry can be made with little cost a valuable adjunct to the farm.

### Two Hundred-Egg Hens.

How can we produce hens that will lay 200 eggs per annum? By scientific breeding, as for a good butter cow or a heavy milker, as for a good trotter or high jumping horse. Experiments have been made to increase the number of rows of corn on the cob with success. The same method is applicable to poultry breeding. We will start with a hen that lays 120 eggs. Some of her chicks will lay 130 per year. From these we will pick out layers, and so on until 200 or better are the result. At the same time, it is just as essential to breed out of males from prolific layers, as it is the females; in fact, it is more so. If we look after the breeding of the females only we will

introduce on the male side blood which is lacking in proficiency, and thus check every attempt at progress. It is just as essential that the male should be from the hen which lays 175 eggs and from a male that was bred from a hen that laid 150 eggs as it is that the hen should be from one that laid 175 eggs and whose mother laid 150 eggs.—Poultry Herald.

### Keep Eggs Dry.

Eggs are certainly injured by washing. They will not keep so well or hatch so well as unwashed eggs. At least such has been my experience. The best that can be done for a soiled egg is to wipe it with a dry cloth; and, if the matter is important, carefully rasp the thickest of the dirt off with thick sandpaper. If an egg is washed in either cold or warm water, it will be noticed at once that the "bloom has disappeared, and a careful egg buyer would at once pronounce it a stale egg. If only the fourth part of an egg shell is unsolled, that part will show that the egg is fresh, because the bloom will be there." If you want eggs to keep well or hatch well I would advise you to keep them out of water. Don't even rub them with a damp cloth. Keep them dry.—Ex.

### Gape in Chickens.

An exchange says: "Powdered garlic mixed with the usual food of chickens, one garlic bulb to 10 birds daily, supplemented by especial care in the use of only pure water, changed several times a day, will completely eradicate gapes from chickens. Keeping chickens on a plank floor for several weeks after they are hatched will also prevent gape. As soon as discovered the affected individuals should be kept by themselves."

### Gossip About Stock.

The Angora goat industry is thriving in Kansas and breeding establishments are beginning to flourish. This week's paper contains the new breeder's card of S. D. Moherman, of Ottawa, Kans., who has a number of registered and high-grade Angoras for sale.

We call special attention to the new advertisement of Rocky Hill Shorthorns, owned by J. F. True & Son, Newman, Kans. Owing to the shortage of pasturage this advertiser has concluded to sell some of his cows and heifers, which have been bred to Waterloo Duke of Hazelhurst 11th, and the Cruickshank bull, Mayor, out of the 8th Butterfly of Valley Grove, by Lord Mayor. Some of the younger heifers are bred to Sempstress Valentine, the bull purchased at the National Shorthorn Show last fall, when 10 months old, for \$525.

The sale of Berkshire swine, to be held at Kansas City, August 1, 1901, comprise consignments from leading herds of W. W. Major, Kearney, Mo.; Geo. W. Jessup, Rockville, Ind.; E. J. Oliver, Dearborn, Mo.; W. R. Harvey, Sibley, Ill.; C. G. Mills, Pleasant Hill, Mo.; J. C. Walker, Smithville, Mo.; and others. Each of these consignors are putting in what they consider some of their very best animals, suitable for a foundation stock or for show herds. Send at once for catalogue to Chas. F. Mills, secretary, Berkshire Association, Springfield, Ill.

The Kansas Farmer regrets to announce the death of Roan Wild Eyes 2d, Vol. 44, page 604, dam Red Wild Eyes (bred by the late Col. H. M. Valle) and sired by Grand Duke of North Oaks 11th. This cow was sold as a heifer at the dispersion sale of G. W. Glick & Son, and bought by Col. W. R. Nelson, of Kansas City. She was pronounced by many as the equal or superior of any of the females sold the past year at \$2,000 or over. She tipped the scales at a little over 1,700 pounds. She had an internal hemorrhage from calving and died before medical attention could arrive. Her calf, a very promising bull calf, which was saved, sired by the 53d Duke of Airdrie 10721, has been put on a nurse cow and something great is expected of him. We desire to mention here that the cream of the G. W. Glick & Son herd, now owned by Colonel Nelson, have done honor to their former owners and are producing some of the finest young things to be seen in any herd in the country. The imported Scotch cattle are also doing finely. Imported Miranda, bred by Her Majesty the Queen, dropped a beautiful heifer calf by the Queen's Royal Standard, who is a half brother (same dam) to the bull Royal Duke, for which the Queen refused \$8,000.

### Publisher's Paragraphs.

We can not flatter ourselves that because the weather is warm and pleasant, or intensely hot, that we will possibly be free from rheumatism, neuralgia, sciatica, lumbago, soreness and stiffness, and the mishaps which occur, such as sprains, bruises and hurts of all kinds; indeed, it is true that with some of them the suffering is more intense in summer than in any other season. It is wise, therefore, to have on hand a supply of St. Jacobs Oil, because it is universally known as the old and most reliable remedy and cure for all these afflictions, and the torturers of these troubles added to the heat make life needlessly unhappy.

That fine sentiment, "Honesty is the best policy," which has stimulated so much worthy effort and made success easier in many places, has always been the guiding principle in the manufacture of Wetmore's Best chewing tobacco. Some one has aptly described Wetmore's Best as "a chewing tobacco with a conscience behind it," so closely have the manufacturers held to the spirit of the adage

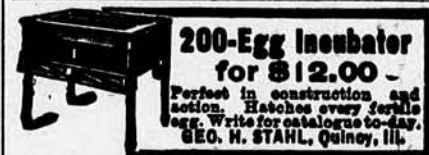
### POULTRY BREEDERS' DIRECTORY.

HIGH-SCORING, PRIZE-WINNING, Cornish Indian Games, W. P. Rocks, Black Langhans. Eggs \$1 per 18. Mrs. J. C. Strong, Moran, Kans.

TO EXCHANGE—Fine pedigreed Belgian hares, also some good unpedigreed stock, for good watch, bicycle, bone mill, or good Black Langhans. Give description and price of what you have. A. S. Parson, Garden City, 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 per 15. A few choice Burdick cockerels for sale. Pea Comb W. Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice cockerels for sale. M. B. Turkeys, 2 grand flocks. Eggs \$2 per 11. Young toms for sale.



### EGGS .. For .. Hatching.

From Pure-Bred, High-Scoring, Prize-Winning, WHITE AND PLYMOUTH ROCKS BARRED...

18 for \$1; 30 for \$2; 50 for \$3; 65 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 Brahma, 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.

quoted. But the reward has come, not only in a comfortable self-approval, but in a large business; a business that is extending from day to day until Wetmore's Best is known wherever a good chew is prized or sought. The sign of Wetmore's Best in a tobacco store is evidence of the dealer's fairness and good intention. A piece of Wetmore's Best in a man's pocket is promise of satisfaction with both himself and his chew.

### Shirt-Waist Styles.

Two or three novelties in shirt waists are shown in the August Delineator and will probably do more to create a sale for that number among women than any other styles shown at this season of the year. The most notable feature in shirt waists is that in which a diagonal direction of the fabric from the shoulders to the lower front is secured without cutting the fabric bias. It is a novel effect, and the Delineator shows several shirt waists cut in this manner. Another great novelty in the August Delineator is that of a shirt waist cut to produce a pouch effect. It is called the Grecian Pouch Shirt Waist.

### How to Save All the Corn Crop.

Few agricultural machines have grown in popularity more rapidly than the corn binder and the corn husker and shredder. Every progressive farmer now considers these machines indispensable, for they enable him to save his entire crop of corn, one-half of which formerly was wasted in the field.

The corn binder cuts and binds the corn into bundles which are discharged from the machine in bunches and in rows ready for shocking. With this machine the farmer can harvest fifty acres of corn in less time than is required to cut a few acres by hand.

The corn husker and shredder separates the ears from the stalks and shucks them, and converts the fodder into stover which is better than hay. Heretofore the fodder and stalks have been allowed to go to waste, notwithstanding the fact that in dollars and cents they represent one-half the value of the entire crop.

"King Corn" is the title of a new book published by the McCormick Harvesting Machine Co., Chicago, U. S. A., a book which explains in detail how to save the corn crop and get the full value of this important cereal. We recommend that all readers of the Kansas Farmer write for this most interesting publication.

### The July "American Boy."

The American Boy for July (Sprague Publishing Co., Detroit, Mich.) is an instructive and inspiring publication. It would be hard to conceive of a better Fourth of July paper for boys. The articles appropriate to the month are: "The Cradle of Liberty," "Hal's Fourth of July Hummer," "The Little Independence," "A Talk About Independence Day," and "Isaiah Thomas, the Boy Who Helped Start the Revolution," all well illustrated. Other stories and leading articles are: "The Henley Regatta," "A Zebra Hunt," in which the late Gov. Pingree participated, the story being told by a member of the party; a story about Cornelius Vanderbilt; chapter XXII. of the continued story, "Three Boys in the Mountains," the ninth article of Turning Points in a Boy's Life, entitled, "Going Into Society," Part II. of How to Learn Drawing.

The department matter contains one of Aunt Em's Talks to Little Boys; How to Make and Save Money; Letters of George Washington Jones; The American Boy March and Two-Step; a biographical sketch of Kirk Munroe, the writer of boys' stories; July in American History; Important Questions for Boys Who Want to Seek a Fortune in the City; Johnny's Trip



to the North Pole; News About the Order of the American Boy, and the sports and contests of the order; Experiments with a Home-Made Kaleidoscope; A True Fishing Story, by a 12-year-old boy; Fun and Profit With Homing Pigeons; Stamp and Coin Collections; Amateur Photography; Wrestling for Boys; Amateur Journalism, and Puzzles. There are 79 illustrations and 32 pages, \$1 a year.

Californian vs. Spanish Fruits.

To offer fresh fruits and vegetables raised on our distant Pacific Coast to the markets of Middle Europe, in competition with the fruit and vegetables of Spain and Italy, would seem like carrying coals to Newcastle. Yet this is what is now being done, according to an article in a paper published at Valencia, Spain, in April last. The writer calls it a ridiculous idea to imagine that fruits and vegetables from California should compete in French and English markets with those from Spain; yet he is compelled to accept it as a fact. He asks: "How is the mystery explained? It is simply this: Spain sends her fruit and vegetables in the worst possible condition, so far as packing and transportation are concerned; piled on wretched railway cars, exposed to sun and rain, and reaching Paris from fourteen to seventeen days after their departure from Valencia, while the Californians offer their fruit in the same fine condition in which it is picked from the trees. Their oranges, apples, peaches, and pears reach Paris, after traversing 6,000 miles, in a more attractive and appetizing condition than ours after a journey of only 490 miles." The obvious moral deduced from these facts is that Spanish fruit packers and exporters must adopt American methods or must be pushed off the market.—Cram's Magazine.

WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin of the Kansas Weather Service, for the week ending July 18, 1901, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

A dry, hot week, the afternoon temperatures rising above 100° over the larger part of the State nearly every day. No rain fell within the State except in the extreme southwest.

RESULTS.

EASTERN DIVISION.

Early corn is practically a failure as a grain crop, the tassels generally being killed as fast as they came out, unless it be in Marshall and Nemaha; in the extreme eastern counties many farmers are pasturing their stock on early corn. Late corn, which is a large part of the crop, passed through the week better than expected and if good rains come soon promises to make a fair crop. Wheat threshing has continued to show good yields of fine quality; in Anderson wheat is being fed to farm animals. Pastures are brown or turning and in consequence some cattlemen are sending cattle to market, but the larger number are finding pasturage on western ranges. Hay grass is short, affording only a light crop. Flax is mostly cut, and in Cherokee threshing has begun. Apples are falling. Early peaches are ripened in Coffey and dropping in Marshall. The potato crop is badly damaged.

Allen.—All crops and fruit are destroyed by the drought except a few fields of Kaffir-corn and soy-beans.

Anderson.—Drought unabated; all hope for corn crop gone except some late plantings; wheat being substituted as a feed for farm animals; pastures dried; water scarce.

Atchison.—Early corn about ruined; oats being cut for forage; pastures completely dried up; stock suffering for grass and water, many being sold and shifted to other localities; vegetables have about entirely disappeared; fruits of all kinds suffering.

Bourbon.—All corn in tassel considered a failure except for fodder; late corn twisting and rolling up—with plenty of rain it might make a small crop.

Brown.—Much of the early corn, even with favorable conditions, can not make a crop; oats harvested, crop light; threshing in progress.

Chautauqua.—Corn is rapidly passing out of the way; farmers are now prepared for the worst and will pull through all right; plenty of stock water, though not always convenient; hay crop short; forage crops suffering; apples are cooking on the trees.

Cherokee.—Corn beginning to fire but a rain in a week would make a half crop; flax threshing begun, yielding 2 1/2 to 7 bushels per acre; prairie hay half a crop.

Coffey.—Early corn must have rain soon to even make fodder; pastures dry enough to burn; most of the flax cut this week; early peaches ruined; apples dropping.

Crawford.—Early corn suffering for rain; late corn at a standstill; pastures dried up; stock water getting scarce; gardens dead; blackberries dried up.

Doniphan.—Threshing shows wheat of good yield and quality; pastures falling; berries and apples seriously injured; early corn a failure and if it does not rain in five days entire crop will fall.

Elk.—Drought and intense heat continue; corn about done, might be a little if it rains soon.

Franklin.—Corn is holding well considering the heat; as early corn tassels out the tassels fire; pastures are burned out generally.

Greenwood.—Grass dried and stock water gone; many forced to ship their cattle; wheat threshing about done, averaging 25 bushels per acre and of fine quality.

Jackson.—Chinch-bugs finishing what corn the dry weather has not ruined.

Jefferson.—everything needing rain; pastures drying up; late corn standing drought better than was expected; early corn in bad condition; some still cultivating corn.

Johnson.—Everything drying up; rain would make a half crop of early corn but late is beyond redemption.

Leavenworth.—Corn still alive; oats harvested, very short; late potatoes a failure; gardens dried up; pastures dry, stock being fed; hay crop short.

Lyon.—Corn is holding its own, many fields are as yet uninjured.

Marshall.—Good week for stacking and threshing wheat but very hard on corn; pastures drying up; prairie hay and millet will be short crops; potatoes a failure;

peaches and apples are falling badly on account of extreme heat.

Montgomery.—Intense heat and clear skies drying up all vegetation; pastures and stock water drying up.

Nemaha.—All vegetation suffering from hot winds; pastures giving out; corn suffering; potatoes dry; rain badly needed.

Pottawatomie.—Still hope of part of a crop of corn if it rains this week; fruit gone; gardens dead; pastures are dry and water getting low, stockmen hunting western range for their cattle.

Shawnee.—Tassels on early corn badly damaged; corn still promises a-crop if rain comes within a week; wheat threshing well under way yielding from 15 to 38 bushels per acre, quality fine; stock water low; pastures getting brown; cattle in fair condition.

Wilson.—Pastures are falling; corn looks badly in most places and the prospect for a crop is poor unless rain comes soon.

Woodson.—The effect of the weather on crops is bad, their condition worse and progress downward.

MIDDLE DIVISION.

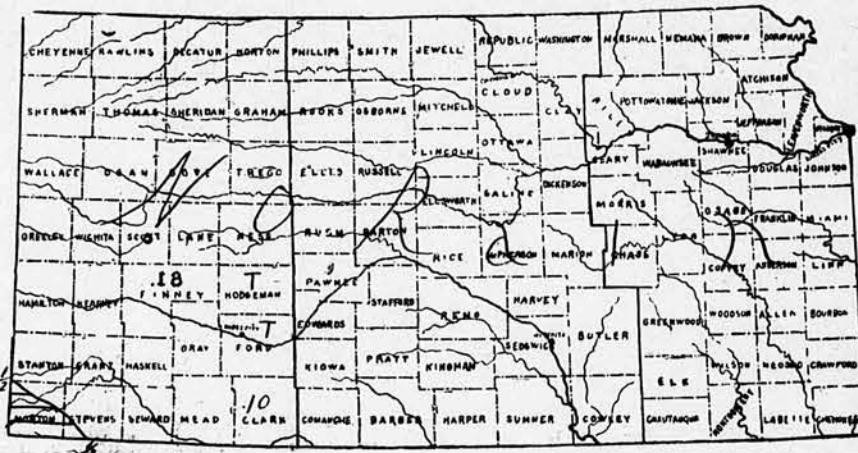
The weather has been severe on crops and has about ruined the early corn. Late corn, with good rains soon, will make a fair crop. Threshing continues to show good yields of wheat. The second crop of alfalfa is stacked in Barton, is being cut in Reno, is being taken by grasshoppers in Smith, and is drying up in Phillips. Pastures are drying up. Hay grass is poor. Fruits are much injured in Reno though the trees are green, while in Saline they are still hanging well to the trees.

Barton.—Everything badly fired or burned up; hot winds every day; threshing progressing, showing good yields of some high grade wheat; second crop of alfalfa cut and in stack.

Cloud.—Wheat threshing continues, a fair crop; corn ruined, heavy rains in next few days would make rough feed; pastures dry and worthless; little water in city wells.

Cowley.—Corn almost beyond help; grass and all forage crops dying; pastures will

RAINFALL FOR WEEK ENDING JULY 13, 1901.



SCALE IN INCHES.

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

not sustain cattle many more days unless it rains.

Dickinson.—Corn very backward and a good rain in a week would make considerable corn; wheat yielding well; oats poor; grass and gardens dried up.

Harper.—Early corn gone; late corn will make short crop if it rains soon; pastures getting short; water scarce; oats poor; wheat fine.

Harvey.—Wheat mostly stacked; some threshed, yield generally is good; corn suffering from drought, early corn mostly ruined.

Jewell.—Corn damaged by chinch-bugs, heat, and drought; rain would yet make some corn; pastures drying up; hay crop very short.

Kingman.—Threshing progressing rapidly; early corn beyond hope, late planting is suffering; pastures drying up; hay poor.

Lincoln.—Wheat harvest over; fine weather for threshing but bad for corn; must rain soon or corn will be gone; pastures drying up; fruit falling; second cutting alfalfa short; prairie hay will not make half crop.

McPherson.—All vegetation withering; some fields of corn gone; grass cured; trees showing effects, leaves turning color; threshing progressing nicely.

Phillips.—Corn wilting badly; alfalfa drying up; fruit falling badly; pastures dry enough to burn; stock water scarce.

Reno.—Threshing progressing rapidly, wheat yielding 25 to 30 bushels and testing over 60 pounds; continued drought is seriously injuring corn; some alfalfa being cut, very poor; pasture getting dry; fruits much damaged though the trees continue green.

Rush.—Harvest over, threshing begun; corn and forage a failure.

Russell.—Spring crops suffering for rain; early corn is burned.

Saline.—Corn practically ruined; pastures drying up; fruit holding to trees well yet.

Sedgwick.—Hay cut short about one-third, alfalfa one-fourth, and corn nearly a half; rains from now on would make over half a corn crop; pastures are brown, but are keeping stock in good condition; stock water scarce.

Smith.—Threshing begun, wheat yielding from 15 to 30 bushels testing from 55 to 61 pounds; corn almost ruined, needs rain; second alfalfa taken by the grasshoppers; other crops, except Kaffir-corn, by the drought.

Sumner.—Pastures drying up; water getting scarce; corn will be a failure.

Washington.—Wheat averaging from 15 to 30 bushels; early corn badly damaged; late corn can be nearly a full crop with rain soon.

WESTERN DIVISION.

Corn in this division is mostly late, and is holding its own very well; with good rains soon it will make a fair crop. Wheat harvest is nearly over. The range grass is green in Ford but is getting dry in Decatur and has cured on the ground in Finney and Wallace. Forage crops are needing rain, but Kaffir is standing the

\*\*\*\*\*  
**WASHBURN COLLEGE.**  
AN INSTITUTION DOING WELL ALL THAT IT UNDERTAKES TO DO.  
**Three Strong Points:**  
1. LOCATION. The capital city of Kansas. Topeka is a city of churches and libraries, a clean, progressive, beautiful city. All roads in Kansas lead to Topeka.  
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Fall Term Opens September 11. Write for Catalogue to **WASHBURN COLLEGE, Topeka, Kansas.**  
\*\*\*\*\*

drought well. The second crop of alfalfa has been cut in Ford, making good hay. The peach crop is being ruined by the drought in Hodgeman and Morton.

Clark.—Heat and drought continue. Decatur.—Hot winds part of most days of the week; early corn tasseling and will be a failure; late corn could still make a fair crop; pastures getting dry; alfalfa growing slowly.

Finney.—Forage crops holding their own but must have rain soon or go; range grass good but cured on ground; stock water abundant.

Ford.—Range grass good, prairies still green; stock in good condition; second crop alfalfa cut, lighter than first but very good hay; early corn is past saving but a good rain in a few days would save the late corn.

Hodgeman.—Chinch-bugs taking corn and Kaffir-corn adjoining small grain fields; a large amount of forage seed lying in the ground waiting for rain; peaches drying

Timely Suggestions.

In a circular letter to its patrons the Continental Creamery Company makes some timely suggestions from which we excerpt the following:

"The cow must be protected from the flies and sun, if she is to give the greatest return for the food consumed. Then, provide an abundance of pure, cool water for the herd. Let this treatment be followed by some appetizing roughness. If the green corn or sorghum is large enough to feed an armful night and morning to each cow, it will have the desired effect on the milk flow. Corn will never pay so much per acre as when fed fresh from the field to a good cow. Alfalfa hay night and morning is the ideal feed. If no farm-grown feeds are to be had, then bran, at present prices, is the next best thing. Do not stop at a gallon of bran per cow and think you have feed well. So much will only be wasted. Increase the quantity to half a bushel of the loose bran and note the result.

"If the increase in the milk flow will pay for the bran, you will be extremely fortunate. You can afford to feed after this method until it rains. It is sure to rain within a few days and then pastures will be fresh and green. When that time comes you will have cows on a good flow of milk, instead of dry, as they would have been had nothing been fed when pastures were short. If cows are allowed to go dry at this time, no difference how good the feed or care later in the season, they will not give milk until fresh again. If you can not afford to feed the entire herd, weed out the poor ones and put the feed liberally into the best of the herd. Whatever the cost, if it is not more than the entire milk product is worth, you should keep up the flow. Butter-fat prices have begun to be higher, and the milk produced from this time will be worth more than that of the past few months.

"We would advise the sowing of sorghum, wheat, oats, or barley for forage and pasture at once. Get the seed into the ground. If no plowed fields are in condition, sow in the corn-fields. Either one of these will make good pasture, and the sorghum may mature into roughness. We have known sorghum sown late in July to make a good crop and save the farm dairy business. You will have at least one good crop of alfalfa yet this fall. Late rains will make it. Do not become discouraged. Get the seed into the ground, ready for rain when it comes. Kansas farmers do not depend one-half so much upon fall pastures as they should, and this is a good year to test their value. But get the seed in the ground at once. Do not wait."



A FREE CHURN

This offer is made to quickly introduce the ECONOMY TWO-MINUTE CHURN in every community. We would ask that you show it to your neighbors who have cows, knowing that when they find how simple and durable it is, also that it will make butter from sweet or sour milk in two minutes' time, they will order one. Send us to-day your name and name of your nearest freight office.

ECONOMY MFG. CO., 174 W. 7th, Kansas City, Mo.

Bishop Zortner—I hope you are prepared to enter heaven. Newrich—Not unless it is easier than getting into society.

Among the numerous summer resorts on or near the California Coast are: San Diego, Coronado Beach, Redondo Beach, Santa Monica, Santa Barbara, Santa Cruz, Monterey and Catalina Island. Popular and easily accessible. Boating, bathing, fishing, cycling and riding, golf, tennis. It costs little or much, as you please. Cheap rates this summer over the Santa Fe.  
**T. L. KING, Agent The Atchison, Topeka & Santa Fe Ry., TOPEKA, KANSAS.**

**Summer at Seaside--California.**



## 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.

### Importance and Possibilities of Kansas.

Mr. Thos. Murphy, of Riley County, in testifying to the value of calves, says he came to Kansas a poor man, bought a farm on time, and purchased a small lot of good calves. He worked hard to care and provide feed for them, but when sold realized a handsome profit. The proceeds were reinvested in calves and the same process continued. Today Mr. Murphy is the happy possessor of a well improved and well stocked farm. He attributes his start entirely, and his after success very largely, to the handling of calves. Many others have met with similar success. These successes have been very largely where one cow nursed one calf.

Since the advent of creameries the raising of calves on skim-milk has been a subject of vital importance to every creamery patron, as well as one of growing importance to every private dairyman. That good calves can be raised on skim-milk can be shown by the following experiment conducted at the Kansas Experiment Station in 1899, where thirteen winter and spring calves (four steers and nine heifers), all half Gurnseys except two, were raised on skim-milk. All the calves were fed what Kaffir-corn meal, hay, and green alfalfa they would eat.

Figured on the basis of increase of live weight the results of this experiment show that for each 100 pounds of gain there was consumed 997 pounds of skim-milk, 197 pounds of grain, 14 pounds of hay, and 12 pounds of green alfalfa. The feed cost of each 100 pounds of gain amounted to \$2.50, the labor \$1.10, making a total of \$3.60. Each 100 pounds of gain represents milk from which has been taken 45.7 pounds of butter fat worth \$6.86. Deduct the \$3.60 and there remains \$3.26 as a reward for milking and delivering 1,173 pounds of milk to the creamery. These calves were in as good trim at weaning time as those in the neighborhood that had been running with the cows and were valued at \$20 a head.

D. H. O.

### A Model Dairy Farm.

L. A. DOANE.

I have been thinking for some time of how I would have a farm fixed up for dairying, if I were doing it myself, or having it done under my direction.

In the first place, I would be concerned about the location of this farm. It should be in a country with a moderate climate, as cows will do their best in a climate that is neither too cold nor too warm; neither can the milk or its products be handled the best in climates of extreme heat or cold. Another point in consideration of the location would be to have it near a good market or what is nearly as good have it near some good transportation line. It should be on a piece of ground sloping mostly towards the south, with the house on one side of a hillock or hollow and the barns on the other so that the wash from the one would not flood upon the other.

There should be either a good spring or well so situated that it will be handy and at the same time in a place where it will be sure not to catch any foul drainage, as water thus contaminated is unfit for milch cows to drink, let alone having to wash all of the dairy utensils and products with it.

The barn for the cows would be in some dry, sheltered place and be well lighted, ventilated, and as free from dust as possible. In order to do away with at least a part of the dust that is in most barns, I would have the hay and roughage for the cattle kept in a

shed, separate but near by so as to be handy to feed. The air or wind would have a chance to blow off a part of the dust that is always in the hay in great or small quantities (generally great). The reader will probably remark that in carrying hay from one building to another a part of it would be lost; this is true enough, but I believe that the good that will come from exposing each separate forkful of hay to the pure air will more than balance this loss.

The milking I would have done in sanitary milk-pails, after the cows had been freed from dust, and then the milk would be carried directly to the milk-house, which I would have in a place as free from surrounding odors and as near or as handy to the water as possible. With these conditions, it would be possible to keep the milk in a sweet form for market.

### The Tendency of the Creamery Industry.

O. W. LOHN.

The tendency of the creamery industry in Kansas and Nebraska is to have only a few establishments where the cream is churned into butter; these creameries are supplied with cream from skimming-stations. The cream being shipped by express from the various points where the stations are located.

This system has many advantages, and of course some disadvantages. It is possible to run a skimming-station at a profit where a regular creamery would run at a loss. This system makes it possible to establish skimming-stations in remote parts of the State, thus furnishing a cash market for the farmers who have milk to sell, which, without this system, would be impracticable.

The distance from the central factory at which these stations can be established of course depends upon the railroad facilities. I know of stations that are located over four hundred miles from the central plant and the cream usually arrives in good condition.

With the introduction of cream pasteurizers, the cream will be pasturized at the stations, cooled down and put on the train, and it will arrive in good condition at the factory, even though it may take 24 hours from the time it is separated from the milk.

I am told that Kansas has from 350 to 375 skimming-stations, and only about 50 creameries where the cream is manufactured into butter. The skimming-stations being so numerous the success of the creamery industry of the State must depend upon the amount of milk that these stations handle.

To be profitable to both proprietor and patrons a creamery must have plenty of the raw material (the milk) to handle; the more the better. Here is where so many creameries and stations fall down.

### Cows and Summer Roughness.

F. E. UHL.

The greatest dairy woman of California, Mrs. Sherman, claims that cows may be knee-deep in pasture and yet be starving for a bite of dry hay or straw from an old stack in an adjoining field. While this seems stating the case rather strongly at first thought, it is nevertheless true that the cow relishes a bite of dry feed now and then, even though she be in luxurious pasture. When the grass begins to shorten, some good leguminous hay, as clover or alfalfa, becomes a necessity if one would maintain the milk flow. Especially in this year which promises to be one long remembered for short pasturage we must plan for supplementary feed.

The cheapest way to do this is to fill a feed rack in the cow lot with the most appetizing hay at hand. Where feed is a greater item than labor, a certain amount, as much as will be cleaned up daily of either dry hay or green crops of sorghum, corn, sweet corn, soybeans, etc. It never pays to give boss

a stingy feed of roughness. She always shows the effect of her feeding at the pail. During the present season the college herd of 28 cows has been on pasture during the day with access to alfalfa hay at night. In May they ate 6,635 pounds alfalfa hay; in June 12,835 pounds. The pasture grass getting short accounts for the difference. Where cows can be pastured both day and night, the difference in milk yield is not so great; but even then the health of the cow would be improved if she had access to dry roughness occasionally. "Circumstances alter cases." Study the situation and give the cow the best feed practicable, in summer as well as winter.

### Variations of Butter-Fat in Milk From Cows in Heat.

E. W. M'CRONE.

There is considerable variation in the quantity of fat in the milk from cows in heat as compared with the milk from the same cows under normal conditions. Two cows in the college herd were in heat June 3. Samples taken from them that day and the day following were tested. The morning of June 3, cow number 62 gave 13.5 pounds of milk, which tested 2.1 per cent, and in the evening she gave 11.8 pounds, which tested 4.9 per cent. The next day she gave 13.4 pounds in the morning, testing 3.2 per cent, and 12.2 pounds in the evening, testing 3.6 per cent. Cow number 67 showed greater variation. The morning of June 3 she gave 3.1 pounds, which tested 2 per cent, and in the evening she gave 11.8 pounds, the test rising to 4.3 per cent. The morning of June 4 she gave 8.3 pounds, testing 5 per cent, and in the evening 7.8 pounds, testing 4.4 per cent. The first half of June number 67 gave about 30 pounds per day, with an average test of 3.2 per cent. Number 67 gave 20 pounds per day, with an average test of 4 per cent.

### A Creamery Man's Proposition.

We want our patrons to receive good living prices for their milk and cream, and on our part we are content to live with a low rate of interest on our investment.

We wish it understood that we guarantee tests, and propose to pay for what the test shows. It would be strange indeed, however, if all of our 100 patrons were satisfied with everything we try to do for them. To those who are dissatisfied with the test, if there are any, we have a few propositions to make:

First: At any time you think your test is not what it should be, we would like to loan you a Babcock tester and teach you how to use it. It is simple to operate and any one that can run a corn sheller or sewing machine can run a tester. We will furnish acid and glassware free, except in the case of breakage. You can take this tester to your farm and make several tests—fifty if you want to, or enough to prove what your cream or milk test is.

Second proposition. We will let the patrons do all the testing and will pay on their tests. For instance, the patrons at Wilsey can select three of their number to go to the creamery twice a month and test all milk and cream. The Council Grove patrons can select a representative from each community. These patrons to make the test and the creamery agrees to pay accordingly.

Third proposition.—Any patron can come to the creamery and make his own test and we will pay accordingly.

We believe these propositions to be fair and right and are willing to stay with them.—E. W. Curtis, in Patron's Bulletin.

### Dairy Notes.

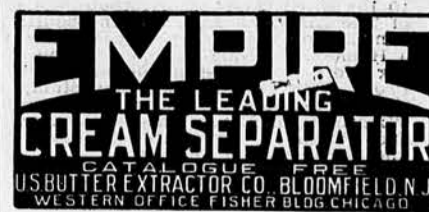
A report has been received concerning one skimming-station operator who allows his little pigs to march around the separator room, to help clean up after each run.

In contrast to the above the record of another station is given where the milk comes in at 5 a. m., and by 10 a. m., everything is cleaned up nicely and the cream is on the way to the depot. While on his way to work the operator of this station carries water to keep his blankets wet while delivering the cream to the railroad station.

Twenty-one years ago the centrifugal separator was first put on the market. To-day we would not know how to conduct our dairy business without it.

The Creamery Journal says "Hot water, the scrub brush and steam are the guardian angel of the churn, and drive away filth."

Thos. Parker, of the Parker Creamery Company, Hutchinson, Kansas, is expecting to establish a milk condens-



ing plant to cost \$22,000. It is expected that a premium of 25 cents per hundred will be offered for a first class article of milk.

Considerable interest is being manifested in the Cow Loan Department of the Continental Creamery Company. The company is loaning money to farmers to buy cows and then gets its money back by deducting a certain per cent from the farmer's check each month. The loans amount to about \$15,000 per month and are still on the increase.

The Abilene Daily Reflector reports that during the month of May \$42,000 was distributed to farmers of Dickinson County for milk.

### Vaccination Stops Wedding.

Miss Prescott is the Plymouth (Pa.) girl whom vaccination prevented from becoming a bride. A few days ago she started for Wilkesbarre with her intended husband to secure a marriage license. She had been vaccinated and wore a pasteboard shield to protect her sore arm. Andrew Until, her lover, did not know this. He saw the queer-looking lump on her arm and playfully jabbed it with his thumb. The shield broke. Miss Prescott shrieked with pain and, seizing her umbrella, she belabored Andrew until other passengers on the train were forced to interfere in his behalf. Miss Prescott and Mr. Until have not spoken to each other since, and the wedding is off.—Philadelphia Inquirer.

### Had Him Secure.

In St. Paul's the other day a guide was showing a gentleman round the tombs.

"That, sir," said the man, "his the tomb of the greatest naval hero Europe or the world ever knew—Lord Nelson's. This marble sarcophogus weighs 42 tons. Hinside that his a steel recepticle weighing 12 tons, and hinside that is a leaden casket 'ermetically sealed weighing over 2 tons. Hinside that is a mahogany coffin holding the ashes of the great 'ero.'"

"Well," said the Yankee, after thinking a while, "I guess you've got him. If ever he gets out of that cable me at my expense."—London Tid-Bits.

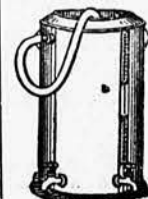
### THE DOLLARS AND CENTS OF IT.

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, 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.

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



### THE SMITH CREAM SEPARATOR.

The only separator on the market that does not MIX the milk and water, and sold under a positive guarantee. More Cream, Better Butter, Milk fine, and no labor at all. Get a SMITH. Agents wanted. Mention Kansas Farmer. Smith's Cream Separator Co 118 West Locust-St., Des Moines, Ia

## THERE IS NO BETTER INVESTMENT

FOR THE DAIRY THAN THE

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.



## IMPROVED UNITED STATES SEPARATOR



## 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.

### What the Grange Has Accomplished Educationally and Socially.

The social and educational features of the grange are what have given it permanency and standing in the community. In the generation that has passed since its active work began the membership has largely changed, comparatively few who joined the grange in the seventies are active members today. A majority of them have passed away or become non-affiliated. The generation that was then unborn is the active membership of to-day, excepting a few of the old war horses who are still in the front battling for the interests of the rural population. The looker on can see what the grange has done for the development of these men and women who have spent time and money, and many of them the best years of their lives in a service without recompense other than that which comes from the response to the call of duty in carrying forward a movement which seemed to have in it such possibilities as the one in which they were engaged. From the history of the past it is evident that no movement having for its object financial gains or political ends, could have held together for so long a time with continually increasing strength and energy. Its inherent vitality consisted in what it could do for its membership in making them happier and better men and women—those who have learned to know what life really is and how to live it. No other organization in existence has taught so many of its members to know themselves. Thousands of farmers' boys and girls who were seemingly "born to blush unseen," have become the leaders in thought and all the activities of life in the respective communities where they live, solely through the instrumentality of the two leading features in grange work. It is what the grange has done and is now doing for its members which gives it the dignified and commanding position which it now holds in public esteem, wherever it is known.—Alpha Messer, Past Lecturer National Grange, in Our Grange Homes.

### The Farmer in Politics.

A sensible writer in the National Stockman and Farmer says:

A great many farmers think themselves very wise in not having anything to do with politics except to attend the election and vote. It was my privilege to do a little missionary work before our primary and it was both amusing and provoking to hear farmers say, "I don't expect I will get out to the primary, but I will be at the election all right." To attempt to convince them that their first and most important duty was to attend the primary or caucus and select candidates who would look after their interests and who were the right kind of men was useless, for they had been "born" the other way. It seems to me that any one with a thimbleful of reasoning ought to understand that the candidate selected at the primary shapes future legislation. If he is honest and is supported by honest men you have a right to expect honest legislation, and if he is doubtful in character no dependence can be put in him.

Again, if he is selected through the efforts of certain people it is reasonable to suppose that he will do their bidding first.

What part has the one in selecting candidates who stays at home? Is it not true that as long as men are indifferent and stay at home designers and men of bad repute have comparatively an easy road to office? Does any one believe that the "bad" are in the majority? If the "good" people will do their duty, who doubts the results? Now then!!! Is it not time for the farmer everywhere to quit "singing" about corrupt politics and the like, and take hold and help make things as he would have them? Is he a wise man, a prudent man, a man of good judgment, a useful man, when

he has the power to do a thing, and does not do it? I heard a farmer say not long since, Thank God, he was outside of "party" influence. Meaning, of course, that he was not allied to any party. This sounded "big." Political ends are attained at present through parties, and you can no more weed out the political evils that exist by staying outside of party than you can get the weeds out of your corn by staying outside of the field. There are two classes in this country that I would like to see wakened up if possible. The first is, those who are so very, very good that they will not help to correct a wrong, and the second, those who are always complaining and never doing anything.

A wrong can not be corrected by letting it alone. Neither will continual complaining accomplish any reform. Well directed, arduous work is the road to success in almost everything, and we will have to apply the same rule in politics. While I am not recommending politics as a "business" I do say it is the duty of the farmer to exert his influence in politics, and if he does not he is deficient in "business" just so much, and in addition he has failed to do his duty as a citizen.

The following is a statement of new granges organized and reorganized from October 1, 1900, to June 30, 1901, both inclusive:

|                     |     |
|---------------------|-----|
| California.....     | 3   |
| Colorado.....       | 3   |
| Connecticut.....    | 2   |
| Illinois.....       | 9   |
| Indiana.....        | 3   |
| Iowa.....           | 1   |
| Kentucky.....       | 1   |
| Maine.....          | 17  |
| Maryland.....       | 1   |
| Massachusetts.....  | 5   |
| Michigan.....       | 49  |
| Minnesota.....      | 2   |
| Missouri.....       | 1   |
| New Hampshire.....  | 2   |
| New Jersey.....     | 2   |
| New York.....       | 12  |
| Ohio.....           | 17  |
| Oregon.....         | 4   |
| Pennsylvania.....   | 9   |
| South Carolina..... | 1   |
| Tennessee.....      | 1   |
| Vermont.....        | 16  |
| Washington.....     | 3   |
| Total.....          | 164 |

Faithfully yours,  
JOHN TRIMBLE, Secretary.

### To Shorthorn Breeders.

The Kansas Farmer has received from B. O. Cowan, assistant secretary of the American Shorthorn Breeders' Association, Springfield, Ill., a copy of the catalogue of the National Shorthorn Shows for 1901, also a copy of the sale and entry blanks. Mr. Cowan has special charge of all entries for the shows and sales and is anxious to have all intending exhibitors send for blanks at once so that entries may be in line to get out an official catalogue in advance of the shows.

In sending forth this premium list, the American Shorthorn Breeders' Association congratulates all admirers of the breed on its unrivaled history and on the bright and cheering prospects for the future. Shorthorns have always been prime favorites, but their growth in public esteem, as indicated by their marvelous increase in value at recent public sales, has been unparalleled. From February 5 to June 7, 1901, a period of four months, 2000 Shorthorns sold at an average slightly above \$300; 1000 above \$400, and 504 at an average of \$523. With royalty of blood and a magnificent record on the field of action, why should not the Shorthorn grow in popularity? Why should he not go over and possess the land?

A splendid opportunity lies before the Shorthorn breeders! Will they reach out and grasp it? In view of the effort that will probably result in bringing South American cattle growers to visit the International Show to be held in December, it is earnestly desired that exhibitors who show at the earlier fairs will also take their herds to Chicago, that the breed may be well represented. The rules and regulations adopted by all the associations joining in these shows are substantially the same.

Entries for the shows will close as follows: Hamline, Minn., on August 20; for Louisville, Ky., on September 10, and for Kansas City on October 1. The closing dates for entries in the Chicago show will be announced later by the management of the International Exposition. The foregoing dates will barely allow time sufficient for the arrangement of the official catalogues, etc., and can under no circumstances be extended.

The American Shorthorn Breeders' Association will offer \$12,000.00 in prizes on Shorthorn cattle, for the year 1901, at four National Shows, to be distributed as follows: \$2,000.00 for the

show to be held at Hamline, Minn., September 2-7; \$2,000.00 for the show to be held at Louisville, Ky., September 23-28; \$4,000.00 for the show to be held at Kansas City, Mo., October 15-26; \$4,000.00 for the show to be held at Chicago, Ill., Nov. 30 to Dec. 7.

In addition to the above, prizes at State fairs will be duplicated, provided from \$500.00 to \$1000.00 is offered for Shorthorns. Also at the Pan-American Exposition, Buffalo, N. Y.; Lexington, Conn.; South Carolina Inter-State and West Indian Exposition, S. C., and Fort Worth, Texas.

These prizes are offered in such a way that all exhibitors of good cattle will have a chance to show for them.

These very liberal prizes should stimulate the breeders of Shorthorns to fill every ring with cattle of the highest individual merit. If you have not a full herd bring what you have.

During these shows, four great sales will be made; 50 head at Hamline, Minn., 50 head at Louisville Ky., 80 head at Kansas City, Mo., and 80 head at Chicago, Ill.

The association will advertise these sales liberally, issue the catalogues, pay auctioneer fees, etc., for which a fee of \$20 per head will be charged, in fact the association will pay all expenses of the sale excepting transportation, feed and yardage.

Make your application at once, directing the same to B. O. Cowan, assistant secretary, at Springfield, Ill.

It is desirable that entries for these sales be made as early as possible, that the inspector may have ample time to visit the herds and inspect the animals in time to have the catalogue issued at as early a date as possible.

Entries will close July 15, for the sale at Hamline, Minn.; August 10, for the Louisville, Ky., sale; September 1, for the sale at Kansas City, Mo.; and October 1, for the sale at Chicago, Ill. The number of cattle to be entered by one person or firm to be limited to four head in any one sale.

No animal will be eligible to compete for any of the prizes, or duplication of the prizes, above mentioned, or to entry in any of the sales until their pedigrees have been recorded, or accepted for record, by the association. Entry blanks will be mailed on application.

It is the desire of the association to make these sales exceptionally good to the end that all Shorthorn breeders may be benefited thereby, and with this object in view, it is urged that each contributor enter the very best that he has.

# A Tobacco Man hung up a sign

"NO TRUST"

He sells -

# Wetmore's Best

—A Chewer's Philosophy.



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

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

The largest independent factory in America.



### Self-Interest.

Mother (reading telegram)—Henry telegraphs that the game is over and he came out of it with three broken ribs, a broken nose and four teeth out.  
Father (eagerly)—And who won?  
Mother—He don't say.

Father (Impatiently)—Confound it all! That boy never thinks of anybody but himself! Now I'll have to wait until I get the morning paper.—Puck.

### In The Flowery Kingdom.

Missionary—Now, can you tell me what is the chief end of man? Little Heathen—To be annexed.—Puck.

## SAVE 15 to 75 PER CENT

on all drugs, medicines, home remedies, extracts, paints, oils, veterinary remedies, etc., by selecting them from our Large Drug Book. Contains 15,000 listed articles. Book only 10c—refunded from first order. "The Only Mail Order Drug House in the World." HELLER CHEMICAL CO., Dept. 47 Chicago, Ill.

## ...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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The results of youthful follies and excesses. I can stop night losses, restore sexual power, nerve and brain power, enlarge and strengthen weak parts, and make you fit for marriage. Send for book.

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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 6c, 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 15.—Cattle—Receipts, 9,105; calves, 1,015. The market was generally steady. Representative sales:

SHIPPING AND DRESSED BEEF STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 45, 21, 61 fdr., 25 fdr., 25 stk., 4 stk.

WESTERN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 61 fdr., 25 fdr., 25 stk., 4 stk.

NEW MEXICO STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Row includes 220, 950, 3.20.

TEXAS AND INDIAN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 81, 53, 79.

TEXAS AND INDIAN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 15, 22, 25.

WESTERN COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 73, 8, 10, 3, 7.

NATIVE HELPERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 14, 40, 23.

NATIVE COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 8, 10, 3, 7.

NATIVE FEEDERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 14, 40, 23.

NATIVE STOCKERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 13, 25, 25, 7.

STOCK COWS AND HEIFERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include 14, 8, 6, 1.

Hogs—Receipts, 11,093. The market was 5 to 12 1/2 cents lower. Representative sales:

Table with columns: No., Av. Price, No., Av. Price, No., Av. Price. Rows include 56, 12, 92, 19, 15, 15.

Sheep—Receipts, 1,965. The market was strong to 15 cents higher. Representative sales:

Table with columns: No., Ave. Price, No., Ave. Price, No., Ave. Price. Rows include 57, 47, 4, 10.

Chicago Live Stock.

Chicago, July 15.—Cattle—Receipts, 29,000. Good to prime steers, \$5.00@6.15; stockers and feeders, \$2.00@4.25; Texas steers, \$3.20@4.50.

Hogs—Receipts, 38,000. Mixed and butchers, \$5.85@6.17 1/2; bulk of sales, \$5.95@6.10.

Sheep—Receipts, 25,000. Good to choice wethers, \$3.90@4.65; western sheep, \$3.90@4.00; native lambs, \$3.50@6.00.

St. Louis Live Stock.

St. Louis, July 15.—Cattle—Receipts, 8,000. Native steers, \$4.00@5.80; stockers and feeders, \$2.55@4.30; Texas and Indian steers, \$3.30@4.40.

Hogs—Receipts, 5,500. Packers, \$5.80@6.00; butchers, \$6.00@6.30.

Sheep—Receipts, 7,000. Native muttons, \$3.25@3.75; lambs, \$4.00@4.75.

Omaha Live Stock.

Omaha, July 15.—Cattle—Receipts, 4,300. Native beef steers, \$4.00@5.60; western steers, \$3.75@4.75; Texas steers, \$3.50@4.40; stockers and feeders, \$3.00@3.85.

Hogs—Receipts, 6,700. Heavy, \$5.77 1/2@5.90; bulk of sales, \$5.75@5.77 1/2.

Sheep—Receipts, 2,500. Common and stock sheep, \$2.75@3.40; lambs, \$4.50@5.75.

Kansas City Grain.

Kansas City, July 15.—Wheat—Sales by sample on track: Hard—No. 2, 6 1/4@6 1/2c; No. 3, 6 1c. Soft—No. 2, 6 1/4@6 1/2c; No. 3, 6 1/2c. Mixed Corn—No. 2, 5 1/2@5 3/4c; No. 3, 5 1/4c.

White Corn—No. 2, 53@54c; No. 3, 53c. Mixed Oats—No. 2, 41c; No. 3, 38c. White Oats—No. 2, 41@42c; No. 3, 39@40c. Rye—No. 2, nominally 55c. Prairie Hay—\$6.00@17.00; timothy, \$9.00@19.00; straw, \$3.00@3.50.

Chicago Cash Grain.

Chicago, July 15.—Wheat—No. 2 red, 64@66c; No. 2 hard winter, 65 1/2c; No. 3, 64c; No. 1 northern spring, 67c; No. 2, 66c; No. 3, 61@65c. Corn—No. 2, 48@49c; No. 3, 47@47 1/2c. Oats—No. 2, 32@32 1/2c; No. 3, 32c.

Futures: Wheat—July, 65 1/2c; August, 66c; September, 66 1/2@66 3/4c; October, 67 1/2c. Corn—July, 47 1/2c; September, 49 1/2c. Oats—July, 29 1/2@29 3/4c; September, 30 1/2@30 3/4c.

St. Louis Cash Grain.

St. Louis, July 15.—Wheat—No. 2 red cash, elevator, 63 1/2c; track, 64 1/2@65c; No. 2 hard, 64 1/2@65 1/2c. Corn—No. 2 cash, 51c; track, 52@52 1/2c. Oats—No. 2 cash, 34c; track, 35@35 1/2c; No. 2 white, 39 1/2c.

Kansas City Produce.

Kansas City, July 15.—Eggs—Fresh, 7 1/2 doz. Butter—Creamery, extra fancy separator, 18c; firsts, 15c; dairy, fancy, 15c; packing stock, 12c; cheese, northern full cream, 10c; Missouri and Kansas full cream, 9c.

Poultry—Hens, live, 6 1/2c; roosters, 15c each; broilers, 8 1/2@10 1/2c lb; ducks, young, 6c; turkey hens, 6c; young toms, 4c; old toms, 4c; pigeons, \$1.00 doz. Choice scalded dressed poultry 10 above these prices.

Potatoes—New, 90c@1.00 bushel, sacked; home grown, 75@80c per bu in car lots. Fruit—Blackberries, \$1.25@1.75 per crate; gooseberries, \$1.75 per crate; cherries, \$2.00@2.50 per crate; raspberries, black, \$1.25@1.75 per crate. New apples, 90c@1.00 per bushel crate; currants, per crate, \$1.50@1.75; peaches, 40@60c per third crate. Vegetables—Tomatoes, Texas, \$1.25@1.50 per four-basket crate; navy beans, \$2.25@2.50 bushel. Cabbage, \$2.00 per cwt. Onions, new, 90c@1.00 bu; cucumbers, \$1.00@2.00 per bushel crate. Melons—Texas cantaloupes, per bushel crate, \$1.25@1.75; watermelons, per dozen, \$1.00@3.50.

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.

FOR SALE—At farmer prices, UJ1 Stoke Pogia 57621 A. J. C. C., dropped December 29, 1898; also Marie's Perfection 152052, dropped March 14, 1900, bred June 8. For prices and pedigree, address Edward Hunzicker, Colony, Kans.

THIRTY HEAD of high-grade Herefords for sale, consisting of 8 head choice yearling heifers, sired by Roy Wilton 79038, 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.

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.

RANCH FOR SALE—\$2,000 for my ranch that will pasture 100 cattle. Would trade with cattle for hardware. P. E. Drake, Selden, Kans.

FOR SALE OR TRADE—160-acre farm—100 acres in cultivation; 6-room house, outbuildings, 3 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.

SHEEP.

1,500 sheep and lambs for sale, in bunches to suit. H. W. Ottken, Oakley, Kans.

REGISTERED SHROPSHIRE—For sale. A choice lot of rams, lambs, and ewes, Kansas grown, at very reasonable prices. Olin Temple, Lawrence, Kans.

MISCELLANEOUS.

WANTED—400 rods of second-hand hog wire. State condition and price. Box B, Sedan, Kans.

WANTED—Thirty bushels of alfalfa seed. Send lowest cash price to A. M. Mason, 206 West Euclid Ave., Pittsburg, Kans.

FOR SALE—Pure seed wheat and seed rye. Red Russian wheat (hard bearded), 80 cents per bushel; Fultz wheat (soft smooth), 90 cents per bushel; Red Cross wheat (soft smooth), \$1 per bushel; White seed rye, 75 cents per bushel. Sacked F. O. B. Lawrence. Samples sent on application. Kansas Seed House, F. Barteldes & Co., Lawrence, Kans.

THRESHING OUTFIT in northern Iowa for sale or trade for Kansas land. A bargain. Address Marion Smith, Dwight, Kans.

WANTED—Situation on a stock farm or ranch. Capable to take entire charge if required. Best of references. Box 25, Central City, Kans.

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

ANGORA GOATS. Registered and high-grades for sale in lots to suit customers, by S. D. MOHERMAN, Ottawa, Kansas.

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

The Stray List.

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.

For Week Ending July 14. Cloud County—A. R. Moore, Clerk.

PONY—Taken up by A. R. Tucker, in Meredith tp., (P. O. Meredith), June 19, 1901, one roan mare pony, 12 years old, branded C I on left hip, and N 6 on left shoulder; valued at \$20.

Maple Leaf Herd of Thoroughbred SHORTHORN CATTLE AND POLAND CHINA SWINE. Farm is 2 miles south JAMES A. WATKINS, of Rock Island depot. Whiting, Kans.

ROCKY HILL SHORTHORNS

20- Bred Cows and Heifers -20

Because of shortage of feed, we now offer for sale, cows that before we have refused to price. Cows safe in calf to, and calves by, the grand Waterloo Duke of Hazlehurst 11th 130723; also cows bred to the Cruick-shank bulls, Sempstress Valentine, and Mayor, now in service.

THE BEST PATENT ON THE MARKET.

\$100 REWARD

If 6 months' treatment don't cure any case of Bad Health, Catarrh, Bad Blood, Bad Taste, Bad Breath, Bad Complexion, Irregular Appetite, Bowel Trouble, Weak Kidneys, Lazy Liver, Rheumatism, Dyspepsia, Headache, Backache, Stomach, or Heart Trouble.

The very best constitutional treatment in unhealthy seasons and places is HUNT'S DIGESTIVE TABLETS. One tablet per day, 1/4 hour before breakfast. One month's treatment by mail, 25 Cents. Six months' treatment, 180 tablets, \$1.00. Put up by T. J. HUNT, Merom, Indiana.

RHEUMATISM....

Is quickly relieved and promptly cured by Dr. Drummond's Lightning Remedies.

The internal remedy is pleasant to take, acts immediately, does not disturb digestion, and is for rheumatism only in all its torturing forms. The external preparation restores stiff joints, drawn cords, and hardened muscles. If your druggist has not these remedies in stock, do not take anything else. Send \$5 to the Drummond Medicine Co., New York, and the full treatment of two large bottles will be sent to your express address. Agents wanted.

To Colorado and Utah VIA SANTA FE, At Rates Lower Than Ever Before. On Sale July 1 to 9, September 1 to 10. Denver, Colorado Springs, and Pueblo and return, \$15.00. Glenwood Springs and return, \$25.00. Salt Lake City and Ogden, \$30.00. June 18 to 30, and July 10 to August 31, round trip tickets to same points as named above will be sold at one fare plus \$2 for round trip. A Pullman Observation Sleeper runs between Kansas City and Colorado Springs on Santa Fe trains No. 5 and 6. The observation end is for free use of all Pullman passengers. For further particulars, rates on other dates or to other places, or for free copy of "A Colorado Summer," write to, or call on T. L. KING, Agent, the Atchison, Topeka & Santa Fe Railway. TOPEKA.

FOR A SUMMER OUTING.

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. F. A. LEWIS, City Ticket Agent, 525 Kansas Avenue. J. C. FULTON, Depot Agent.

If You Want a Cheap Home in

Southwest Missouri, Northwest Arkansas, Indian Territory, Texas, or Louisiana, Write for a copy of "CURRENT EVENTS", published by the KANSAS CITY SOUTHERN RAILWAY. S. G. WARNER, G. P. & T. A., Kansas City, Mo.

Cream Separator FREE

In order to introduce in every neighborhood the best and cheapest Cream Separator ever manufactured we make you this liberal offer, asking you to show it to owners of cows living in your vicinity. Send today your name and the name of the nearest freight office. Write at once to ECONOMY MFG. CO., 174 W. 7th, Kansas City, Mo. When writing advertisers please mention Kansas Farmer.





**ASK ANY HORSE** which fence he damages least, or least damages him when he runs into it. He will say, "PAGE."  
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

**ORNAMENTAL FENCE**



25 designs, all steel. Handsome, durable. -Cheaper than a wood fence. Special inducements to church and cemeteries. Catalogue free.  
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**MACHINERY** until you see our new Catalogue No. 41 We will furnish it to you FREE. Write to our address, either Harvey, Ill., Chicago, Ill., or Dallas, Texas.  
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When the stock goes into winter quarters you will want to be sure of a reliable and constant supply of water. Our Well Machinery does it best and cheapest. Drills 25 to 1500 ft deep. We make all appliances. Have stood the test of 15 years. We also have Gasoline Engines for all purposes. Send for free catalogue.  
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STEAM PUMPS, AIR LIFTS, GASOLINE ENGINES  
WRITE FOR CIRCULAR  
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Full colonies shipped any time during summer and safe arrival guaranteed. It will pay you to try my stock of Italian bees in the Latest Improved Hives. Nothing will double in value quicker.  
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727 KANSAS AVENUE, TOPEKA, KANSAS  
Specialties: Chronic and Obsolete Diseases. Heart and Lungs.

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The only thing of the kind published anywhere in the world. Interesting because in earnest. Doing the Master's work, and inviting attention to the work of the devil. Get a hatchet. Sixteen pages every one of which is intensely interesting. Subscribe now. Price \$1 a year. Address CARRIE NATION, Topeka, Kans.

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**\$1.25.**

The Semi-weekly Capital, published twice a week at Topeka, Kansas, is an excellent 8-page Republican newspaper. It is issued Tuesday and Friday of each week and contains all the news of Kansas and the world up to the hour of going to press. To a farmer who cannot get his mail every day it is as good as a daily and much cheaper. . . . By a special arrangement we are enabled to send the Kansas Farmer and Semi-weekly Capital both one year for \$1.25. This is one of our best combination offers and you can't afford to miss it.  
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**BECKMAN BROS., DES MOINES, IOWA.**

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

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Furnished with BLOWER or CARRIER, as desired. GUARANTEED to be the BEST.  
**E. W. ROSS CO., Springfield, O.** Send for Catalogue No. 49  
51 Years on the Market.

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  
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**CREAM SEPARATOR FREE**  
This is a genuine offer made to introduce the Peoples Cream Separator in every neighborhood. It is the best and simplest in the world. We ask that you show it to your neighbors who have cows. Send your name and the name of the nearest freight office. Address  
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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.  
**CHICAGO HOUSE WRECKING CO., West Thirty-Fifth and Iron Streets, CHICAGO.**

**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 harvest- ing and mashing 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.

**The Davis Gas and Gasoline Engine**

Examine one and you will see at once its superiority over any Engine on the market. Practical, safe, simple and economical. A boy can run it. It makes farm work easy. Write today for Catalogue.  
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**\$45.00** from Missouri River, with corresponding low rates from interior points on the Union Pacific.  
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**...THE GREAT... ROCK ISLAND ROUTE** is the only line running to, through, or near the RESERVATIONS.

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DR. MILES' ANTI-PAIN PILLS  
At all drug stores. 23 Doses.

I will send free to any mother a sample of Bed Wetting, a simple remedy that cured my child of bed wetting.  
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**Ladies** Our monthly regulator never fails. Box FREE. Dr. F. May, Bloomington, Ill.  
**BED-WETTING CURED.** Sample FREE. Dr. F. E. May, Bloomington, Ill.

**Feeding Compound** For Live Stock  
It is essential for the well-being of all animals that they receive a suitable addition to the ration, not only to restore them if out of condition, but to keep them in the most profitable state of health. This is obtained by **Lincoln Feeding Compound** which is a great improvement upon and desirable substitute for so-called "Stook Foods." Write for literature regarding this cheap and economical preparation.  
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Daily June 18th to Sept. 10th, 1901  
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FROM  
Missouri River Points to Denver, Colorado Springs and Pueblo  
**\$15.00** July 1 to 9 Sept. 1 to 10 **\$19.00** June 18 to 30 July 10 to Aug. 31  
Similar reduced Rates on same dates to other Colorado and Utah Tourist Points.  
Rates from other points on Rock Island Route proportionately lower on same dates of sale.  
Return Limit October 31, 1901.  
**The Superb Train COLORADO FLYER**  
Leaves Kansas City daily at 6:30 p. m., Omaha 5:30 p. m., St. Joseph 5:00 p. m., arriving Denver 11:00 a. m., Colorado Springs (Manitou) 10:35 a. m., Pueblo 11:30 a. m.  
Write for details and Colorado literature.  
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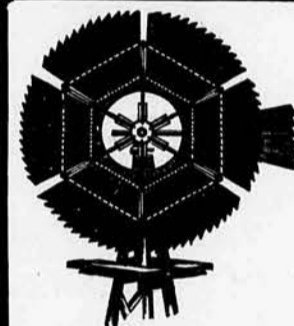
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